Academy of Science and Engineering

Petition for Charter Approval

Presented to

The Board of Trustees
Los Angeles Unified School District
CHARTER
OF
ACADEMY OF SCIENCE AND
ENGINEERING

A CALIFORNIA PUBLIC CHARTER SCHOOL

WHEREAS the governing board of the Los Angeles Unified School District received a valid charter petition on ________________, duly signed by appropriate teachers and submitted pursuant to Education Code Section 47605, and

WHEREAS the governing board of the Los Angeles Unified School District, after holding a public hearing on ______ and considering the level of staff support, has determined that the applicants have assembled and presented a valid and meritorious charter position;

RESOLVED that the governing board of the Los Angeles Unified School District hereby approves and grants this charter petition by a vote of _____ to _____ on - ________________.

BE IT FURTHER RESOLVED that this charter constitutes a binding contract upon the Los Angeles Unified School District and Academy of Science and Engineering, Inc.

WITNESSED:

_________________________________
Board of Trustees
Los Angeles Unified School District
# Contents

- **LETTER OF INTENT** ................................................................. vi
- **CHARTER BRIEFING PAGE** ................................................... viii
- **CHARTER SCHOOLS GUIDELINES CHECKLIST – INITIAL SCREENING** ......................................................... xi
- **INTRODUCTION** ........................................................................ 1
- **NEED FOR ACADEMY OF SCIENCE AND ENGINEERING** ................................................................. 2
- **FOUNDING GROUP** ................................................................. 2
- **DESCRIPTION OF CHARTER ELEMENTS** ................................................................. 3
- **AFFIRMATIONS OF SPECIFIED CONDITIONS** ................................................................. 4
- **ELEMENT ONE: Educational Program** ................................................................. 5
  1. Element One Summary ................................................................. 5
  2. Implementation Plan ................................................................. 5
  3. Target Student Population ................................................................. 7
  4. Demographics of Surrounding Schools (Data from CDE, 2010-2011 academic year) ................................................................. 9
  5. History .................................................................................. 10
  6. Educational Vision and Mission Statements ................................................................. 10
  7. 21st Century Educated Person ................................................................. 10
  8. How Learning Best Occurs ................................................................. 11
  9. Instructional Materials ................................................................. 14
  10. Goals .................................................................................. 16
  11. A Typical Day at Academy of Science and Engineering ................................................................. 18
  12. Daily Schedule and School Calendar ................................................................. 20
  13. Master Schedule ................................................................. 22
  14. Instructional Program ................................................................. 23
  15. Professional Development (PD) ................................................................. 26
  16. Project-Based Learning (PBL) ................................................................. 28
  17. Special Education Program ................................................................. 30
  18. Scope and Sequence ................................................................. 32
  19. Supporting All Students ................................................................. 118
- **ELEMENT TWO: Measurable Pupil Outcomes** ................................................................. 124
  1. Skills and Measurable Outcomes ................................................................. 124
  2. Applied Skills and Outcomes ................................................................. 126
  3. Achievement Targets ................................................................. 127
  4. Graduation Rate Target ................................................................. 128
  5. Assessing Student Outcomes and Progress ................................................................. 128
  6. Accountability for Student Progress ................................................................. 129
  7. Graduation Requirements ................................................................. 130
- **ELEMENT THREE: Methods to Assess Pupil Progress** ................................................................. 131
  1. Annual Programmatic Audit ................................................................. 132
  2. Assessment of Student and School Outcomes ................................................................. 132
  3. Process for Conducting Student Assessments ................................................................. 133
  4. Reporting Student Progress/Grading Policy ................................................................. 134
  5. Academic Performance Index and State-Mandated Tests ................................................................. 134
  6. School-Developed Assessments ................................................................. 134
ELEMENT FOUR: Governance ........................................................................................................136
  1. Grievance Procedure for Parents and Students .........................................................................136
  2. LAUSD Charter Policy ................................................................................................................138
  3. Responding to Inquiries .............................................................................................................138
  4. Notifications .............................................................................................................................138
  5. Charter School Incorporation .....................................................................................................138
  6. Charter School Articles of Incorporation and By-Laws ..............................................................139
  7. Governance Structure - Organizational and Technical Designs ..............................................139
  8. Process for Selecting Governing Board ....................................................................................143
  9. Board Meetings Frequency .......................................................................................................144
  10. Procedures for Posting Meeting Notices, Distributing Agendas, and Recording Minutes ......144
  11. Resumes and Questionnaire Responses of Governing Board Members ...............................144
  12. Leadership and School Operations .........................................................................................144
  13. Organizational Chart ...............................................................................................................150

ELEMENT FIVE: Employee Qualifications ......................................................................................151
  1. Employee Recruiting and Hiring Process ..................................................................................151
  2. Job Descriptions, Qualifications, Roles and Responsibilities ....................................................151
  3. Credential Monitoring Process ................................................................................................156
  4. Salaries, Benefits, Working Conditions, etc. ............................................................................156
  5. Process for Performance Evaluations .......................................................................................156
  6. Procedure for Adequate Background Checks ............................................................................157

ELEMENT SIX: Health and Safety Procedures ................................................................................158
  1. Site Compliance ........................................................................................................................158
  2. District Owned Facilities ............................................................................................................159
  3. Safety of Auxiliary Services .......................................................................................................159
  4. Insurance Requirements ...........................................................................................................159
  5. Evidence of Insurance ...............................................................................................................160
  6. Hold Harmless/Indemnification Provision ................................................................................161
  7. Facility Health & Safety ............................................................................................................161
  8. Drug/Tobacco Use Policy .........................................................................................................162
  9. Health Screening and Administration of Medication ...............................................................162
 10. Immunizations and TB Testing ................................................................................................162
 11. Medication in School ................................................................................................................163
 12. FERPA/Confidentiality of Pupil Records ..................................................................................163
 13. Reporting Child Abuse ............................................................................................................163
 14. Sexual Harassment Policies and Procedures ............................................................................164

ELEMENT SEVEN: Achieving Reflective Racial and Ethnic Balance .............................................165
  1. No Child Left Behind-Public School Choice (NCLB-PSC) Traveling Students .......................165
  2. Federal Compliance ...................................................................................................................165
  3. Court-ordered Integration .........................................................................................................166
  4. Outreach Program ....................................................................................................................166
  5. Geographic Areas .....................................................................................................................166
  6. Languages ...............................................................................................................................167
  7. NCLB Requirements ..................................................................................................................167

ELEMENT EIGHT: Admission Requirements ....................................................................................168
  1. McKinney-Vento Homeless Assistance Act ..............................................................................168
2. Admission Assurances Preferences ................................................................. 168
3. Student Records ......................................................................................... 170
4. Student Open Enrollment Form & Lottery Form ....................................... 171

ELEMENT NINE: Annual Financial Audits ....................................................... 173
1. District Oversight Costs ........................................................................... 173
2. Balance Reserves .................................................................................. 173
3. Special Education Revenue Adjustment/Payment for Services ............... 173
4. Audit and Inspection of Records ............................................................. 173
5. Plans and Systems to Provide Independent Audit Information ............ 175
6. Depository/Accounting/Payroll ............................................................... 175
7. Budget Development/Fiscal Reports ....................................................... 175
8. Contract Development ...................................................................... 176
9. Employee-Related Insurance/Benefits ................................................... 176
10. Illness Leave .......................................................................................... 176
11. Vacation Days ...................................................................................... 177
12. Attendance Accounting ..................................................................... 177
13. ADA Accounting ................................................................................. 177
14. Purchasing ............................................................................................ 177
15. Administrative Services .................................................................... 177
16. In Lieu Property Tax Deductions ........................................................... 177
17. Mandated Costs .................................................................................. 177
18. Facilities ............................................................................................... 178

ELEMENT TEN: Suspension and Expulsion Procedures .......................... 179
ELEMENT ELEVEN: STRS, PERS, and Social Security Coverage ............. 194
ELEMENT TWELVE: Attendance Alternatives .......................................... 196
ELEMENT THIRTEEN: Employee Rights ................................................... 197
ELEMENT FOURTEEN: Mandatory Dispute Resolution ........................ 198
ELEMENT FIFTEEN: Exclusive Public School Employer .......................... 200
ELEMENT SIXTEEN: Charter School Closure .......................................... 201

Appendix A: Assessment Strategy Table ...................................................... 209
Appendix B: Articles of Incorporation .......................................................... 210
Appendix C: Bylaws of Academy of Science and Engineering .................. 212
Appendix D: Budget .................................................................................... 226
  1. Financial Plan ....................................................................................... 226
  2. Budget Narrative .................................................................................. 226
  3. Proof of Funds Credit Union Letter ....................................................... 229

Appendix E: Conflict of Interest .................................................................. 230
Appendix F: Financial Procedures ............................................................... 232
  1. Investment Procedure .......................................................................... 232
  2. Deposit of Funds Procedure ................................................................ 232
  3. Ensuring Adequate Cash Flow Procedure ............................................ 232

Appendix G: Graduation Requirements ....................................................... 233
Appendix H: Petitioners/Governing Team Resolution .................................. 234
Appendix I: Letters of Support ..................................................................... 236
LOS ANGELES UNIFIED SCHOOL DISTRICT
Charter Schools Division
Letter of Intent to Apply for a Charter School

The members of the West Athens Charter High School Board of Directors are meaningfully interested in starting a charter school.

Name of proposed charter school: WEST ATHENS CHARTER HIGH SCHOOL
General location of proposed charter: WESTMONT/WEST ATHENS AREA
Projected Grade Levels-year 1: 9-11 Projected Grade Levels-Year 5: 9-12
Projected Enrollment-year 1: 150 Projected Enrollment-Year 5: 400

Lead Petitioner Information:
Name: Dr. Edward Robillard
Address: 12071 Morrison St., Moreno Valley, CA 92555
Phone Number: (213) 219-2653
Email Address: edrobillard@aol.com

Other members of the Charter Development Team:
Mr. Brian Center
Mr. Keith Bandy
Mr. Lomas Hamraj
Ms. Lynne Marcer Rhodes
Ms. Brenda Pensamiento
Dr. Herbert Nichols
Ms. Rita Ray

Certification:

I/we certify that we are interested in applying for a charter school within LAUSD boundaries.

I/we have participated in the Orientation Meeting given by the LAUSD Charter Schools Division.

___ I/we did not participate in the Orientation Meeting given by the LAUSD Charter Schools Division.

PRINT NAME  SIGNATURE  DATE
LOS ANGELES UNIFIED SCHOOL DISTRICT
Charter Schools Division
Letter of Intent to Apply for a Charter School

The members of the West Athens Charter High School Board of Directors are meaningfully interested in starting a charter school.

| Name of proposed charter school: | WEST ATHENS CHARTER HIGH SCHOOL |
| General location of proposed charter: | WESTMONT/WEST ATHENS AREA |
| Projected Grade Levels-year 1: 9-11 | Projected Grade Levels-Year 5: 9-12 |
| Projected Enrollment-year 1: 150 | Projected Enrollment-Year 5: 400 |

Lead Petitioner Information:

| Name: Dr. Edward Robillard |
| Address: 12071 Morrison St., Moreno Valley, CA 92555 |
| Phone Number: (213) 219-2653 |
| Email Address: edrobillard@aol.com |

Other members of the Charter Development Team:
Mr. Brian Center
Mr. Keith Bandy
Mr. Lomas Hamraj
Ms. Lynne Marcer Rhodes
Ms. Brenda Pensamiento
Dr. Herbert Nichols
Ms. Rita Ray

Certification:

_We certify that we are interested in applying for a charter school within LAUSD boundaries._

_We have participated in the Orientation Meeting given by the LAUSD Charter Schools Division._

_We did not participate in the Orientation Meeting given by the LAUSD Charter Schools Division._

Edward Robillard, Ed.D.  
PRINT NAME  SIGNATURE  DATE
02/25/2011
Name of Organization Applying for Charter:
Academy of Science and Engineering, Inc.

Grades Served-Year 1:
9-11

Grades Served-Year 5:
9-12

Number of Students-Year 1:
150

Number of Students-Year 5:
400

Location Address or Target Neighborhood:
8825 South Vermont Avenue, Los Angeles, California 90044

Facility Status/Location:
Lease negotiations underway for building located at 8825 South Vermont Avenue in Los Angeles, California 90044

Prop. 39 – Application Submitted?
We will not be applying for Prop. 39 privileges.

Does the location meet Board Policy? (Low API, Overcrowded)
Yes

Board of Directors:
Listed below are the names of the charter school’s Board of Directors. Five members have extensive experience in public education, while one member has served as an attorney and another as a high ranking private sector administrator.

- Dr. Edward Robillard – Chairperson
  Retired Chief School Administrator, MLA Partner Schools; Founding Principal; West Adams Preparatory High School; former principal, Manual Arts High School

- Mr. Brian Center – Co-chairperson
  Executive Director, A Better LA; Former Los Angeles County Attorney

- Dr. Herbert Nichols – Treasurer
  Title I Coordinator, Manual Arts High School

- Ms. Lynne Marcer Rhodes – Secretary
  Retired Producer/Administrator, Walt Disney Imagineering, Inc.
Mission:
The School’s mission is to graduate students that possess a blend of strong academic and workplace competencies that are necessary for entering college or high level technical fields and become productive workers and successful citizens.

Vision:
Academy of Science and Engineering intends to fulfill the growing need within the area of West Athens/Westmont (as described above) for better prepared students to fill employment positions that are increasingly demanding higher skills.

Source/Core of Money:
Initial funding will be provided by outside sources (refer to Proof of Funds Credit Union Letter, page 229). This loan ($250,000) is to be used to carry the school financially from LAUSD board approval (projected January 3, 2012) through the 1st apportionment of state funds in September 2012. In addition to these in case other forms of traditional funding for startup charter schools is not available, such as provided by CDE’s early apportionment funding process and the Charter School Revolving Loan Fund. Furthermore, we will be diligently applying for all the appropriate grants through the CDE and other sources such as public and private foundations and corporations.

Leadership Team:
The leadership team consists of all the members of the Academy of Science and Engineering Board of Directors (see above) and Lomas Hamraj will be the charter school’s Founding Principal. Mr. Hamraj is currently an Assistant Principal at West Adams Preparatory High School.

Other Charters
Academy of Science and Engineering has not applied to any other jurisdiction for approval and does not have sister charters.

Innovative Practices
There are three innovative elements in our school that can be considered “best practices” and replicated by other schools. These elements are: 1) Advisory Group Accountability; 2) Project-based Learning; and 3) High Performance Leadership as described below:

- **Advisory Group Accountability (AGA)**
  At Academy of Science and Engineering, each teacher will have an Advisory Class, or simply an Advisory, that meets each school day as a regular scheduled class to discuss any
problems, concerns or questions with individual students. Additionally, advisory teachers are responsible for discovering and resolving any cause or causes that may be keeping any of their advisory students from succeeding in their regular academic classes. This puts the burden on advisory teachers to make sure all students in their advisory class succeed in all their classes. In making sure they do, teachers are highly encouraged to collaborate with each other and with parents in cases where student problems may exist and to develop reasonable means to correct them. And part of a teacher’s evaluation depends on how well they perform their Advisory duties. The purpose is to root out any cause or causes that may be keeping individual students from reaching his or her full potential and eliminating such problems before they can expand or create others. Having teachers responsible for ensuring every student receives the attention he or she needs and deserves, which will enable them to reach their full academic potential, ensures that truly no student is “left behind.” It is a systematic approach to personalization of the educational experience for each student.

- **Project-based Learning (PBL)**
  Through PBL, students develop projects during their advisory class times in which normal state learning standards are interwoven with individual student interests and that can be accurately measured for academic compliance. This approach to teaching allows students to publically demonstrate what they are learning in their regular academic classes and to explore real-world problems and challenges, thus simultaneously developing cross-curriculum skills while working in small collaborative groups, similar to how learning occurs in the real world. *Please refer to page 28 for further explanation of PBL.*

- **High Performance Leadership (HPL)**
  HPL in teaching and learning promotes ownership and is fostered using the curriculum of The Pacific Institute of Seattle WA. This curriculum of this hugely successful company “empowers people to recognize their ability to choose growth, personal freedom and personal excellence.” All staff members, students, parents and stakeholders of Academy of Science and Engineering will participate and in some cases facilitate this curriculum.
Los Angeles Unified School District  
Innovation and Charter Schools Division

CHARTER SCHOOLS GUIDELINES CHECKLIST – INITIAL SCREENING

Charter  
School Name: Academy of Science and Engineering  
Date: 03/01/2011  
Contact Person: Dr. Edward Robillard  
Phone No.: (213) 219-2653  
Fax No.: ____________

<table>
<thead>
<tr>
<th>SUMMARY CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAGE</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>225</td>
</tr>
</tbody>
</table>
| vi    | | petition includes prominent statement of meaningful interest to start a charter (board resolution)  
|       | | resume and questionnaire for all board members | | | |


<table>
<thead>
<tr>
<th>PAGE</th>
<th>ITEM</th>
<th>ADDRESS</th>
<th>ACCEPTABLE</th>
<th>COMMENTS</th>
<th>AB 544 REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Assurances that school will:</td>
<td></td>
<td></td>
<td></td>
<td>47605 (d) (1)</td>
</tr>
<tr>
<td></td>
<td>• be non-sectarian in programs, admission policies, employment</td>
<td></td>
<td></td>
<td></td>
<td>47612 (a) (1)</td>
</tr>
<tr>
<td></td>
<td>practices and other operations</td>
<td></td>
<td></td>
<td></td>
<td>47605 (e) (f)</td>
</tr>
<tr>
<td></td>
<td>• not charge tuition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• not discriminate against any student on the basis of ethnicity,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>national origin, gender or physical or mental disability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(religion, race, color, medical condition, sexual condition,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sexual orientation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• not enroll pupils over 19 years of age unless continuously</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>enrolled in public school and making satisfactory progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>toward high school diploma requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• not require any child to attend a charter school nor any employee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to work at a charter school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• if pupil is expelled or leaves the charter school without</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>graduating or completing the school year for any reason,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the charter school shall notify the superintendent of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>school district of the pupil’s last known address within</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 days, and shall, upon request, provide that school district</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with a copy of the cumulative record of the pupil, including</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a transcript of grades or report card, and health information.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• A charter school shall admit all students who wish to attend.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Description of which students will attend the school</td>
<td></td>
<td></td>
<td></td>
<td>47605 (d) (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47605 (d) (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(A) (B)</td>
</tr>
<tr>
<td>4</td>
<td>Duration of initial charter petition: 5 years</td>
<td></td>
<td></td>
<td></td>
<td>47607 (a) (1)</td>
</tr>
<tr>
<td>201</td>
<td>Renewal process/timeline</td>
<td></td>
<td></td>
<td></td>
<td>47607 (a) (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td>128</td>
<td>How the Board of Education and the charter school can monitor the</td>
<td></td>
<td></td>
<td></td>
<td>47607 (a) (1)</td>
</tr>
<tr>
<td></td>
<td>progress in meeting student outcomes</td>
<td></td>
<td></td>
<td></td>
<td>47607 (b)</td>
</tr>
<tr>
<td>144</td>
<td>Accepts and understands the grounds on which a charter may be revoked</td>
<td></td>
<td></td>
<td></td>
<td>47607 (b) (1-4)</td>
</tr>
<tr>
<td>5</td>
<td>Accepts and understands obligations to comply with specific sections</td>
<td></td>
<td></td>
<td></td>
<td>47610</td>
</tr>
<tr>
<td></td>
<td>of the Education Code: § 47611 (STRS) and 41365 (Revolving Loan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fund), and all laws establishing minimum age for public school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAGE</td>
<td>ITEM</td>
<td>ADDRESS</td>
<td>ACCEPTABLE</td>
<td>COMMENTS</td>
<td>AB 544 REFERENCE</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>------------</td>
<td>----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>159</td>
<td>9. How district/county facilities will be maintained, insured and used by the charter school, if applicable</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td>47605 (g) 47614</td>
</tr>
<tr>
<td>159</td>
<td>10. How changes, additions or alterations to the facility will be accomplished and the district/county role in the process</td>
<td></td>
<td></td>
<td></td>
<td>47607 (a) (1)</td>
</tr>
<tr>
<td>159</td>
<td>11. How school personnel, district/county will be insured against liability claims resulting from school operations</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td>47605 (g)</td>
</tr>
<tr>
<td>159</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>159</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12. Agreement between the charter school and the sponsoring agency detailing process and responsibility for operations, i.e., accounting, budgeting, payroll, liability insurance, and the like and contracted services and supervisorial oversight</td>
<td></td>
<td></td>
<td></td>
<td>47605 (g) 47613.7</td>
</tr>
<tr>
<td>32</td>
<td>13. Agreement between the charter school and sponsoring agency detailing funding and services for special education students</td>
<td></td>
<td></td>
<td></td>
<td>47612 (a) (2)</td>
</tr>
<tr>
<td>175</td>
<td>14. Agreement between the charter school and sponsoring agency detailing operational funding levels</td>
<td></td>
<td></td>
<td></td>
<td>47613.5 (a)</td>
</tr>
<tr>
<td>138</td>
<td>15. Agreement between the charter school and sponsoring agency detailing processes for responding to inquiries</td>
<td></td>
<td></td>
<td></td>
<td>47604.3</td>
</tr>
<tr>
<td>PAGE</td>
<td>ITEM</td>
<td>ADDRESS</td>
<td>ACCEPTABLE</td>
<td>COMMENTS</td>
<td>AB 544 REFERENCE</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>------------</td>
<td>----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>7</td>
<td>1. Description of the educational program of the school (<em>Element 1</em>)</td>
<td>YES NO</td>
<td>YES NO</td>
<td></td>
<td>47605 (b) (5) (A)</td>
</tr>
<tr>
<td></td>
<td>• an identification of those whom the school is attempting to educate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>• description of what it means to be an educated person in the 21st century</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>• how learning best occurs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>• goals of the program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>• how the objective of enabling pupils to become self-motivated, competent, life-long learners will be met by the school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>• instructional framework which includes instructional approaches, scope and sequence, addressing state standards, and evidence (research-based) that instructional program has been successful with similar student population.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>• specific goals for providing and ensuring equal access to academically low achieving students, gifted, low SES, ELLs, special education, and a goal for reclassification of ELLs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>• attendance requirements including length of school day and year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>• instructional materials and the process by which curriculum, materials and instructional activities are to be selected</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>• reference to NCLB as it relates to student achievement and credentialing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; 156</td>
<td>• instructional strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• teacher recruitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>• professional development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>• school calendar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>• daily schedule</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>• mission/vision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>• demographics/academic achievement of surrounding schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>• implementation plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>• High School only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- meet A-G requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- transferability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- WASC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAGE</td>
<td>ITEM</td>
<td>ADDRESS</td>
<td>ACCEPTABLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>2. Measurable student outcomes to be achieved by students <em>(Element 2)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• extent to which all pupils demonstrate that they have attained skills, knowledge and attitudes specified as goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• when and how often pupil outcomes will be assessed including any assessments of innovative components</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• specific quantitative outcomes which students must demonstrate proficiency in and/or progress toward and time frame for progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• identification of who will be accountable for student progress as it relates to student achievement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• reference to NCLB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• CAHSEE (HS only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• CELDT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• API</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• AYP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• CST</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td></td>
<td>• graduation rate (HS only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>128</td>
<td>3. Method by which pupil progress in meeting pupil outcomes is measured <em>(Element 3)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>• use of standardized test scores in measuring pupil progress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>• use of variety of assessment tools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>132</td>
<td></td>
<td>• use of longitudinal, survey and other data in measuring pupil progress (in-house assessments)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>• methods to ensure that all statewide standards are met and pupil assessments conducted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>• process school will use to ensure that students meet the statewide performance standards and evidence of improved pupil learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133</td>
<td></td>
<td>• process for conducting pupil assessments pursuant to EC § 60602.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>132</td>
<td></td>
<td>• description of all assessment tools including in house assessments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>134</td>
<td></td>
<td>• identification of the grading policy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>131</td>
<td></td>
<td>• district required language for testing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

References: 47605 (b) (5) (B)
<table>
<thead>
<tr>
<th>PAGE</th>
<th>ITEM</th>
<th>YES</th>
<th>NO</th>
<th>YES</th>
<th>NO</th>
<th>COMMENTS</th>
<th>AB 544 REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>139</td>
<td>4. Governance structure of the school including the process which is</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47605 (b) (5)</td>
</tr>
<tr>
<td></td>
<td>to be followed to ensure parent involvement (Element 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(D) 47605 (c)(2)</td>
</tr>
<tr>
<td></td>
<td>• process which ensures staff, students and other stakeholder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• methods by which schools consult with parents and teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>regarding school’s educational programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• decision-making process, organizational chart, and relevant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>site committees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• assurances that school will comply with all laws relating to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>public agencies in general, all federal laws and regulations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and state codes, such as the Ralph M., Brown Act</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• what, if any, relationships district/county will maintain with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the charter school and how it will be accomplished</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• process for amendments to charter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• articles of incorporations and bylaws of nonprofit corporation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• selection process of board members and governance committees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• audit and inspection of records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• district required language for governance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>5. Qualifications to be met by individuals to be employed by the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47605 (b) (5)</td>
</tr>
<tr>
<td></td>
<td>school (Element 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(E) 47605 (1)</td>
</tr>
<tr>
<td></td>
<td>• process for staff selection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• job descriptions for positions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• credentials, requirements and qualifications of staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• employee compensation-general description</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• identification of the roles and functions of staff members</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• measures of assessment of performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• procedure to be used for adequate background checks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• process for recruiting teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• procedure for monitoring credentials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAGE</td>
<td>ITEM</td>
<td>ADDRESSED</td>
<td>ACCEPTABLE</td>
<td>COMMENTS</td>
<td>AB 544 REFERENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>-----------</td>
<td>------------</td>
<td>----------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 157  | 6. Procedures that the school will follow to ensure the health and safety of pupils and staff  
*Element 6*  
- school will meet the requirement that each employee of the school furnish a criminal record summary as required in EC §44237  
- how the school will ensure that its facilities are safe  
- how the school will ensure that its auxiliary services are safe (food services, transportation, custodial services, hazardous materials)  
- role of staff as mandated or non-mandated child abuse reporters  
- TB requirements  
- employee fingerprints  
- student immunization requirement  
- address of the facilities to be used by the charter school  
- compliance with state building code, federal ADA requirements  
- assurance of Certificate of Occupancy prior to school opening  
- contains District required language regarding health and safety procedures | | | | 47605 (b) (5) (F)  
47605(g) |
| 161  | | | | | |
| 158  | | | | | |
| 163  | | | | | |
| 163  | | | | | |
| 157  | 7. Means by which school will achieve racial and ethnic balance among its pupils that reflects the general population residing within the district/county jurisdiction  
*Element 7*  
- geographic areas that will be targeted in the outreach effort  
- state languages to be utilized in the outreach  
- district required language for this element | | | | 47605 (b) (5) (G) |
| 168  | 8. Admission requirements, if any  
*Element 8*  
- admission assurances preferences  
- lottery assurance and procedures  
- waiting list  
- preference (if applicable)  
- states the charter school will admit all pupils who wish to attend  
- efforts the school will employ to recruit academically low-achieving, students with disabilities, and economically disadvantaged students | | | | 47605 (b) (5) (H) |
<table>
<thead>
<tr>
<th>PAGE</th>
<th>ITEM</th>
<th>ADDRESS</th>
<th>ACCEPTABLE</th>
<th>COMMENTS</th>
<th>AB 544 REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>173</td>
<td>9. Manner in which an annual independent financial audit will be conducted and exceptions/deficiencies resolved <em>(Element 9)</em></td>
<td></td>
<td></td>
<td></td>
<td>47605 (b) (5) (I)</td>
</tr>
<tr>
<td>179</td>
<td>10. Procedures by which students can be suspended or expelled <em>(Element 10)</em></td>
<td></td>
<td></td>
<td></td>
<td>47605 (b) (5) (J)</td>
</tr>
<tr>
<td></td>
<td>- procedure for involving parents, students and staff in designing and implementing a discipline policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- due process for students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- appeals of disciplinary action</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- procedures for ensuring rights of students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- list of suspension and expulsion offenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- suspension and expulsion procedure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- general discipline approach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- procedures for rehabilitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- readmission and interim placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- district required language regarding special education students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>183</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>182</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>179</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>179</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>194</td>
<td>11. Procedures for dealing with staff issues <em>(Element 11)</em></td>
<td></td>
<td></td>
<td></td>
<td>47605 (b) (5) (K) 47605 (1)</td>
</tr>
<tr>
<td></td>
<td>- relationship between the teachers and the district/county bargaining unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- process by which salaries, benefits working conditions and items, i.e., calendars, holidays, vacations, work day and year will be determined</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- labor procedures which will be applied to employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- process for resolving complaints/grievances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- process for ensuring due process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- manner by which staff members will be covered by STRS, PERS, Social Security or Medicare</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- process for staff recruitment, selection, evaluation and termination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Procedure for processing and monitoring credentials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reporting PERS/STRS contributions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAGE</td>
<td>ITEM</td>
<td>ADDRESSED</td>
<td>ACCEPTABLE</td>
<td>COMMENTS</td>
<td>AB 544 REFERENCE</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>-----------</td>
<td>------------</td>
<td>----------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| 196  | 12. Public school attendance alternatives for pupils residing within the district/county who choose not to attend the charter school *(Element 12)*  
- inform parents or guardians of each pupil enrolled in the charter that pupil has no right to admission in a non-charter District school as a consequence of charter school enrollment  
- not require any child to attend a charter school nor any employee to work at a charter school  
- District required language regarding attendance alternatives | | | | 47605 (b) (5) (L) |
| 197  | 13. Description of the rights of any employee of the district/county upon leaving the district/county to work in a charter and rights of return to the district/county after employment in a charter school *(Element 13)*  
- what the employment status relative to the district/county of charter school employees is and what it will be in the event the charter school ceases or in the event employees seek employment in the district/county | | | | 47605 (b) (5) (M) |
| 198  | 14. Procedures to resolve disputes relating to provisions of the charter *(Element 14)*  
See LAUSD “District Required” Language  
- District required language regarding the dispute resolution procedures | | | | 47605 (b)(5) (N) |
| 200  | 15. Declaration of Exclusive Public School Employer *(Element 15)* | | | | 47605 (b)(5) (O) |
| 201  | 16. Description of charter school closure procedures. The procedures shall ensure a final audit of the school to determine the disposition of all assets and liabilities of the charter school, including plans for disposing of any net assets and for the maintenance and transfer of pupil records *(Element 16)*  
- District required language regarding charter school renewal, revocation, and closing procedures | | | | 47605(6) A (ii) O |
<table>
<thead>
<tr>
<th>PAGE</th>
<th>ITEM</th>
<th>ADDRESSED</th>
<th>ACCEPTABLE</th>
<th>COMMENTS</th>
<th>AB 544 REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>17. Description of the manner in which administrative services of the school are to be provided</td>
<td></td>
<td></td>
<td></td>
<td>47605 (g)</td>
</tr>
<tr>
<td></td>
<td>18. Budget for the financial operation which is consistent with the requirements of any school district budget</td>
<td></td>
<td></td>
<td></td>
<td>47605(g)</td>
</tr>
<tr>
<td>226</td>
<td>19. Liability of district/county to handle payments if charter school defaults</td>
<td></td>
<td></td>
<td></td>
<td>47604</td>
</tr>
<tr>
<td>161</td>
<td>20. Court-ordered Integration Language</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* PAGE: Petitioner to identify page(s) in petition in which items are located
INTRODUCTION

This proposal establishes Academy of Science and Engineering, which will be operated as a California nonprofit public benefit corporation under the IRS tax code section 501 (c)(3). Academy of Science and Engineering (hereafter may also be referred to as Academy of Science and Engineering or the “Charter School”) will be located within the territorial jurisdiction of the Los Angeles Unified School District (hereafter may be referred to as “the District” or “LAUSD”) with support services, if any, designated and delineated through a mutually agreed Memorandum of Understanding (MOU) between the School and LAUSD (the District). The School will provide public education choice for any 9-12 grade students residing in California. However, the School will aim its student recruitment efforts towards students living within the area of Los Angeles known as West Athens.

The objective at Academy of Science and Engineering is to provide a vehicle for the delivery of a rigorous, challenging and personalized educational experience that is aligned with California State Content Standards.

Students at Academy of Science and Engineering will master foundational skills in core content areas within standard classroom settings and learn how to work effectively on group and individual projects that reflect what they have been learning in the classroom. Teachers will provide instruction in foundation skills balanced with hands-on, primarily science and engineering thematic projects, thus allowing students to begin exploring areas of personal interest that can lead to a career choice. Students will leave Academy of Science and Engineering having built a portfolio of academic success and healthy living practices.

Students will rotate through a schedule that includes 90 minute blocks, which include Advisory block as well as regular academic subject blocks (refer to Scope and Sequence charts beginning on page 32). A teacher (hereafter may be referred to as Advisor) with expertise in the specific instructional area will be responsible for each block. And, all students will participate in an advisory block in which their advisory teacher will help them learn about responsible behavior and setting goals. This advisory group time will serve as a period for advisory teachers to review and track individual student’s progress.

During the Advisory and regular academic blocks all students will build a solid academic foundation and participate in physical education activities and the arts through a mixture of classroom instructions, student projects and hands-on experiences. As students gain confidence and maturity, they will pursue projects and study topics that are primarily associated with their personal career choice in which the focus will be on the essential and new “3Rs” of education: Rigor, Relevance, and Relationships.
NEED FOR ACADEMY OF SCIENCE AND ENGINEERING

Academy of Science and Engineering is needed as an alternative choice for students who warrant an approach to learning that places teachers responsible for student outcomes. The school will serve students from all social and economic groups within the Los Angeles Unified School District (LAUSD) and beyond; targeting youth whose educational experience to date has not resulted in optimal academic or personal success. Each student deserves a learning environment that meets his/her individual needs and provides a clear avenue for success. We believe that real choice for parents can be offered only when schools exist that are fundamentally different. High schools within LAUSD offer some specialized programs, yet the majority of these programs are not fundamentally different from one another. Most are based solely upon time and schedules. Students attend regularly scheduled academic classes with content that often does not connect students with real-world situations. And, in most traditional classes, there are students of varying degrees of competency, which makes it difficult for teachers to serve and support all students equally. Because all Academy of Science and Engineering students will have a Personal Learning Plan that outlines their academic schedule, learning can be molded to fit each student’s needs regardless of his/her competency level.

This new high school model will effectively establish the necessary systems, structure, learning experiences and tools to move students beyond dependency in learning to become successful independent learners and leaders. Academy of Science and Engineering will have the flexibility of time, space and resources to meet the learning needs of students… providing the right instruction for the right student at the right time.

Students at Academy of Science and Engineering will participate in a rigorous academic schedule that includes a mixture of classroom instructions and student projects that will help to ensure college readiness and teach skills consistently identified as essential for workplace success while preparing for meaningful employment. Value-added assessments and the development of PLPs will serve as guides to assure each student receives the support and educational services needed for personal success.

Academy of Science and Engineering’s positive youth development approach will create a strong foundation for future learning through critical thinking, problem solving and conceptual understanding in a practical, real-world context. Recognizing that “passion is the greatest motivator,” Academy of Science and Engineering is designed to align with what most youth are seeking, which is: a) concentrated skills training that gives access to meaningful employment; b) a means and a purpose to continue education; c) personal and peer support to overcome difficulties; d) a set of positive values strong enough to compete successfully with the culture of the street and give meaning to life; and, e) a clear vision of who they are and what they can become.

FOUNDING GROUP
Academy of Science and Engineering’s founding group consists of a diverse group of individuals.
DESCRIPTION OF CHARTER ELEMENTS

1. A description of the educational program of the school. If the proposed school will serve high school pupils, a description of how the school will inform parents about the transferability of courses to other public high schools and the eligibility of courses to meet college entrance requirements;
2. The measurable pupil outcomes identified for use by the school;
3. The method by which pupil progress in meeting those pupil outcomes is to be measured;
4. The school’s governance structure, including parental involvement;
5. The qualifications to be met by individuals employed to work at the school;
6. Procedures to ensure health and safety of pupils and staff;
7. The means by which the school will achieve racial and ethnic balance among its pupils, reflective of the general population residing in the district in which the school will be located;
8. Admission requirements, if applicable;
9. The manner in which annual financial audits will be conducted, and the manner in which audit exceptions and deficiencies will be resolved;
10. The procedures by which pupils may be suspended or expelled;
11. Provisions for school staff coverage under the State Teachers Retirement System, the Public Employees Retirement System, or federal social security;
12. The public school alternatives for pupils residing within the district who choose not to attend the charter school;
13. A description of the rights of any employee of the school district upon leaving the employment of the school district to work in a charter school, and of any rights of return to the school district after employment at a charter school;
14. A dispute resolution process;
15. A declaration whether or not the charter school will be the exclusive public school employer of the school’s employees; and
16. The procedures to be used if the charter school closes.
AFFIRMATIONS OF SPECIFIED CONDITIONS

(1) Academy of Science and Engineering will be nonsectarian in its programs, admission policies, employment practices, and all other operations, shall not charge tuition, shall not enroll pupils over 19 years of age unless continuously enrolled in public school and making satisfactory progress toward high school diploma requirements, shall not require any child to attend the school, nor any employee to work at the school, not discriminate against any student on the basis of disability, gender, nationality, race or ethnicity, religion, sexual orientation, or any other characteristic that is contained in the definition of hate crimes set forth in Section 422.55 of the Penal Code. Except as provided in paragraph [2], admission to a charter school shall not be determined according to the place of residence of the pupil, or of his or her parent or guardian, within this state, except that any existing public school converting partially or entirely to a charter school under this part shall adopt and maintain a policy giving admission preference to pupils who reside within the former attendance area of that public school.

(2) (A) Academy of Science and Engineering shall admit all pupils who wish to attend the school.
(B) However, if the number of pupils who wish to attend the charter school exceeds the school’s capacity, attendance, except for existing pupils of the charter school, shall be determined by a public random drawing. Preference shall be extended to students residing within the boundaries of LAUSD. Other preferences may be permitted by the chartering authority on an individual school basis and only if consistent with the law.

(C) In the event of a drawing, the chartering authority shall make reasonable efforts to accommodate the growth of the charter school and, in no event, shall take any action to impede the charter school from expanding enrollment to meet pupil demand.

(3) If a pupil is expelled or leaves Academy of Science and Engineering without graduating or completing the school year for any reason, Academy of Science and Engineering will notify the superintendent of the school district of the pupil’s last known address within 30 days, and shall, upon request, provide that school district with a copy of the cumulative record of the pupil, including a transcript of grades or report card, and health information. This paragraph applies only to pupils subject to compulsory full-time education pursuant to [EC] Section 48200.

(4) The duration of Academy of Science and Engineering’s initial charter petition will be five (5) years starting July 2012 and ending June 2017.
ELEMENT ONE: Educational Program

- The address of the Charter School is: 8825 South Vermont Avenue, Los Angeles, CA 9004
- The phone number of the Charter School is: 213-219-2653
- The contact person for the Charter School is: Dr. Edward Robillard
- The term of this charter shall be July 1, 2012 through June 30, 2017.
- The grade configuration is: 9-12
- The number of students in the first year will be: 150
- The grade level(s) of the students the first year will be: 9-11
- The scheduled opening date of the Charter School is: August 20, 2012
- The admission requirements include: As stated in Element 8 of this charter.
- The operational capacity will be: 400 students
- The instructional calendar will be: As stated in the Daily Schedule and School Calendar section in Element 1.
- The bell schedule for the Charter School will be: As stated in the Daily Schedule and School Calendar section in Element 1.
- If space is available, traveling students will have the option to attend.

1. Element One Summary
   All laws establishing minimum age for public school attendance, which in California is compulsory for anyone between six and eighteen years of age for full-time education.

2. Implementation Plan
   a) Grade Level roll out – Academy of Science and Engineering will implement the following grade levels respectively, and will reach full capacity in 2016-17:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>75</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>11</td>
<td>25</td>
<td>50</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Total Enrollment</td>
<td>150</td>
<td>250</td>
<td>350</td>
<td>375</td>
<td>400</td>
</tr>
</tbody>
</table>
b) Start up plan, from January 2012 through the beginning of the academic year start of August 20, 2012 including, but may not be limited to

- Hire principal (January 2012)
- Secure the facility (October 2011)
- Secure the needed insurance policies (by April 2012 which is before the start of school and a copy will be supplied to district)
- Hire support staff (February 2012-March 2012)
- Hire teachers (February 2012-March 2012)
- Prepare the facility (January 2011-June 2012)
- Order office and classroom equipment (May 2012)
- Order books, instructional materials and classroom supplies (May 2012)
- PD Plan Prior to Academic School Year:

**PD Plan Prior to Academic School Year:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, April 7, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, April 21, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, May 5, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, May 19, 2012</td>
<td>Inquiry Based Learning</td>
</tr>
<tr>
<td>Saturday, June 2, 2012</td>
<td>High Performance Leadership/Advisory</td>
</tr>
<tr>
<td>Saturday, June 16, 2012</td>
<td>High Performance Leadership/Advisory</td>
</tr>
<tr>
<td>Saturday, June 30, 2012</td>
<td>RTI2/Data</td>
</tr>
<tr>
<td>Saturday, July 7, 2012</td>
<td>RTI2/Data</td>
</tr>
<tr>
<td>Saturday, July 21, 2012</td>
<td>Special Education/English Learners/SDAIE</td>
</tr>
<tr>
<td>Saturday, August 4, 2012</td>
<td>Pacing Plan/Assessment Writing</td>
</tr>
<tr>
<td>Monday, August 13, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Tuesday, August 14, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Wednesday, August 15, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Thursday, August 16, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
</tbody>
</table>

**PD During Academic School Year**

Professional Development will be held every Tuesday after school during the academic school year.

<table>
<thead>
<tr>
<th>Month</th>
<th>Proposed PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2012</td>
<td>Technology in Classroom/Project Based Learning/Advisory</td>
</tr>
<tr>
<td>September 2012</td>
<td>Project Based Learning/RTI2</td>
</tr>
<tr>
<td>November 2012</td>
<td>Project Based</td>
</tr>
</tbody>
</table>
3. Target Student Population

Academy of Science and Engineering will admit all grade-level appropriate students residing in California who wish to attend.

Academy of Science and Engineering will serve 50 students each in grades 9, 10 and 11 (total of 150) in its first year and add an additional 100, 9th grade students each year thereafter and an additional 25, 11th and 12th grade students in year 3 until, which combined by year 5 when the school will be serving a total of 400 students; 100 in each of grades 9 – 12.

The student population will reflect the ethnic diversity of the student population of LAUSD, academic achievement, skills, interests, and ethnic and socioeconomic status.

Even though Academy of Science and Engineering will serve primarily students from LAUSD that reflect the demographic make-up of the District, and because of the school’s prospective location in the West Athens/Westmont area, Hispanic and African American student population may be the dominant ethnic groups.

According to the 2000 census, the report called “Language Spoken At Home by Community and Unincorporated Communities Person 5 years and over, City of Los Angeles,” within 4-8 mile distance from the area of West Athens/Westmont, the general vicinity in which the school will be located, a total of 23,446 families indicate that Spanish is the language spoken at home.

This includes the following communities that will be in close proximity to the school, all of which are within the service boundary of LAUSD. These communities are: West Athens; Westmont; Gardena; South Gate; and Watts. The chart below indicates the general population ethnic demographics of these communities:

<table>
<thead>
<tr>
<th>City</th>
<th>% Hispanic</th>
<th>% African American</th>
<th>% White</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Athens</td>
<td>25%</td>
<td>65%</td>
<td>13%</td>
<td>9,101</td>
</tr>
<tr>
<td>Westmont</td>
<td>40%</td>
<td>58%</td>
<td>12%</td>
<td>31,623</td>
</tr>
<tr>
<td>Gardena</td>
<td>32%</td>
<td>26%</td>
<td>24%</td>
<td>57,746</td>
</tr>
<tr>
<td>South Gate</td>
<td>92%</td>
<td>0.1%</td>
<td>0.8%</td>
<td>96,375</td>
</tr>
<tr>
<td>Watts</td>
<td>61%</td>
<td>38%</td>
<td>0.6%</td>
<td>34,830</td>
</tr>
</tbody>
</table>

*Source: 2000 U.S. Censes*
Furthermore, as indicated in the below table on student demographics from selected schools in the West Athens/Westmont area, Hispanic/Latino will be a prominent ethnic group. Therefore, Academy of Science and Engineering will focus on recruiting first and second generation immigrant students representative of general LAUSD student population. In addition to the strong and rigorous instructional programs, the School will provide language and multicultural programs that will help first and second generation immigrants become acclimated in the American culture while maintaining and valuing their own cultural identity.

Academy of Science and Engineering will create a small community with an ultimate enrollment of 400 students in grades 9-12. This growth plan will give Academy of Science and Engineering the opportunity to gradually build its standards based curriculum and assessments plans, train teachers in constructivist pedagogy and build a school culture that promotes and appreciates cultural diversity.
4. Demographics of Surrounding Schools (Data from CDE, 2010-2011 academic year)

<table>
<thead>
<tr>
<th>LAUSD SCHOOLS</th>
<th># of Students</th>
<th>Multi-Track School?</th>
<th>Program Improvement?</th>
<th>Met Schoolwide Growth Target?</th>
<th>Met all Subgroup Growth Targets?</th>
<th>API Score</th>
<th>API State Ranking</th>
<th>Similar Schools Rank</th>
<th>% Students Eligible for Free/Reduced Lunch</th>
<th>% of Special Ed. Students</th>
<th>% of EL Students</th>
<th>% Major Ethnicity #1</th>
<th>% Major Ethnicity #2</th>
<th>% Major Ethnicity #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington Prep High School</td>
<td>1,881</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>552</td>
<td>N/A</td>
<td>N/A</td>
<td>86.6%</td>
<td>17%</td>
<td>19%</td>
<td>50.7% African American</td>
<td>47.6% Hispanic</td>
<td>0.1% Pacific Islander</td>
</tr>
<tr>
<td>Manual Arts High School</td>
<td>3,458</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>575</td>
<td>N/A</td>
<td>N/A</td>
<td>89.4%</td>
<td>11%</td>
<td>33%</td>
<td>82.4% Hispanic</td>
<td>16.7% African American</td>
<td>0.2% Asian</td>
</tr>
<tr>
<td>Los Angeles High School</td>
<td>436</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>661</td>
<td>N/A</td>
<td>N/A</td>
<td>90.7%</td>
<td>9%</td>
<td>34%</td>
<td>89.2% Hispanic</td>
<td>2.8% African American</td>
<td>4.8% Asian</td>
</tr>
<tr>
<td>Robert E. Peary Middle School</td>
<td>1897</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>715</td>
<td>1</td>
<td>3</td>
<td>71.9%</td>
<td>11%</td>
<td>16%</td>
<td>64.7% Hispanic</td>
<td>25.5% African American</td>
<td>2.9% Filipino</td>
</tr>
<tr>
<td>Berendo Middle School</td>
<td>1411</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>700</td>
<td>1</td>
<td>7</td>
<td>86.1%</td>
<td>13%</td>
<td>32%</td>
<td>92% Hispanic</td>
<td>5.4% Asian</td>
<td>1.9% African American</td>
</tr>
<tr>
<td>Johnnie Cochran Middle School</td>
<td>1297</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>663</td>
<td>1</td>
<td>4</td>
<td>90.7%</td>
<td>10%</td>
<td>30.6%</td>
<td>79.3% Hispanic</td>
<td>19.7% African American</td>
<td>0.4% Asian</td>
</tr>
<tr>
<td>Henry Clay Middle School</td>
<td>984</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>553</td>
<td>1</td>
<td>1</td>
<td>87.6%</td>
<td>10%</td>
<td>22.6%</td>
<td>55.8% Hispanic</td>
<td>43.6% African American</td>
<td>0.2% Pacific Islander</td>
</tr>
<tr>
<td>CHARTER SCHOOLS</td>
<td># of Students</td>
<td>Multi-Track School?</td>
<td>Program Improvement?</td>
<td>Met Schoolwide Growth Target?</td>
<td>Met all Subgroup Growth Targets?</td>
<td>API Score</td>
<td>API State Ranking</td>
<td>Similar Schools Rank</td>
<td>% Students Eligible for Free/Reduced Lunch</td>
<td>% of Special Ed. Students</td>
<td>% of EL Students</td>
<td>% Major Ethnicity #1</td>
<td>% Major Ethnicity #2</td>
<td>% Major Ethnicity #3</td>
</tr>
<tr>
<td>Richard Merkin Middle Academy</td>
<td>445</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>758</td>
<td>4</td>
<td>10</td>
<td>96.6%</td>
<td>9%</td>
<td>21.6%</td>
<td>93% Hispanic</td>
<td>13.8% African American</td>
<td>0.2% Asian</td>
</tr>
<tr>
<td>Thurgood Marshall Charter Middle School</td>
<td>243</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>688</td>
<td>2</td>
<td>N/A</td>
<td>76.1%</td>
<td>11%</td>
<td>0.0%</td>
<td>94.2% African American</td>
<td>4.1% Hispanic</td>
<td></td>
</tr>
<tr>
<td>Los Angeles Leadership Academy</td>
<td>503</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>718</td>
<td>5</td>
<td>10</td>
<td>97%</td>
<td>12%</td>
<td>26%</td>
<td>62.2% Hispanic</td>
<td>10.1% African American</td>
<td>4.9% Asian</td>
</tr>
<tr>
<td>Camino Nuevo Charter High School</td>
<td>442</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>783</td>
<td>6</td>
<td>10</td>
<td>97.5%</td>
<td>6%</td>
<td>13.1%</td>
<td>97% Hispanic</td>
<td>1.4% Asian</td>
<td>0.9% Filipino</td>
</tr>
</tbody>
</table>
5. History
In 2009, Keith Bandy, a former high school English teacher and semiretired businessman, approached the Los Angeles nonprofit community organization, A Better LA, with his plans to start a charter high school in the general area of West Athens/Westmont and that would follow the very successful educational model of EdVisions, a charter school development organization in Minnesota that had created several charter schools in that and in other states and which had partnered with the Bill & Melinda Gates Foundation to form the Gates/EdVisions project, which awarded planning grants to worthy charter school developers to replicate the EdVisions model further. Bandy had received one of these grants and was looking for a reputable community organization to help him with his plans.

Brian Center, A Better LA’s Executive Director, introduced Bandy to Edward Robillard who at the time was the Chief School Administrator for MLA Partner Schools in Los Angeles and one of A Better LA’s advisory board members. Dr. Robillard evaluated Bandy’s plan and recommended to Mr. Center that it was viable and that A Better LA should become involved.

From those initial meetings, further meetings were held at which other community members attended and were invited to join the project, which eventually became the Academy of Science and Engineering Development Project whose members volunteered to conduct activities that were necessary to prepare a charter document, which would meet the high standards of the Los Angeles Unified School District.

The current Board of Trustees of Academy of Science and Engineering respectfully submits this charter petition to the Los Angeles Unified School District to establish a 9-12 grade integrated, comprehensive and experiential learning environment.

6. Educational Vision and Mission Statements

**Mission:**
The School’s mission is to graduate students that possess a blend of strong academic and workplace competencies that are necessary for entering college or high level technical fields and become productive workers and successful citizens.

**Vision:**
Academy of Science and Engineering intends to fulfill the growing need within the area of West Athens/Westmont (as described above) for better prepared students to fill employment positions that are increasingly demanding higher skills.

7. 21st Century Educated Person
An “educated person” in the 21st century is a lifelong learner who has developed competence, self-motivation, confidence, and responsibility.

The Academic Attributes Of An Educated Person In The 21st Century Include:
- Knowledge of and ability to demonstrate solid skills in reading, writing and speaking;
- A core knowledge that includes cultural, mathematical and scientific literacy;
• Understanding of the scientific process;
• Knowledge of history;
• Ability to think critically, creatively, analytically, and logically;
• Ability to use technology as a tool and understanding its uses;
• Ability to gather and organize information;
• Understanding of the mathematical process including application;
• Ability to critically assess data;
• Ability to appreciate, enjoy and respect the visual and performing arts; and,
• An understanding of the political process.

The Personal Attributes Of An Educated Person In The 21st Century Include:
• Concentration, focus and perseverance;
• Ability to work cooperatively with others and be adaptable;
• A strong sense of connection to and responsibility for the community;
• Valuing relationships, respect for others and for authority;
• Ability to honor differences including cultural, ideological and philosophical;
• Resourcefulness, confidence and motivation;
• Enthusiasm, a sense of wonder and curiosity;
• A passion for lifelong learning;
• Ability to communicate with respect and compassion;
• A strong social conscience;
• Celebrates diversity;
• A global perspective; and,
• Ability to think logically, make informed evaluations and problem solve.

8. How Learning Best Occurs
We believe that each and every child can be academically successful and that each and every student is unique. We also believe that learning best occurs in self-contained classrooms led by teachers with the skills and knowledge of a variety of teaching techniques and methods, including but not limited to Project Based Learning, Advisory Group Accountability, and High Performance Leadership and specialized materials that can meet the instructional needs of every student. We believe too in the use of weekly formative assessments for immediate re-teaching of missed standards and quarterly summative assessments that monitor overall growth.

Although there is no assurance that each child will master every instructional area, a major effort will be made to ensure maximum understanding and mastery. We believe that the potential for learning best occurs in environments that include meaningful content with choices for learning, which include, but may not be limited to: adequate time space and materials; immediate and meaningful feedback; benchmarks of progress; enriched environment; and, collaborative learning opportunities.

The educational philosophy at Academy of Science and Engineering synthesizes the constructivist approach with elements from the following schools of thought:
• Developmental Stages as defined by Jean Piaget;
• Behaviorist orientation to learning;
• Multiple Intelligences developed by Howard Gardner;
• Bloom’s Model of critical thinking (Taxonomy);
• Accelerated Schools Model developed by Levin and colleagues at Stanford;
• Advisory Group Accountability;
• High Performance Leadership; and
• Project Based Learning.

Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge. Constructivism has two major elements:

a) Cognitive constructivism, which is about how the individual learner understands things as proposed by Jean Piaget. In terms of developmental stages, Piaget claims that learning is dependent on the developmental stages of the individual. Students learn by being engaged in hands-on activities as through project-based learning activities. Jean Piaget suggested that through processes of accommodation and assimilation, individuals internalize knowledge and construct new knowledge from their experiences:

b) Social constructivism, which emphasizes how meaning and understanding grow out of social encounters (Vygotsky). A significant basis for constructivism was laid down by Vygotsky in his theory of the Zone of Proximal Development (ZPD) claiming that students do best when they are working in collaboration with an adult.

Learning best occurs when the following conditions are present:

• Student interest is stimulated by challenging and interesting problems;
• Students are encouraged to seek solutions and answers and apply them to real world situations rather than memorizing ideas, concepts or facts;
• The relationship between student and teacher is based on trust, mutual respect and the facilitation of problem solving;
• The relationship between students is one of mutual support and cooperation to reach common goals rather than simply friendship or competition;
• Individual content objectives or standards are woven into student projects that combine learning across disciplines;
• Skills or ideas are not taught as isolated single visit concepts, but rather as a sequence of knowledge that builds to greater understanding and depth—what is learned in one unit is applied in subsequent units;
• Technology serves to further the inquiry and knowledge of content area studies rather than as an end objective itself;
• There is a close tie between current coursework and future goals; and,
• The environment is supportive, caring, and safe.

Constructivist teaching and learning theories and strategies are consistent with the theories of Benjamin Bloom’s Model of Critical Thinking. In an environment where students learn by doing and experimenting and building new knowledge, they would have the opportunity to put into practice Blooms’ Taxonomy, such as: remembering, understanding, applying, analyzing,
evaluating, and creating.

Jerome Bruner, in his book, *The Process of Education: Towards a Theory of Instruction* (1966), wrote: “to instruct someone, is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on that subject, but rather to get a student to think for himself.”

Constructivist approaches also allow students to engage in learning activities based on their learning styles. Howard Gardner’s, author of *Multiple Intelligences*, proposes that each person has a different intellectual composition and that we can improve education by addressing the multiple intelligences of our students, such as, visual, verbal, logical, kinesthetic, rhythmic, intrapersonal, interpersonal, naturalist and existentialist.

Philosophical principles from *Accelerated Schools* that underlie instructional programs include that powerful learning experiences are provided for all children through the integration of curriculum, instruction and organization, including at-risk children.

Constructivist learning environment also lends itself to Problem-Based Learning, which is a student-centered instructional strategy in which students work cooperatively in groups to seek solutions to real world problems. This strategy prepares students to think critically and analytically, and to find and use appropriate learning resources (*Bloom’s Taxonomy*).

Constructivist teaching also emphasizes thinking, understanding, reasoning and applying knowledge while it does not neglect basic skills. It is guided by five basic elements: 1) activating prior knowledge; 2) acquiring knowledge; 3) understanding knowledge; 4) using knowledge; and, 5) reflecting on knowledge (*Tolman and Hardy*, 1995).

An eight year study by Aikin and Wilford and David Bensman’s recent (2000) follow-up of Central Park East graduates both show that constructivist education produces young men and women with habits of mind needed to create healthy, stable, self-directed, productive lives.

Benefits of constructivist approaches include: 1) children learn more and enjoy learning; 2) education works based when it concentrates on thinking and understanding; 3) learning is transferable; 4) students gain ownership of what they are learning; 5) grouping learning activities in an authentic, real-world context stimulates and engages students; and, 6) promotion of social and communication skills.

Consistent with the above mentioned theories, we believe that students learn by doing, actively scaffolding new knowledge and experience onto old. Therefore, Project-based Learning (PBL) will be interwoven within the normal academic schedule as much as possible while upholding the principles and integrity of the school’s charter.

This constructivist approach to teaching and learning will be the basis of our educational program.
### 9. Instructional Materials

a) Textbooks teachers at Academy of Science and Engineering will use to teach the core curriculum will include, but may not be limited to:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Subject</th>
<th>Text/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>English/Lang. Arts</td>
<td>9th Grade McDougal Little Language of Literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Always Running</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Farewell to Manzaner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Little Prince</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Odyssey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Romeo and Juliet</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>Biology: Holt McDougal Biology ©2010</td>
</tr>
<tr>
<td></td>
<td>History/Social Studies</td>
<td>No History/Social Studies for 9th</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>Fitness for Life-5th ed. Paperback</td>
</tr>
<tr>
<td>10</td>
<td>English/Lang. Arts</td>
<td>10th Grade McDougal Little Language of literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animal Farm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Kite Runner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Siddharthsa</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>To Kill a Mockingbird</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geometry: Holt McDougal Geometry © 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Algebra 2: Glencoe Algebra 2</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>Chemistry: Holt Chemistry ©2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physics: Conceptual Physics © 2007</td>
</tr>
<tr>
<td></td>
<td>History/Social Studies</td>
<td>World History: Modern World History</td>
</tr>
<tr>
<td></td>
<td></td>
<td>History Alive</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>Fitness for Life-5th ed. Paperback</td>
</tr>
<tr>
<td>11</td>
<td>English/Lang. Arts</td>
<td>11th Grade McDougal Little Language of literature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Always Running</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In The Time of The Butterflies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Literature circles (The Things They Carried)</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Scarlet Letter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Catcher in the Rye</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Great Gatsby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Crucible</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>Algebra 2: Glencoe Algebra 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trig/Math Analysis: Pre-Calculus, Numerical, Algebraic, Addison Wesley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calculus: Calculus, Graphical, Numerical Algebraic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Statistics: The Practice of Statistics</td>
</tr>
<tr>
<td></td>
<td>History/Social Studies</td>
<td>US History: The American History</td>
</tr>
<tr>
<td></td>
<td></td>
<td>History Alive</td>
</tr>
<tr>
<td></td>
<td>PE</td>
<td>Fitness for Life-5th ed. Paperback</td>
</tr>
<tr>
<td>12</td>
<td>English/Lang. Arts</td>
<td>Writers Craft Textbook</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ishmael</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Brave New</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Siddharthsa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hamlet</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>Trig/Math Analysis: Pre-Calculus, Numerical, Algebraic, Addison Wesley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calculus: Calculus, Graphical, Numerical Algebraic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Statistics: The Practice of Statics</td>
</tr>
<tr>
<td></td>
<td>History/Social Studies</td>
<td>AP Chemistry: Zumdahl, Chemistry, 8th Ed. 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Biology: Russell, Biology: The Dynamic Science, 1st Ed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physics: Glencoe-Physics Principles And Problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Physics: Serway, College Physics, 8th Ed. 2009</td>
</tr>
<tr>
<td></td>
<td>History/Social Studies</td>
<td>Political Science: Economics Today</td>
</tr>
<tr>
<td></td>
<td></td>
<td>American Government</td>
</tr>
</tbody>
</table>
b) Other Instructional Materials will be provided to support projects involving health and healthy living, the environment, applied engineering, science, business and entrepreneurship, etc. Examples of projects include, but is not limited to exploring green and alternative energy to power the world, studying bioscience advancements that enhance the utility of fiber, food, fuel, and plastics as the building blocks of modern science, seeing how the electronic and mechanical components of robots function, and perform hands on activities involving fiber optics.

<table>
<thead>
<tr>
<th>Projects Involving</th>
<th>Textbooks/Learning Materials</th>
<th>Author</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Healthy Living</td>
<td>What to Eat</td>
<td>Marion Nestle</td>
<td>North Point Press</td>
</tr>
<tr>
<td></td>
<td>Health: Making Life Choices</td>
<td>Whitney and DeBruyne</td>
<td>McGraw-Hill</td>
</tr>
<tr>
<td></td>
<td>Health &amp; Wellness</td>
<td>Edlin and Golanty</td>
<td>Jones &amp; Barlett</td>
</tr>
<tr>
<td>The Environment</td>
<td>Environmental Health</td>
<td>Howard Frumkin</td>
<td>Taylor &amp; Francis</td>
</tr>
<tr>
<td></td>
<td>The End of Nature</td>
<td>Bill McKibben</td>
<td>Random House</td>
</tr>
<tr>
<td></td>
<td>Principles of Environmental Science: Inquiry and Applications</td>
<td>William and Mary Cunningham</td>
<td>Jossey-Bass</td>
</tr>
<tr>
<td>Applied Engineering</td>
<td>Introduction to Engineering</td>
<td>Paul H. Wright</td>
<td>Wiley</td>
</tr>
<tr>
<td></td>
<td>Engineering Fundamentals: An Introduction to Engineering</td>
<td>Saeed Moaveni</td>
<td>Cengage Learning</td>
</tr>
<tr>
<td></td>
<td>Engineering Design: A Project Based Introduction</td>
<td>Clive L. Dym</td>
<td>Patrick Little</td>
</tr>
<tr>
<td></td>
<td>Invention by Design: How Engineers Get from Thought to Thing</td>
<td>Henry Petroski</td>
<td>Harvard University Press</td>
</tr>
<tr>
<td></td>
<td>Introduction to Robotics: Analysis, Systems, Applications</td>
<td>Saeed B Niku</td>
<td>Prentice Hall</td>
</tr>
<tr>
<td>Business and Entrepreneurship</td>
<td>How to Start &amp; Operate a Small Business and its accompanying workbook</td>
<td>Steve Mariotti</td>
<td>Pearson</td>
</tr>
<tr>
<td></td>
<td>The 21 Irrefutable Laws of Leadership</td>
<td>John C. Maxwell</td>
<td>Thomas Nelson</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship and Small Business Management</td>
<td>Earl Meyer</td>
<td>McGraw-Hill</td>
</tr>
</tbody>
</table>

The process by which curriculum, materials and instructional activities are to be selected involves establishing a Curriculum Committee that will meet initially on the 1<sup>st</sup> & 3<sup>rd</sup> Saturdays in February & March 2012, which will be responsible for selecting appropriate instructional materials to be purchased in May 2012.

10. Goals
The objective of enabling pupils to become self-motivated, competent, life-long learners will be met by the school through a collaborative, experiential learning environment that emphasizes individual student achievement and inspires students to reach beyond themselves. The implementation of its curriculum is grounded on recent empirical research in constructivist theory (Piaget, Dewey, Bruner, Eisner), and best instructional strategies (Marzano). To this end Academy of Science and Engineering will pursue the following goals:

**Instructional Programs:**
- All curriculum design is aligned with the California State Standards;
• Standardized testing required by the State will be an integral part of our assessment;
• School developed benchmark assessments, such as rubrics, projects, student portfolios and student exhibits are an integral part of our ongoing assessment of student progress;
• Lessons will be taught across the disciplines using direct instruction, guided practice, and project-based strategies; and,
• Collaborative experiential learning environment will be provided for students to develop their interpersonal skills and nurture mutual respect, civic responsibility and life-long learning.

**Professional Development:**
Professional Development will be held every Tuesday after school during the academic school year. PD will be led by Curriculum Committee, which will be composed by the school administration, counselor, expert teachers, and contracted outside experts.

<table>
<thead>
<tr>
<th>Month</th>
<th>Proposed PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2012</td>
<td>Technology in Classroom/Project Based Learning</td>
</tr>
<tr>
<td>September 2012</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>November 2012</td>
<td>Project Based Learning/Interventions/Testing/Data</td>
</tr>
<tr>
<td>December 2012</td>
<td>High Performance Leadership/Interventions/Testing/Data</td>
</tr>
<tr>
<td>January 2013</td>
<td>High Performance Leadership/Interventions/Testing/Data</td>
</tr>
<tr>
<td>February 2013</td>
<td>Special Education/English Learners/SDAI</td>
</tr>
<tr>
<td>March 2013</td>
<td>RTI/Data/Testing</td>
</tr>
<tr>
<td>April 2013</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>May 2013</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>June 2013</td>
<td>Planning for 2013-2014</td>
</tr>
</tbody>
</table>

• Establish partnership with the University of Southern California - Rossier School of Education as an institution of higher education for professional growth; and,
• Provide teachers with opportunities to develop their leadership skills by serving as mentors and facilitators.

**Community and Family participation:**
• Partner with community organizations to provide students with opportunities and services to excel academically, socially, and as contributing members of society. Agreements with these following community organizations are in progress, but letters of support are include from each one under Appendix N:
  o A Better LA – A Better LA, founded by coach Pete Carroll, is committed to supporting Los Angeles communities, including West Athens, in their goal to reduce violence by empowering men and women who have experience of being from the streets but have turned their lives around to lead the transformation of the communities from within.
  o Common Unity Reaching Everyone (CURE) – founded and based in West Athens, strives to save the lives of children who live in dangerous urban communities. They seek to establish and mediate peace agreement between rival gangs. They also help provide safe passage at local schools, sports
programs, community events, job opportunities, tutoring, and other services to children of the West Athens community.

- People for Community Improvement (PCI) – has worked tirelessly in the Athens area to support at-risk youth and save lives. They also provide youth with services to keep them safe and engaged.

- Brotherhood United for Independent Leadership through Discipline (BUILD) – works with, trains, and collaborates with a number of community groups that provides services to the West Athens community. They seek to provide a comprehensive program of direction, self-discipline, focus, and responsibility for the youth of South Los Angeles.

In the charter world of finance, ratios traditionally applicable to private business do not readily translate into measuring the financial health of a public entity due to the fact that charter schools are not always guaranteed the same revenue yearly.

As a rule of thumb, I will consider the following when interpreting the use of ratios by asking this question—is the school making progress, and to whom I am providing the analysis in order to create a positive picture of the charter school. The financial Leverage Ratio (Avg Total Assets/Avg Reserves) will determine if the Board uses debt to increase amount of assets of the charter school. It is better to look to see if there is a trend. The closer to one suggests that charter school is reducing debt, while moving away from 1 suggests the charter school is increasing debt. Here, if I were attempting to get financing, I would show, that the charter school was paying off its debt, and a financial institution may want to loan money to the charter school since the Board has made strategic decisions, and is capable of fundraising to pay off its debt.

The Current Ratio (Current Assets/Current Liabilities) suggests if the charter school is able to meet the obligations of its creditors—here, if the number is higher, the better. If the charter school is being reviewed by the authorizer, this is one indicator of the financial health of the charter school. Thus, as a board member, this is the ratio I would definitely keep in mind. Though it was mentioned that the cash ratio and current ratios are no different, I would use the Current Ratio over the Cash Ratio and Quick Ratio because the Current Ratio provides the charter school within an general overview of the health of the charter organization for the entire year. I would look to liquidity ratios, but I would once again, what is the intent of using the ratio—more than likely to cast the charter school in a positive light.

- Secure members of the community to serve as speakers, presenters and mentors;
- Provide students with opportunities for community services;
- Establish a family education program in literacy; and,
- Establish Parent Advisory committees to provide valuable input into school issues.

11. A Typical Day at Academy of Science and Engineering

When the School’s vision is fully implemented, a visitor at Academy of Science and Engineering should expect to see a normal high school with traditionally outfitted classrooms and some open spaces that contain desks and file cabinets (work stations) that during advisory class sessions will be occupied by students and divided into what is known as Advisory Group Areas, each containing 20 to 25 students that meet during a regularly scheduled class (see class schedule below) with their advisory group teacher (Advisor), who will act as student mentors, to discuss any problems or concerns their advisory students may have with academics or
anything else that may be having an effect on their success at the school. And Advisors will be responsible for recognizing and solving any problems any of their advisory group students may be having that may be keeping them from succeeding in any of their classes.

A key academic value of the Advisory is it meets daily, while all other courses meet every other day. This allows the Advisor to monitor student progress on their Project Based Learning projects. Project Based Learning is central to the academic process for students to achieve success in core content areas. English and History teachers will collaborate on interdisciplinary units that culminate in joint projects that require work to occur in both courses simultaneously to complete the project successfully. Similarly Mathematics and Science teachers also collaborate on interdisciplinary units that have culminating joint projects. This interdisciplinary methodology to Project Based Learning under the daily supervision of the Advisor will act as a comprehensive approach to meaningful leaning of core content standards.

In a typical day, a grade nine student, for example, will write, draft, edit a design brief that offers solutions to address technology issues in society in their first period English class. Then the student will travel to his/her second period Algebra class where concepts and terminology introduced in the STEM Ed course the day before is being reinforced and applied. Then the student will travel to his/her Advisory to debrief with peers about the progress of their design brief. Next the student will travel to his/her third period Computer Science class where students are learning to create webpages and PowerPoint presentations about their design brief and technology project. Finally, the student will travel to his/her fourth period STEM Ed class and apply and test their design brief to a technology module.

Other than advisory group areas, a visitor at the School will also see regular classrooms where students will receive instructions in normal academic subjects, following the school’s daily schedule, from teachers who specialize in such subjects. Also, A-G university admission requirements will be met by students during the regular school day by them attending classes containing subject matter concerning such requirements. A typical day at Academy of Science and Engineering will begin with students arrive at school by 8:00 AM for their first regularly scheduled class. The placement of the Advisory period is the center of the academic day occurring after the first two periods and before the final period of the day. The Advisory period is so central to the school’s academic focus, that all certificated staff including the counselor and administrators will have an Advisory. In order to strengthen student collaboration and support interdisciplinary core content project work, students will be in cohorts; that allow them to build a strong sense of teamwork, while building academic confidence. At the end of the last period, students will be released to go home or participate in intervention opportunities including Before and After School Tutoring and Saturday Classes.
12. Daily Schedule and School Calendar
The tables below describe Academy of Science and Engineering’s daily class schedule and academic calendar. The instructional schedule will exceed the minimum instructional minutes set forth in Education Code 47612.5 of 64,800 minutes by over 20 percent. ASE’s academic schedule, required of all students, will provide 78,100 minutes of instruction within its annual 190 day calendar. The school calendar will have 150 days of instruction with 430 minutes (Monday, Wednesday, Thursday, Friday) and 40 days of instruction with 340 minutes (Professional Development Tuesdays). Prior to the school year starting, Professional Development will occur on the 1st & 3rd Saturdays of April, May, June, July, and August 2012 in Project Based Learning and High Performance Leadership prior to school year beginning. During the school year, PD will be conducted every Tuesday of every month after a shortened school day. PD will be delivered by members of the Curriculum Committee, which includes school administration, counselor, expert teachers, and contracted outside expert providers.

<table>
<thead>
<tr>
<th>Period</th>
<th>Course</th>
<th>Period</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / 5</td>
<td>English 9</td>
<td>5</td>
<td>PE</td>
</tr>
<tr>
<td>2 / 6</td>
<td>Elective/Intervention</td>
<td>6</td>
<td>Stem Ed 1</td>
</tr>
<tr>
<td>Advisory</td>
<td>Advisory 9</td>
<td>Adv</td>
<td>Advisory 9</td>
</tr>
<tr>
<td>3</td>
<td>Computer Science</td>
<td>7</td>
<td>Algebra</td>
</tr>
<tr>
<td>4 / 8</td>
<td>Biology</td>
<td>8</td>
<td>Spanish 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Period</th>
<th>Time</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / 5</td>
<td>7:50 – 9:25</td>
<td>95</td>
</tr>
<tr>
<td>2 / 6</td>
<td>9:30 – 11:05</td>
<td>95</td>
</tr>
<tr>
<td>Advisory</td>
<td>11:10 – 11:40</td>
<td>30</td>
</tr>
<tr>
<td>Lunch</td>
<td>11:40 – 12:10</td>
<td>30</td>
</tr>
<tr>
<td>3 / 7</td>
<td>12:15 – 1:50</td>
<td>95</td>
</tr>
<tr>
<td>4 / 8</td>
<td>1:55 – 3:30</td>
<td>95</td>
</tr>
<tr>
<td>Total Minutes w/o Lunch</td>
<td>430</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Period</th>
<th>Time</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 / 5</td>
<td>7:50 – 9:03</td>
<td>73</td>
</tr>
<tr>
<td>2 / 6</td>
<td>9:08 – 10:20</td>
<td>72</td>
</tr>
<tr>
<td>Advisory</td>
<td>10:25 – 10:55</td>
<td>30</td>
</tr>
<tr>
<td>Lunch</td>
<td>10:55 – 11:25</td>
<td>30</td>
</tr>
<tr>
<td>3 / 7</td>
<td>11:30 – 12:43</td>
<td>73</td>
</tr>
<tr>
<td>4 / 8</td>
<td>12:48 – 2:00</td>
<td>72</td>
</tr>
<tr>
<td>Total Minutes w/o Lunch</td>
<td>340</td>
<td></td>
</tr>
</tbody>
</table>

Students will attend Periods 1, 2, 3, and 4 on A days and 5, 6, 7, and 8 on B days. A and B days will rotate according to the schedule below for whole academic year.

<table>
<thead>
<tr>
<th>Week 1</th>
<th>A</th>
<th>B</th>
<th>A</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

Sample Class Schedules 2012-2013

Grade 9

<table>
<thead>
<tr>
<th>Period</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>English 9</td>
</tr>
<tr>
<td>2</td>
<td>Elective/Intervention</td>
</tr>
<tr>
<td>Adv</td>
<td>Advisory 9</td>
</tr>
<tr>
<td>3</td>
<td>Computer Science</td>
</tr>
<tr>
<td>4</td>
<td>Biology</td>
</tr>
</tbody>
</table>

Grade 10

<table>
<thead>
<tr>
<th>Period</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chemistry</td>
</tr>
<tr>
<td>2</td>
<td>English 10</td>
</tr>
<tr>
<td>Adv</td>
<td>Advisory 10</td>
</tr>
<tr>
<td>3</td>
<td>Stem Ed 2</td>
</tr>
<tr>
<td>4</td>
<td>PE</td>
</tr>
</tbody>
</table>

Grade 11

<table>
<thead>
<tr>
<th>Period</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Elective/Intervention</td>
</tr>
<tr>
<td>2</td>
<td>Applied Engineer</td>
</tr>
<tr>
<td>Adv</td>
<td>Advisory 11</td>
</tr>
<tr>
<td>3</td>
<td>Algebra 2</td>
</tr>
<tr>
<td>4</td>
<td>Spanish 3</td>
</tr>
</tbody>
</table>
# 2012-2013 School Calendar Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Day of Instruction</td>
<td>Aug. 20, 2012</td>
</tr>
<tr>
<td>CELDT</td>
<td>Aug 27-Oct 12</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Sept. 3</td>
</tr>
<tr>
<td>PSAT</td>
<td>Oct 17</td>
</tr>
<tr>
<td>CAHSEE (Grade 11 only)</td>
<td>Nov 6-7</td>
</tr>
<tr>
<td>Veterans Day</td>
<td>Nov 12</td>
</tr>
<tr>
<td>1st Quarterly Summative Assessments</td>
<td>Nov 14-16</td>
</tr>
<tr>
<td>Thanksgiving</td>
<td>Nov 22, 23</td>
</tr>
<tr>
<td>Winter Recess</td>
<td>Dec 17-Jan 4</td>
</tr>
<tr>
<td>M.L. King, Jr. Day</td>
<td>Jan 21</td>
</tr>
<tr>
<td>Physical Fitness Testing</td>
<td>Feb 1-May 31</td>
</tr>
<tr>
<td>Presidents’ Day</td>
<td>Feb 18</td>
</tr>
<tr>
<td>2nd Quarterly Summative Assessments</td>
<td>Feb 20-22</td>
</tr>
<tr>
<td>CAHSEE (Grade 10 Census Admin &amp; Grade 11)</td>
<td>Mar 12-13</td>
</tr>
<tr>
<td>Spring Recess</td>
<td>Mar 25-29</td>
</tr>
<tr>
<td>CAHSEE (Grade 10 Makeups)</td>
<td>May 14-15</td>
</tr>
<tr>
<td>CSTs (TBD by state)</td>
<td>May</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>May 27</td>
</tr>
<tr>
<td>3rd Quarterly Summative Assessments</td>
<td>May 29-31</td>
</tr>
<tr>
<td>Last Day of Instruction</td>
<td>June 18, 2013</td>
</tr>
</tbody>
</table>

Total Number of Instructional Days: 190

**Note:** Periods alternate each day: periods 1, 2, 3 and 4 one day. The next day is periods 5, 6, 7 and 8. This schedule also alternates from week to week as illustrated above with weeks 1 and 2.
13. Master Schedule

The following sequence of high school courses is required by the Academic Senate of California Colleges and Universities as appropriate for fulfilling the minimum eligibility requirements for admission. It also illustrates the minimum level of academic preparation students ought to achieve in high school to undertake university level work.

The "A-G" requirements can be summarized as follows:

**History / Social Science** – Three years, including one year of world history, cultures, and historical geography, one year of US History, and one-half year of US Government and one-half year of economics.

**English** – Four years of college preparatory English that include frequent and regular writing, and reading of classic and modern literature.

**Mathematics** – Three years of college preparatory mathematics that include the topics covered in elementary and advanced algebra and two- and three-dimensional geometry.

**Laboratory Science** – Two years of laboratory science providing fundamental knowledge in at least two of these three disciplines: biology, chemistry, and physics.

**Language Other Than English** – Three years of the same language other than English.

**Visual & Performing Arts** – One year, including visual art.

**College Preparatory Elective** – One year (two semesters), chosen from additional "a-f" courses beyond those used to satisfy the requirements above, or courses that have been approved solely for use as "g" electives.

The curriculum focus of Academy of Science and Engineering is centered on the driving educational theme of excellence in Technology, Mathematics, Science, and Engineering. This can be seen below in our rigorous pathway of Math and Science. See below a scope and sequence that shows how students would accomplish A-G requirements for entrance into the University of California/California State system.

<table>
<thead>
<tr>
<th>A-G Requirements</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Semester 1</td>
<td>Semester 2</td>
<td>Semester 1</td>
<td>Semester 2</td>
</tr>
<tr>
<td><strong>A Social Science</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World History</td>
<td>World History</td>
<td>US History</td>
<td>US History</td>
<td>Government</td>
</tr>
<tr>
<td><strong>C Math</strong></td>
<td>Geometry</td>
<td>Geometry</td>
<td>Algebra 2</td>
<td>Algebra 2</td>
</tr>
</tbody>
</table>
Transferability of Courses

Parents will be informed about the transferability of courses to other high schools in the initial parent orientation meeting when they enroll their students. The information will also be included in the parent/student handbook each parent will receive at the parent orientation meeting and posted on the school’s “Parent Information” website.

Western Association of Schools and Colleges (WASC) Accreditation

The school will complete a “Request for Affiliation” form and submit it to WASC by January 2013. The school will complete the “Initial Visit Application” form that describes the purpose and operation of the school and proper documentation regarding the condition of eligibility. By late Spring of 2013, WASC will send a team to do a one day visit at the school. After their visit, generally within two months WASC will notify the school of its status, during the beginning of the first year of operation. The School expects to earn candidacy or interim status indicating that it is progressing toward accreditation within its first year of operation. Within two years of this designation, the school expects to achieve full accreditation.

14. Instructional Program

Instructional Design

Academy of Science and Engineering presents a balanced approach to instruction. Based on state requirements of standards-based content and assessment, our school will develop a viable curriculum that is aligned with the standards, and we will develop benchmark assessments to measure the extent students meet such standards. Both state and District standards will be explicitly embedded in the curriculum.

Teachers will receive on-going professional development in the implementation of this curriculum, and will be encouraged to supplement and adapt materials according to local conditions and needs of the student population.
The Principal and professional staff will be knowledgeable of local instructional networking opportunities. Staff members will explore their applicability to our school environment and their potential to leverage school resources, further develop site expertise, and enhance student-learning outcomes.

Academy of Science and Engineering shall operate a longer school day and longer school year, which allows for the number of minutes of instruction in the student year to exceed state requirements by over 20%.

**Instructional approaches**

The instructional programs at Academy of Science and Engineering will encompass themes from major research findings conducted over the past 35 years. They will address the following areas: 1) School level factors, such as “Guaranteed and viable curriculum”; 2) Teacher level factors, such as, instructional strategies and curriculum design; and, 3) Student level factors, such as, motivation and home environment. These factors have been identified as having the greatest impact on student achievement (Marzano and Teddie, 2000; Good & Brophy, 1986).

In addition, we recognize that learning is not a linear process. Students will be provided with learning opportunities and teaching strategies, such as Project Based Learning (PBL) and High Performance Leadership (HPL), in which they will be able to construct personal meaning.

Through PBL, students develop projects during their advisory class times in which normal state learning standards are interwoven with individual student interests and that can be accurately measured for academic compliance. This approach to teaching allows students to publically demonstrate what they are learning in their regular academic classes and to explore real-world problems and challenges, thus simultaneously developing cross-curriculum skills while working in small collaborative groups, similar to how learning occurs in the real world.

HPL in teaching and learning promotes ownership and is fostered using the curriculum of The Pacific Institute of Seattle, WA. This curriculum of this hugely successful company “empowers people to recognize their ability to choose growth, personal freedom and personal excellence.” Students will learn to become high-impact leaders that operate in an organized, systematic way to build successful teams through backwards planning, defining clear goals, creating blueprints for action to achieve those goals, using language to build collaboration and forward thinking, and getting all team members involved.

The teaching strategies at Academy of Science and Engineering are based on the constructivist approach, where students are engaged in meaningful work and are given opportunities to investigate, question, analyze, and construct new meanings and understandings. (Bruner, 1966, 1996, Cortez, 1986, Wiggins and McTigh, 2005)

Therefore, the classroom environment at Academy of Science and Engineering will be organized to reflect the following constructivist approaches:

- Curriculum is presented with emphasis on big ideas and concepts;
- Learning activities incorporate manipulatives;
• Students are encouraged to pose questions, analyze, interpret and construct new meanings;
• Assessment is embedded in the instruction that includes exhibits, projects, and portfolios;
• Students work primarily in cooperative groups.

(Source: A Case for constructivist Classrooms, p. 16)

**Core Curriculum**

Pursuant with EC Section 60605, Academy of Science and Engineering will successfully implement the SBE adopted core curriculum in Language Arts, Mathematics, Science, and Social Studies. The curriculum will be rigorous and the curriculum materials will meet all state standards and prepare students for the annual state assessment tests.

Academy of Science and Engineering will provide time and guidance for faculty to develop standards based curriculum and teaching practices. The curriculum will be based on the state content standards and will include the following: a) content standards; b) instructional strategies; c) assessments; and d) resources.

All students will also receive instruction in the arts, life skills, physical education, and reference/computer skills, and will have access to extra-curricular activities and a wide variety of elective courses.
15. Professional Development (PD)

Professional Development will be led by Curriculum Committee, which will be composed of the school administration, counselor, expert teachers, and contracted outside experts.

**PD Plan Prior to Academic School Year:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Proposed PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, April 7, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, April 21, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, May 5, 2012</td>
<td>Project Based Learning</td>
</tr>
<tr>
<td>Saturday, May 19, 2012</td>
<td>Inquiry Based Learning</td>
</tr>
<tr>
<td>Saturday, June 2, 2012</td>
<td>High Performance Leadership/Advisory</td>
</tr>
<tr>
<td>Saturday, June 16, 2012</td>
<td>High Performance Leadership/Advisory</td>
</tr>
<tr>
<td>Saturday, June 30, 2012</td>
<td>RTI/Data</td>
</tr>
<tr>
<td>Saturday, July 7, 2012</td>
<td>RTI/Data</td>
</tr>
<tr>
<td>Saturday, July 21, 2012</td>
<td>Special Education/English Learners/SDAI</td>
</tr>
<tr>
<td>Saturday, August 4, 2012</td>
<td>Pacing Plan/Assessment Writing</td>
</tr>
<tr>
<td>Monday, August 13, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Tuesday, August 14, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Wednesday, August 15, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Thursday, August 16, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
<tr>
<td>Friday, August 17, 2012</td>
<td>Lesson Planning/Assessment Writing</td>
</tr>
</tbody>
</table>

**During Academic School Year**

Professional Development will be held every Tuesday after school during the academic school year.

<table>
<thead>
<tr>
<th>Month</th>
<th>Proposed PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2012</td>
<td>Technology in Classroom/Project Based Learning</td>
</tr>
<tr>
<td>September 2012</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>November 2012</td>
<td>Project Based Learning/Interventions/Testing/Data</td>
</tr>
<tr>
<td>December 2012</td>
<td>High Performance Leadership/Interventions/Testing/Data</td>
</tr>
<tr>
<td>January 2013</td>
<td>High Performance Leadership/Interventions/Testing/Data</td>
</tr>
<tr>
<td>February 2013</td>
<td>Special Education/English Learners/SDAI</td>
</tr>
<tr>
<td>March 2013</td>
<td>RTI²/Data/Testing</td>
</tr>
<tr>
<td>April 2013</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>May 2013</td>
<td>Project Based Learning/RTI²</td>
</tr>
<tr>
<td>June 2013</td>
<td>Planning for 2013-2014</td>
</tr>
</tbody>
</table>

All professional development time must focus on strong and consistent instructional practice that assists all teachers to engage students in a meaningful way as a matter of every day practice. Conversations during professional development time will focus on the quality of instruction in the classroom first by self-examining practice with the following four fundamental questions about one's own class:
1. In my class is there a professional and engaging learning environment with subject matter displays and displays of student work?
2. In my class is there effective discipline with high standards of student conduct?
3. In my class am I implementing standards-based, well-planned, rigorous, bell-to-bell instruction?
4. In my class am I using effective methods to check for understanding that involve all students?

Next, every department must do the following on a weekly basis during PD time:

1. Focus on dynamic instructional practice that increases the engagement of students
2. Plan comprehensive and standards-based project based learning units
3. Increase excellent instructional practice through peer observations and lesson demonstrations
4. Differentiate instruction through Equity & Access (University of the Pacific)

The vehicle of support to ensure that students are learning the essential standards will be all teachers participating with fidelity on the three schoolwide monitoring practices below:

1. Weekly Formative Assessments that are related to the essential standards being covered that week.
2. Re-teaching essential standards every week prior to progressing, based on Formative Assessments results
3. Quarterly summative assessments that inform instruction, by monitoring the overall progress of students.

Additionally, PD from The Pacific Institute curriculum will be given to all school personnel, parents, and students on an on-going basis. This training will focus on High Performance Leadership (HPL) in teaching and learning promotes an ownership and is fostered using the curriculum of The Pacific Institute of Seattle WA. This curriculum centers on 21 Keys for High Performance Teaching and Learning, which is a two day curriculum that will be delivered to every teacher, staff member, and parent at Academy of Science and Engineering. This curriculum rest, in part, on social learning theory and social cognitive theory. Central to this thought is that individuals are responsible for their own actions, and can regulate their behavior through goal-setting, self-reflection and self-evaluation. All students at Academy of Science and Engineering will participate in the PX2 curriculum, which is the student version of the 21 Keys course.

Academy of Science and Engineering staff will also undergo PD training in Project-Based Learning (PBL is explained in the next section). Through a process that includes one or more PBL experts, teachers will be guided through the reading of PBL articles and how to follow instructions as presented on such online PBL resource websites as:
1. Buck Institutes’ *Project Based Learning for the 21\textsuperscript{st} Century* (www.bie.org), which fully explains PBL, is accompanied by a *PBL Starter Kit* that is a powerful learning/teaching tool, and includes links to other PBL websites that cover such subjects as: a) Project Planning Forms; Developing an Idea; Managing, Sharing and Assessing Projects; and, Reflecting and Perfecting the Processes;

2. The George Lucas Education Foundation’s *Edutopia* (www.edutopia.org/project-based-learning), which includes many links that train and guide educational professionals in becoming experts in helping students develop and manage projects that reflect what they are learning in the classroom;

2. *Global School Net: Introduction to Project-Based Learning*, which can be located on the Internet at (www.globalschoolnet.org). As its name implies, it is an introduction to PBL and its pedagogy, and provides some PBL examples, success stories and resources; and,

3. Other PBL information/training websites such as the following, which is but a small sample of the many available on the Internet:
   - *Challenge 2000 Multimedia Project* (http://pblmm.k12.ca.us/index.html), which has a variety of resources, examples and research focusing on project-based learning and multimedia;
   - *Network-Based Educational Activity Collection* (www.mwsu.edu/~educ/coe/structures/structures.htm), which includes extensive research about how teachers can become designers for Internet projects, including 18 structures for successful telecomputing activities;
   - *Project Approach* (http://www.project-approach.com), which includes Project-Based Learning theory, planning, examples, and professional development;
   - *Project Based Learning Handbook* (www.bie.org/pbl/pblhandbook/contents.php) which is Buck Institute of Education’s comprehensive overview of PBL providing a detailed planning model for teachers and PBL research;
   - *Project Based Learning Resources* (www.iercanada.org/guideontheside.html) which is a collection of articles, examples and resources related to project-based learning; and,

PBL staff training will be conducted during the initial new staff training sessions, which will occur before the school opens.  PBL training will be ongoing as needed or requested throughout the school year, but in no circumstance will be held less than two, one hour sessions per month for all affected staff members.

16. **Project-Based Learning (PBL)**

Project-based Learning is an instructional approach built upon authentic learning activities that engage student interest and motivation. These activities are designed to answer a question or
solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom.

Project Based Learning is generally done by groups of students working together toward a common goal. Performance is assessed on an individual basis using an project evaluation rubric (example below), and takes into account the quality of the product produced, the depth of content understanding demonstrated, and the contributions made to the ongoing process of project realization.

PBL will be used at Academy of Science and Engineering to support normal classroom instructions. Teachers, at their discretion, will either develop their own or use pre-developed student projects to engage their students in deeper analysis of the subject in which they are engaged.

Project Evaluation Rubric

<table>
<thead>
<tr>
<th>Score Levels</th>
<th>Content</th>
<th>Conventions</th>
<th>Organization</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>▪ Is well thought out and supports the solution to the challenge or question ▪ Reflects application of critical thinking ▪ Has clear goal that is related to the topic ▪ Is pulled from a variety of sources ▪ Is accurate</td>
<td>▪ No spelling, grammatical, or punctuation errors ▪ High-level use of vocabulary and word choice</td>
<td>▪ Information is clearly focused in an organized and thoughtful manner. ▪ Information is constructed in a logical pattern to support the solution.</td>
<td>▪ Multimedia is used to clarify and illustrate the main points. ▪ Format enhances the content. ▪ Presentation captures audience attention. ▪ Presentation is organized and well laid out.</td>
</tr>
<tr>
<td>3</td>
<td>▪ Is well thought out and supports the solution ▪ Has application of critical thinking that is apparent ▪ Has clear goal that is related to the topic ▪ Is pulled from several sources ▪ Is accurate</td>
<td>▪ Few (1 to 3) spelling, grammatical, or punctuation errors ▪ Good use of vocabulary and word choice</td>
<td>▪ Information supports the solution to the challenge or question.</td>
<td>▪ Multimedia is used to illustrate the main points. ▪ Format is appropriate for the content. ▪ Presentation captures audience attention. ▪ Presentation is well organized.</td>
</tr>
<tr>
<td>2</td>
<td>▪ Supports the solution ▪ Has application of critical thinking that is apparent ▪ Has no clear goal ▪ Is pulled from a limited number of sources ▪ Has some factual errors or inconsistencies</td>
<td>▪ Minimal (3 to 5) spelling, grammatical, or punctuation errors ▪ Low-level use of vocabulary and word choice</td>
<td>▪ Project has a focus but might stray from it at times. ▪ Information appears to have a pattern, but the pattern is not consistently carried out in the project. ▪ Information loosely supports the solution.</td>
<td>▪ Multimedia loosely illustrates the main points. ▪ Format does not suit the content. ▪ Presentation does not capture audience attention. ▪ Presentation is loosely organized.</td>
</tr>
<tr>
<td>1</td>
<td>▪ Provides inconsistent</td>
<td>▪ More than 5 spelling, grammatical, or punctuation errors</td>
<td>▪ Content is unfocused</td>
<td>▪ Presentation appears sloppy and/or disorganized.</td>
</tr>
</tbody>
</table>
17. Special Education Program

All charter schools must adhere to all terms and conditions of the Chanda Smith Modified Consent Decree (“MCD”) and any other court orders and/or consent decrees imposed upon the LAUSD as they pertain to special education. Charter schools must ensure that no student otherwise eligible to enroll in their charter school will be denied enrollment due to a disability or to the charter school’s inability to provide necessary services. Policies and procedures are in place to ensure the recruitment, enrollment and retention of students with disabilities at charter schools.

Prior to Los Angeles Unified School District (“LAUSD” or “District”) Governing Board approval, Academy of Science and Engineering will execute a Memorandum of Understanding (“MOU”) by and between LAUSD and Academy of Science and Engineering regarding the provision and funding of special education services consistent with the requirements of the LAUSD Special Education Local Plan Area (“SELPA”) Local Plan for Special Education.

SELPA Reorganization

The Los Angeles Unified School District is approved to operate as a single-District SELPA under the provisions of Education Code § 56195.1(a) and intends to continue operating as a single-District SELPA as in the current structure but will now create two school sections (District operated Programs and Charter-operated Programs) under the administration of one single Administrative Unit pursuant to a reorganization plan approved by the Board of Education on January 4, 2011 (149/10-11). The Charter-operated schools will not have a LEA status but will function in a similar role in that each charter school will be responsible for all special education issues including services, placement, due process, related services, special education classes, and special education supports. Charter schools will apply for membership in the Charter-operated Program section of the SELPA. These schools will receive support from a Special Education Director for the Charter-operated Programs.

Compliance with Child Find Activities for Conversion Schools

District-authorized conversion charter schools must conduct Child Find activities for students residing in its pre-charter attendance areas (including private school students), so that students who have or are suspected of having a disability and needing special education and related services are appropriately identified and, if necessary, referred for evaluation in accordance with state and federal law. Conversion charter schools must distribute the District’s brochure, “Are you Puzzled by Your Child’s Special Needs,” prominently display the Parent Resource Network poster and use other District materials to address the search and serve requirement of
the law, (e.g., “The IEP and You”).
Modified Consent Decree Requirements

All charter schools chartered by LAUSD Board of Education are bound by and must adhere to the terms, conditions and requirements of the Chanda Smith Modified Consent Decree ("MCD") and other court orders imposed upon District pertaining to special education. The MCD is a consent decree entered in a federal court class action lawsuit initially brought on behalf of students with disabilities in LAUSD. It is an agreement of the parties approved by the federal court and monitored by a court-appointed independent monitor. The MCD includes eighteen statically measureable outcomes and facilities obligations that the District has to achieve to disengage from the MCD and federal court oversight. All charter schools are required to use the District’s Special Education Policies and Procedures Manual and Welligent, the District-wide web-based software system used for online Individualized Education Plans ("IEPs") and tracking of related services provided to students during the course of their education.

As part of fulfilling the District’s obligations under the Modified Consent Decree, data requests from charter schools that are not connected to the District’s current Student Information Systems (“SIS”) are made on a regular basis. The requested data must be submitted in the Office of the Independent Monitor’s required format and are as follows:

- The Independent Charter School Suspension/Expulsion Report, due monthly throughout the school year.
- Paper SESAC Report and Welligent Student Listing Verification, due monthly throughout the school year.
- CBEDS, which is due at the end of October of Each School Year.
- All Students Enrolled December 1 of Each School Year, due at the end of December every school year.
- Graduation Status of 12th Grade Students Enrolled on December 1, due at the end of June every school year.

The District is currently in the process of developing an Integrated Student Information Systems ("ISIS") as required by MCD. Although most charter school are not currently utilizing the District’s current SIS, the MCD requires all charter schools to implement the use of ISIS once it is developed.

18. Scope and Sequence

The following represents the extent and order (scope and sequence) of the four core academic subjects (English/Language Arts, Math, Science, and History/Social Studies) that will be taught at Academy of Science and Engineering. ASE will implement Common Core Standards
as soon as they are finalized. These subjects are listed here according to their California Content Standard definition.

**English Language Arts**

**Grade 9**

**Unit 1, Semester 1**

**Reading:**

*Word Analysis, Fluency, and Systematic Vocabulary Development.* Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.

A. **Word Analysis, Fluency, and Systematic Vocabulary Development**
   1. Identify and use the literal and figurative meanings of words and understand word derivations.
   2. Distinguish between the denotative and connotative meanings of words and interpret the connotative power of words.
   3. Identify Greek, Roman, and Norse mythology and use the knowledge to understand the origin and meaning of new words (e.g., the word *narcissistic* drawn from the myth of Narcissus and Echo).

B. Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.
   1. Identify and use the literal and figurative meanings of words and understand word derivations.
   2. Distinguish between the denotative and connotative meanings of words and interpret the connotative power of words.
   3. Identify Greek, Roman, and Norse mythology and use the knowledge to understand the origin and meaning of new words (e.g., the word *narcissistic* drawn from the myth of Narcissus and Echo).

**Unit 2, Semester 1**

**Reading Comprehension:**

Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information. In grades nine and ten, students make substantial progress toward this goal.

A. **Structural Features of Informational Materials**
   1. Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purposes.
   2. Prepare a bibliography of reference materials for a report using a variety of consumer, workplace, and public documents.

B. **Comprehension and Analysis of Grade-Level-Appropriate Text**
   1. Generate relevant questions about readings on issues that can be researched.
   2. Synthesize the content from several sources or works by a single author dealing with a single issue; paraphrase the ideas and connect them to other sources and related topics to demonstrate comprehension.
3. Extend ideas presented in primary or secondary sources through original analysis, evaluation, and elaboration.

4. Demonstrate use of sophisticated learning tools by following technical directions (e.g., those found with graphic calculators and specialized software programs and in access guides to Expository Critique).

5. Critique the logic of functional documents by examining the sequence of information and procedures in anticipation of possible reader misunderstandings.

6. Evaluate the credibility of an author's argument or defense of a claim by critiquing the relationship between generalizations and evidence, the comprehensiveness of evidence, and the way in which the author's intent affects the structure and tone of the text (e.g., in professional journals, editorials, political speeches, primary source material). World Wide Web sites on the Internet).

### Unit 3, Semester 1
Structural Features of Literature, Narrative Analysis of Grade-Level-Appropriate Text, and Literary Criticism

1. Articulate the relationship between the expressed purposes and the characteristics of different forms of dramatic literature (e.g., comedy, tragedy, drama, dramatic monologue).

2. Compare and contrast the presentation of a similar theme or topic across genres to explain how the selection of genre shapes the theme or topic.

3. Analyze interactions between main and subordinate characters in a literary text (e.g., internal and external conflicts, motivations, relationships, influences) and explain the way those interactions affect the plot.

4. Determine characters' traits by what the characters say about themselves in narration, dialogue, dramatic monologue, and soliloquy.

5. Compare works that express a universal theme and provide evidence to support the ideas expressed in each work.

6. Analyze and trace an author's development of time and sequence, including the use of complex literary devices (e.g., foreshadowing, flashbacks).

7. Recognize and understand the significance of various literary devices, including figurative language, imagery, allegory, and symbolism, and explain their appeal.

8. Interpret and evaluate the impact of ambiguities, subtleties, contradictions, ironies, and incongruities in a text.


10. Identify and describe the function of dialogue, scene designs, soliloquies, asides, and character foils in dramatic literature.

11. Evaluate the aesthetic qualities of style, including the impact of diction and figurative language on tone, mood, and theme, using the terminology of literary criticism. (Aesthetic approach)

12. Analyze the way in which a work of literature is related to the themes and issues of its historical period. (Historical approach)

### Unit 4, Semester 1
Writing Strategies (Writing Standard 1.0):
Students write coherent and focused essays that convey a well-defined perspective and tightly reasoned argument. The writing demonstrates students' awareness of the audience and purpose. Students progress through the stages of the writing process as needed.

A. Organization and Focus

1. Establish a controlling impression or coherent thesis that conveys a clear and distinctive perspective on the subject and maintain a consistent tone and focus throughout the piece of writing.

2. Use precise language, action verbs, sensory details, appropriate modifiers, and the active
rather than the passive voice.

B. Research and Technology
1. Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.
2. Develop the main ideas within the body of the composition through supporting evidence (e.g., scenarios, commonly held beliefs, hypotheses, definitions).
3. Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).
4. Integrate quotations and citations into a written text while maintaining the flow of ideas.
5. Use appropriate conventions for documentation in the text, notes, and bibliographies by adhering to those in style manuals (e.g., Modern Language Association Handbook).
6. Design and publish documents by using advanced publishing software and graphic programs.

C. Evaluation and Revision: Revise writing to improve the logic and coherence of the organization and controlling perspective, the precision of word choice, and the tone by taking into consideration the audience, purpose, and formality of the context.

**Unit 5, Semester 2**

**Writing Applications (Genres and Their Characteristics):**
Students combine the rhetorical strategies of narration, exposition, persuasion, and description to produce texts of at least 1,500 words each. Student writing demonstrates a command of standard American English and the research, organizational, and drafting strategies as outlined in Writing Standard 1.0.

A. Write biographical or autobiographical narratives or short stories:
1. Relate a sequence of events and communicate the significance of the events to the audience.
2. Locate scenes and incidents in specific places.
3. Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings.
4. Pace the presentation of actions to accommodate changes in time and mood.
5. Make effective use of descriptions of appearance, images, shifting perspectives, and sensory details.

B. Write responses to literature:
1. Demonstrate a comprehensive grasp of the significant ideas of literary works.
2. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
3. Demonstrate awareness of the author's use of stylistic devices and an appreciation of the effects created.
4. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.

C. Write expository compositions, including analytical essays and research reports:
1. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
2. Convey information and ideas from primary and secondary sources accurately and coherently.
3. Make distinctions between the relative value and significance of specific data, facts, and ideas.
4. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs.
5. Anticipate and address readers' potential misunderstandings, biases, and expectations.
6. Use technical terms and notations accurately.

D. Write persuasive compositions:
   1. Structure ideas and arguments in a sustained and logical fashion.
   2. Use specific rhetorical devices to support assertions (e.g., appeal to logic through reasoning; appeal to emotion or ethical belief; relate a personal anecdote, case study, or analogy).
   3. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, and expressions of commonly accepted beliefs and logical reasoning.
   4. Address readers' concerns, counterclaims, biases, and expectations.

E. Write business letters:
   1. Provide clear and purposeful information and address the intended audience appropriately.
   2. Use appropriate vocabulary, tone, and style to take into account the nature of the relationship with, and the knowledge and interests of, the recipients.
   3. Highlight central ideas or images.
   4. Follow a conventional style with page formats, fonts, and spacing that contribute to the documents' readability and impact.

F. Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):
   1. Report information and convey ideas logically and correctly.
   2. Offer detailed and accurate specifications.
   3. Include scenarios, definitions, and examples to aid comprehension (e.g., troubleshooting guide).

### Unit 5 Semester 2
**Written and Oral English Language Conventions:**
The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

**Students write and speak with a command of standard English conventions.**

<table>
<thead>
<tr>
<th>A. Grammar and Mechanics of Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify and correctly use clauses (e.g., main and subordinate), phrases (e.g., gerund, infinitive, and participial), and mechanics of punctuation (e.g., semicolons, colons, ellipses, hyphens).</td>
</tr>
<tr>
<td>2. Understand sentence construction (e.g., parallel structure, subordination, proper placement of modifiers) and proper English usage (e.g., consistency of verb tenses).</td>
</tr>
<tr>
<td>3. Demonstrate an understanding of proper English usage and control of grammar, paragraph and sentence structure, diction, and syntax.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Manuscript Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Produce legible work that shows accurate spelling and correct use of the conventions of punctuation and capitalization.</td>
</tr>
<tr>
<td>2. Reflect appropriate manuscript requirements, including title page presentation, pagination, spacing and margins, and integration of source and support material (e.g., in-text citation, use of direct quotations, paraphrasing) with appropriate citations</td>
</tr>
</tbody>
</table>
C. Listening and Speaking
1. Students formulate adroit judgments about oral communication.
2. Students deliver focused and coherent presentations of their own that convey clear and distinct perspectives and solid reasoning.
3. Students use gestures, tone, and vocabulary tailored to the audience and purpose.

D. Comprehension
1. Formulate judgments about the ideas under discussion and support those judgments with convincing evidence.
2. Compare and contrast the ways in which media genres (e.g., televised news, news magazines, documentaries, online information) cover the same event.

E. Organization and Delivery of Oral Communication
1. Choose logical patterns of organization (e.g., chronological, topical, cause and effect) to inform and to persuade, by soliciting agreement or action, or to unite audiences behind a common belief or cause.
2. Choose appropriate techniques for developing the introduction and conclusion (e.g., by using literary quotations, anecdotes, references to authoritative sources).
3. Recognize and use elements of classical speech forms (e.g., introduction, first and second transitions, body, conclusion) in formulating rational arguments and applying the art of persuasion and debate.
4. Present and advance a clear thesis statement and choose appropriate types of proof (e.g., statistics, testimony, specific instances) that meet standard tests for evidence, including credibility, validity, and relevance.
5. Use props, visual aids, graphs, and electronic media to enhance the appeal and accuracy of presentations.
6. Produce concise notes for extemporaneous delivery.
7. Analyze the occasion and the interests of the audience and choose effective verbal and nonverbal techniques (e.g., voice, gestures, eye contact) for presentations.

F. Analysis and Evaluation of Oral and Media Communications
1. Analyze historically significant speeches (e.g., Abraham Lincoln's "Gettysburg Address," Martin Luther King, Jr.'s "I Have a Dream") to find the rhetorical devices and features that make them memorable.
2. Assess how language and delivery affect the mood and tone of the oral communication and make an impact on the audience.
3. Evaluate the clarity, quality, effectiveness, and general coherence of a speaker's important points, arguments, evidence, organization of ideas, delivery, diction, and syntax.
4. Analyze the types of arguments used by the speaker, including argument by causation, analogy, authority, emotion, and logic.
5. Identify the aesthetic effects of a media presentation and evaluate the techniques used to create them (e.g., compare Shakespeare's Henry V with Kenneth Branagh's 1990 film version).

Unit 6 semester 2
Speaking Applications (Genres and Their Characteristics):
Students deliver polished formal and extemporaneous presentations that combine the traditional rhetorical strategies of narration, exposition, persuasion, and description. Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0. Using the speaking strategies of grades nine and ten outlined in Listening and Speaking Standard 1.0, students:

A. Deliver expository presentations:
1. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
2. Convey information and ideas from primary and secondary sources accurately and coherently.
3. Make distinctions between the relative value and significance of specific data, facts, and ideas.
4. Include visual aids by employing appropriate technology to organize and display information on charts, maps, and graphs.
5. Anticipate and address the listener's potential misunderstandings, biases, and expectations.
6. Use technical terms and notations accurately.

### B. Apply appropriate interviewing techniques:
1. Prepare and ask relevant questions.
3. Use language that conveys maturity, sensitivity, and respect.
4. Respond correctly and effectively to questions.
5. Demonstrate knowledge of the subject or organization.
7. Evaluate the effectiveness of the interview.

### C. Deliver oral responses to literature:
1. Advance a judgment demonstrating a comprehensive grasp of the significant ideas of works or passages (i.e., make and support warranted assertions about the text).
2. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
3. Demonstrate awareness of the author's use of stylistic devices and an appreciation of the effects created.

### D. Identify and assess the impact of perceived ambiguities, nuances, and

2.5 Deliver persuasive arguments (including evaluation and analysis of problems and solutions and causes and effects):
1. Structure ideas and arguments in a coherent, logical fashion.
2. Use rhetorical devices to support assertions (e.g., by appeal to logic through reasoning; by appeal to emotion or ethical belief; by use of personal anecdote, case study, or analogy).
3. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, expressions of commonly accepted beliefs, and logical reasoning.
4. Anticipate and address the listener's concerns and counterarguments.

### E. Deliver descriptive presentations:
1. Establish clearly the speaker's point of view on the subject of the presentation.
2. Establish clearly the speaker's relationship with that subject (e.g., dispassionate observation, personal involvement).
3. Use effective, factual descriptions of appearance, concrete images, shifting perspectives and vantage points, and sensory details.

---

**Grade 10**

**Unit 1, Semester 1**

**Reading:**

*Word Analysis, Fluency, and Systematic Vocabulary Development.* Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.
C. Word Analysis, Fluency, and Systematic Vocabulary Development
   1. Identify and use the literal and figurative meanings of words and understand word derivations.
   2. Distinguish between the denotative and connotative meanings of words and interpret the connotative power of words.
   3. Identify Greek, Roman, and Norse mythology and use the knowledge to understand the origin and meaning of new words (e.g., the word *narcissistic* drawn from the myth of Narcissus and Echo).

Unit 2, Semester 1
Reading Comprehension:
Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information. In grades nine and ten, students make substantial progress toward this goal.

G. Structural Features of Informational Materials
   1. Analyze the structure and format of functional workplace documents, including the graphics and headers, and explain how authors use the features to achieve their purposes.
   2. Prepare a bibliography of reference materials for a report using a variety of consumer, workplace, and public documents.

H. Comprehension and Analysis of Grade-Level-Appropriate Text
   - Generate relevant questions about readings on issues that can be researched.
   - Synthesize the content from several sources or works by a single author dealing with a single issue; paraphrase the ideas and connect them to other sources and related topics to demonstrate comprehension.
   - Extend ideas presented in primary or secondary sources through original analysis, evaluation, and elaboration.
   - Demonstrate use of sophisticated learning tools by following technical directions (e.g., those found with graphic calculators and specialized software programs and in access guides to *Expository Critique*).
   - Critique the logic of functional documents by examining the sequence of information and procedures in anticipation of possible reader misunderstandings.
   - Evaluate the credibility of an author's argument or defense of a claim by critiquing the relationship between generalizations and evidence, the comprehensiveness of evidence, and the way in which the author's intent affects the structure and tone of the text (e.g., in professional journals, editorials, political speeches, primary source material). World Wide Web sites on the Internet).

Unit 3, Semester 1
Structural Features of Literature, Narrative Analysis of Grade-Level-Appropriate Text, and Literary Criticism
   1. Articulate the relationship between the expressed purposes and the characteristics of different forms of dramatic literature (e.g., comedy, tragedy, drama, dramatic monologue).
   2. Compare and contrast the presentation of a similar theme or topic across genres to explain how the selection of genre shapes the theme or topic.
3. Analyze interactions between main and subordinate characters in a literary text (e.g., internal and external conflicts, motivations, relationships, influences) and explain the way those interactions affect the plot.
4. Determine characters’ traits by what the characters say about themselves in narration, dialogue, dramatic monologue, and soliloquy.
5. Compare works that express a universal theme and provide evidence to support the ideas expressed in each work.
6. Analyze and trace an author's development of time and sequence, including the use of complex literary devices (e.g., foreshadowing, flashbacks).
7. Recognize and understand the significance of various literary devices, including figurative language, imagery, allegory, and symbolism, and explain their appeal.
8. Interpret and evaluate the impact of ambiguities, subtleties, contradictions, ironies, and incongruities in a text.
10. Identify and describe the function of dialogue, scene designs, soliloquies, asides, and character foils in dramatic literature.
11. Evaluate the aesthetic qualities of style, including the impact of diction and figurative language on tone, mood, and theme, using the terminology of literary criticism. (Aesthetic approach)
12. Analyze the way in which a work of literature is related to the themes and issues of its historical period. (Historical approach)

**Unit 4, Semester 1**

**Writing Strategies (Writing Standard 1.0):**

*Students write coherent and focused essays that convey a well-defined perspective and tightly reasoned argument. The writing demonstrates students' awareness of the audience and purpose. Students progress through the stages of the writing process as needed.*

**B. Organization and Focus**

1. Establish a controlling impression or coherent thesis that conveys a clear and distinctive perspective on the subject and maintain a consistent tone and focus throughout the piece of writing.
2. Use precise language, action verbs, sensory details, appropriate modifiers, and the active rather than the passive voice.

**D. Research and Technology**

1. Use clear research questions and suitable research methods (e.g., library, electronic media, personal interview) to elicit and present evidence from primary and secondary sources.
2. Develop the main ideas within the body of the composition through supporting evidence (e.g., scenarios, commonly held beliefs, hypotheses, definitions).
3. Synthesize information from multiple sources and identify complexities and discrepancies in the information and the different perspectives found in each medium (e.g., almanacs, microfiche, news sources, in-depth field studies, speeches, journals, technical documents).
4. Integrate quotations and citations into a written text while maintaining the flow of ideas.
5. Use appropriate conventions for documentation in the text, notes, and bibliographies by adhering to those in style manuals (e.g., Modern Language Association Handbook).
6. Design and publish documents by using advanced publishing software and graphic programs.

**E. Evaluation and Revision:** Revise writing to improve the logic and coherence of the organization and controlling perspective, the precision of word choice, and the tone by taking into consideration the audience, purpose, and formality of the context.
## Unit 5, Semester 2
Writing Applications (Genres and Their Characteristics):
Students combine the rhetorical strategies of narration, exposition, persuasion, and description to produce texts of at least 1,500 words each. Student writing demonstrates a command of standard American English and the research, organizational, and drafting strategies as outlined in Writing Standard 1.0.

### B. Write biographical or autobiographical narratives or short stories:
1. Relate a sequence of events and communicate the significance of the events to the audience.
2. Locate scenes and incidents in specific places.
3. Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings.
4. Pace the presentation of actions to accommodate changes in time and mood.
5. Make effective use of descriptions of appearance, images, shifting perspectives, and sensory details.

### C. Write responses to literature:
1. Demonstrate a comprehensive grasp of the significant ideas of literary works.
2. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
3. Demonstrate awareness of the author's use of stylistic devices and an appreciation of the effects created.
4. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.

### I. Write expository compositions, including analytical essays and research reports:
1. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
2. Convey information and ideas from primary and secondary sources accurately and coherently.
3. Make distinctions between the relative value and significance of specific data, facts, and ideas.
4. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs.
5. Anticipate and address readers' potential misunderstandings, biases, and expectations.
6. Use technical terms and notations accurately.

### J. Write persuasive compositions:
1. Structure ideas and arguments in a sustained and logical fashion.
2. Use specific rhetorical devices to support assertions (e.g., appeal to logic through reasoning; appeal to emotion or ethical belief; relate a personal anecdote, case study, or analogy).
3. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, and expressions of commonly accepted beliefs and logical reasoning.
4. Address readers' concerns, counterclaims, biases, and expectations.

### K. Write business letters:
1. Provide clear and purposeful information and address the intended audience appropriately.
2. Use appropriate vocabulary, tone, and style to take into account the nature of the relationship with, and the knowledge and interests of, the recipients.
3. Highlight central ideas or images.
4. Follow a conventional style with page formats, fonts, and spacing that contribute to the documents' readability and impact.

<table>
<thead>
<tr>
<th>L. Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Report information and convey ideas logically and correctly.</td>
</tr>
<tr>
<td>2. Offer detailed and accurate specifications.</td>
</tr>
<tr>
<td>3. Include scenarios, definitions, and examples to aid comprehension (e.g., troubleshooting guide).</td>
</tr>
</tbody>
</table>

**Unit 5 Semester 2**

**Written and Oral English Language Conventions:**
The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

**Students write and speak with a command of standard English conventions.**

<table>
<thead>
<tr>
<th>C. Grammar and Mechanics of Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify and correctly use clauses (e.g., main and subordinate), phrases (e.g., gerund, infinitive, and participial), and mechanics of punctuation (e.g., semicolons, colons, ellipses, hyphens).</td>
</tr>
<tr>
<td>2. Understand sentence construction (e.g., parallel structure, subordination, proper placement of modifiers) and proper English usage (e.g., consistency of verb tenses).</td>
</tr>
<tr>
<td>3. Demonstrate an understanding of proper English usage and control of grammar, paragraph and sentence structure, diction, and syntax.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Manuscript Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Produce legible work that shows accurate spelling and correct use of the conventions of punctuation and capitalization.</td>
</tr>
<tr>
<td>2. Reflect appropriate manuscript requirements, including title page presentation, pagination, spacing and margins, and integration of source and support material (e.g., in-text citation, use of direct quotations, paraphrasing) with appropriate citations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Listening and Speaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students formulate adroit judgments about oral communication.</td>
</tr>
<tr>
<td>2. Students deliver focused and coherent presentations of their own that convey clear and distinct perspectives and solid reasoning.</td>
</tr>
<tr>
<td>3. Students use gestures, tone, and vocabulary tailored to the audience and purpose.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G. Comprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Formulate judgments about the ideas under discussion and support those judgments with convincing evidence.</td>
</tr>
<tr>
<td>2. Compare and contrast the ways in which media genres (e.g., televised news, news magazines, documentaries, online information) cover the same event.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H. Organization and Delivery of Oral Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Choose logical patterns of organization (e.g., chronological, topical, cause and effect) to inform and to persuade, by soliciting agreement or action, or to unite audiences behind a common belief or cause.</td>
</tr>
<tr>
<td>2. Choose appropriate techniques for developing the introduction and conclusion (e.g., by using literary quotations, anecdotes, references to authoritative sources).</td>
</tr>
</tbody>
</table>
| 3. Recognize and use elements of classical speech forms (e.g., introduction, first and second
transitions, body, conclusion) in formulating rational arguments and applying the art of persuasion and debate.

4. Present and advance a clear thesis statement and choose appropriate types of proof (e.g., statistics, testimony, specific instances) that meet standard tests for evidence, including credibility, validity, and relevance.

5. Use props, visual aids, graphs, and electronic media to enhance the appeal and accuracy of presentations.

6. Produce concise notes for extemporaneous delivery.

7. Analyze the occasion and the interests of the audience and choose effective verbal and nonverbal techniques (e.g., voice, gestures, eye contact) for presentations.

I. Analysis and Evaluation of Oral and Media Communications

1. Analyze historically significant speeches (e.g., Abraham Lincoln's "Gettysburg Address," Martin Luther King, Jr.'s "I Have a Dream") to find the rhetorical devices and features that make them memorable.

2. Assess how language and delivery affect the mood and tone of the oral communication and make an impact on the audience.

3. Evaluate the clarity, quality, effectiveness, and general coherence of a speaker's important points, arguments, evidence, organization of ideas, delivery, diction, and syntax.

4. Analyze the types of arguments used by the speaker, including argument by causation, analogy, authority, emotion, and logic.

5. Identify the aesthetic effects of a media presentation and evaluate the techniques used to create them (e.g., compare Shakespeare's *Henry V* with Kenneth Branagh's 1990 film version).

**Unit 6 semester 2**

**Speaking Applications (Genres and Their Characteristics):**

Students deliver polished formal and extemporaneous presentations that combine the traditional rhetorical strategies of narration, exposition, persuasion, and description. Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0. Using the speaking strategies of grades nine and ten outlined in Listening and Speaking Standard 1.0, students:

F. Deliver expository presentations:

   1. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives.
   2. Convey information and ideas from primary and secondary sources accurately and coherently.
   3. Make distinctions between the relative value and significance of specific data, facts, and ideas.
   4. Include visual aids by employing appropriate technology to organize and display information on charts, maps, and graphs.
   5. Anticipate and address the listener's potential misunderstandings, biases, and expectations.
   6. Use technical terms and notations accurately.

G. Apply appropriate interviewing techniques:

   1. Prepare and ask relevant questions.
   3. Use language that conveys maturity, sensitivity, and respect.
   4. Respond correctly and effectively to questions.
   5. Demonstrate knowledge of the subject or organization.
   7. Evaluate the effectiveness of the interview.
H. Deliver oral responses to literature:
   1. Advance a judgment demonstrating a comprehensive grasp of the significant ideas of works or passages (i.e., make and support warranted assertions about the text).
   2. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
   3. Demonstrate awareness of the author's use of stylistic devices and an appreciation of the effects created.

I. Identify and assess the impact of perceived ambiguities, nuances, and 2.5 Deliver persuasive arguments (including evaluation and analysis of problems and solutions and causes and effects):
   1. Structure ideas and arguments in a coherent, logical fashion.
   2. Use rhetorical devices to support assertions (e.g., by appeal to logic through reasoning; by appeal to emotion or ethical belief; by use of personal anecdote, case study, or analogy).
   3. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, expressions of commonly accepted beliefs, and logical reasoning.
   4. Anticipate and address the listener's concerns and counterarguments.

J. Deliver descriptive presentations:
   1. Establish clearly the speaker's point of view on the subject of the presentation.
   2. Establish clearly the speaker's relationship with that subject (e.g., dispassionate observation, personal involvement).
   3. Use effective, factual descriptions of appearance, concrete images, shifting perspectives and vantage points, and sensory details.

Grade 11

Unit 1, Semester 1
Reading:
Word Analysis, Fluency, and Systematic Vocabulary Development
Reading Comprehension (Focus on Informational Materials)

A. Word Analysis, Fluency, and Systematic Vocabulary Development
   1. Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.
   2. Students trace the etymology of significant terms used in political science and history.
   3. Students apply knowledge of Greek, Latin, and Anglo-Saxon roots and affixes to draw inferences concerning the meaning of scientific and mathematical terminology.
   4. Students discern the meaning of analogies encountered, analyzing specific comparisons as well as relationships and inferences.

B. Reading Comprehension (Focus on Informational Materials)
   1. Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in Recommended Literature, Kindergarten Through Grade Twelve illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information.
   2. Students analyze both the features and the rhetorical devices of different types of public documents (e.g., policy statements, speeches, debates, platforms) and the way in which authors use those features and devices.
   3. Students analyze the way in which clarity of meaning is affected by the patterns of organization, hierarchical structures, repetition of the main ideas, syntax, and word choice.
in the text.
4. Students verify and clarify facts presented in other types of expository texts by using a variety of consumer, workplace, and public documents.
5. Students make warranted and reasonable assertions about the author's arguments by using elements of the text to defend and clarify interpretations.
6. Students analyze an author's implicit and explicit philosophical assumptions and beliefs about a subject.
7. Students critique the power, validity, and truthfulness of arguments set forth in public documents; their appeal to both friendly and hostile audiences; and the extent to which the arguments anticipate and address reader concerns and counterclaims (e.g., appeal to reason, to authority, to pathos and emotion).

### Unit 2, Semester 1
**Literary Response and Analysis:**
Students read and respond to historically or culturally significant works of literature that reflect and enhance their studies of history and social science. They conduct in-depth analyses of recurrent themes. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students.

#### A. Structural Features of Literature
1. Students analyze characteristics of subgenres (e.g., satire, parody, allegory, pastoral) that are used in poetry, prose, plays, novels, short stories, essays, and other basic genres.
2. Students analyze the way in which the theme or meaning of a selection represents a view or comment on life, using textual evidence to support the claim.
3. Students analyze the ways in which irony, tone, mood, the author's style, and the "sound" of language achieve specific rhetorical or aesthetic purposes or both.
4. Students analyze ways in which poets use imagery, personification, figures of speech, and sounds to evoke readers' emotions.
5. Students analyze recognized works of American literature representing a variety of genres and traditions:
   a) Trace the development of American literature from the colonial period forward.
   b) Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period.
   c) Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings.
6. Analyze the way in which authors through the centuries have used archetypes drawn from myth and tradition in literature, film, political speeches, and religious writings (e.g., how the archetypes of banishment from an ideal world may be used to interpret Shakespeare's tragedy *Macbeth*).
7. Analyze recognized works of world literature from a variety of authors:
   a) Contrast the major literary forms, techniques, and characteristics of the major literary periods (e.g., Homeric Greece, medieval, romantic, neoclassic, modern).
   b) Relate literary works and authors to the major themes and issues of their eras.
   c) Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings.

#### B. Literary Criticism
1. Analyze the clarity and consistency of political assumptions in a selection of literary works or essays on a topic (e.g., suffrage, women's role in organized labor). (Political approach)
2. Analyze the philosophical arguments presented in literary works to determine whether the authors' positions have contributed to the quality of each work and the credibility of the
Unit 3, Semester 1
Writing Strategies:
Students write coherent and focused texts that convey a well-defined perspective and tightly reasoned argument. The writing demonstrates students' awareness of the audience and purpose and progression through the stages of the writing process.

A. Organization and Focus
   1. Students demonstrate an understanding of the elements of discourse (e.g., purpose, speaker, audience, form) when completing narrative, expository, persuasive, or descriptive writing assignments.
   2. Students use point of view, characterization, style (e.g., use of irony), and related elements for specific rhetorical and aesthetic purposes.
   3. Students structure ideas and arguments in a sustained, persuasive, and sophisticated way and support them with precise and relevant examples.
   4. Students enhance meaning by employing rhetorical devices, including the extended use of parallelism, repetition, and analogy; the incorporation of visual aids (e.g., graphs, tables, pictures); and the issuance of a call for action.
   5. Students use language in natural, fresh, and vivid ways to establish a specific tone.

B. Research and Technology
   1. Students develop presentations by using clear research questions and creative and critical research strategies (e.g., field studies, oral histories, interviews, experiments, electronic sources).
   2. Students use systematic strategies to organize and record information (e.g., anecdotal scripting, annotated bibliographies).
   3. Students integrate databases, graphics, and spreadsheets into word-processed documents.

C. Evaluation and Revision
   1. Revise text to highlight the individual voice, improve sentence variety and style, and enhance subtlety of meaning and tone in ways that are consistent with the purpose, audience, and genre.

Unit 4, Semester 2
Writing Applications (Genres and Their Characteristics):
Students combine the rhetorical strategies of narration, exposition, persuasion, and description to produce texts of at least 1,500 words each. Student writing demonstrates a command of standard American English and the research, organizational, and drafting strategies outlined in Writing Standard 1.0.

A. Using the writing strategies of grades eleven and twelve outlined in Writing Standard 1.0, students:
   1. Write fictional, autobiographical, or biographical narratives
   2. Narrate a sequence of events and communicate their significance to the audience.
   3. Locate scenes and incidents in specific places.
   4. Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings.
   5. Pace the presentation of actions to accommodate temporal, spatial, and dramatic mood changes.
   6. Make effective use of descriptions of appearance, images, shifting perspectives, and sensory details.

B. Writing responses to literature, students:
1. Demonstrate a comprehensive understanding of the significant ideas in works or passages.
2. Analyze the use of imagery, language, universal themes, and unique aspects of the text.
3. Support important ideas and viewpoints through accurate and detailed references to the text and to other works.
4. Demonstrate an understanding of the author's use of stylistic devices and an appreciation of the effects created.
5. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.

C. Writing reflective compositions, students:
   1. Explore the significance of personal experiences, events, conditions, or concerns by using rhetorical strategies (e.g., narration, description, exposition, persuasion).
   2. Draw comparisons between specific incidents and broader themes that illustrate the writer's important beliefs or generalizations about life.
   3. Maintain a balance in describing individual incidents and relate those incidents to more general and abstract ideas.

D. Writing historical investigation reports, students:
   1. Use exposition, narration, description, argumentation, or some combination of rhetorical strategies to support the main proposition.
   2. Analyze several historical records of a single event, examining critical relationships between elements of the research topic.
   3. Explain the perceived reason or reasons for the similarities and differences in historical records with information derived from primary and secondary sources to support or enhance the presentation.
   4. Include information from all relevant perspectives and take into consideration the validity and reliability of sources.
   5. Include a formal bibliography.

E. Writing job applications and résumés, students:
   1. Provide clear and purposeful information and address the intended audience appropriately.
   2. Use varied levels, patterns, and types of language to achieve intended effects and aid comprehension.
   3. Modify the tone to fit the purpose and audience.
   4. Follow the conventional style for that type of document (e.g., résumé, memorandum) and use page formats, fonts, and spacing that contribute to the readability and impact of the document.

F. Delivering multimedia presentations, students:
   1. Combine text, images, and sound and draw information from many sources (e.g., television broadcasts, videos, films, newspapers, magazines, CD-ROMs, the Internet, electronic media-generated images).
   2. Select an appropriate medium for each element of the presentation.
   3. Use the selected media skillfully, editing appropriately and monitoring for quality.
   4. Test the audience's response and revise the presentation accordingly.

**Unit 5, Semester 2**

**Written and Oral English Language Conventions:**

The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

A. Written and Oral English Language Conventions, students:
   1. Write and speak with a command of Standard English conventions.
   2. Demonstrate control of grammar, diction, and paragraph and sentence structure and an understanding of English usage.
3. Produce legible work that shows accurate spelling and correct punctuation and capitalization.
4. Reflect appropriate manuscript requirements in writing.

B. Listening and Speaking Strategies, students:
1. Formulate adroit judgments about oral communication. They deliver focused and coherent presentations that convey clear and distinct perspectives and demonstrate solid reasoning. They use gestures, tone, and vocabulary tailored to the audience and purpose.
2. Recognize strategies used by the media to inform, persuade, entertain, and transmit culture (e.g., advertisements; perpetuation of stereotypes; use of visual representations, special effects, language).
3. Analyze the impact of the media on the democratic process (e.g., exerting influence on elections, creating images of leaders, shaping attitudes) at the local, state, and national levels.
4. Interpret and evaluate the various ways in which events are presented and information is communicated by visual image makers (e.g., graphic artists, documentary filmmakers, illustrators, news photographers).

C. Organization and Delivery of Oral Communication
1. Use rhetorical questions, parallel structure, concrete images, figurative language, characterization, irony, and dialogue to achieve clarity, force, and aesthetic effect.
2. Distinguish between and use various forms of classical and contemporary logical arguments, including:
   a) Inductive and deductive reasoning
   b) Syllogisms and analogies
3. Use logical, ethical, and emotional appeals that enhance a specific tone and purpose.
4. Use appropriate rehearsal strategies to pay attention to performance details, achieve command of the text, and create skillful artistic staging.
5. Use effective and interesting language, including:
   a) Informal expressions for effect
   b) Standard American English for clarity
   c) Technical language for specificity
6. Use research and analysis to justify strategies for gesture, movement, and vocalization, including dialect, pronunciation, and enunciation.
7. Evaluate when to use different kinds of effects (e.g., visual, music, sound, graphics) to create effective productions.

C. Analysis and Evaluation of Oral and Media Communications
1. Critique a speaker's diction and syntax in relation to the purpose of an oral communication and the impact the words may have on the audience.
2. Identify logical fallacies used in oral addresses (e.g., attack *ad hominem*, false causality, red herring, overgeneralization, bandwagon effect).
3. Analyze the four basic types of persuasive speech (i.e., propositions of fact, value, problem, or policy) and understand the similarities and differences in their patterns of organization and the use of persuasive language, reasoning, and proof.
4. Analyze the techniques used in media messages for a particular audience and evaluate their effectiveness (e.g., Orson Welles' radio broadcast "War of the Worlds").

**Unit 6, Semester 2**

**Speaking Applications (Genres and Their Characteristics):**
Students deliver polished formal and extemporaneous presentations that combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

A. Delivering reflective presentations, students:
1. Explore the significance of personal experiences, events, conditions, or concerns, using appropriate rhetorical strategies (e.g., narration, description, exposition, persuasion).
2. Draw comparisons between the specific incident and broader themes that illustrate the speaker's beliefs or generalizations about life.
3. Maintain a balance between describing the incident and relating it to more general, abstract ideas.

B. Deliver oral reports on historical investigations:
1. Use exposition, narration, description, persuasion, or some combination of those to support the thesis.
2. Analyze several historical records of a single event, examining critical relationships between elements of the research topic.
3. Explain the perceived reason or reasons for the similarities and differences by using information derived from primary and secondary sources to support or enhance the presentation.
4. Include information on all relevant perspectives and consider the validity and reliability of sources.

C. Deliver oral responses to literature:
1. Demonstrate a comprehensive understanding of the significant ideas of literary works (e.g., make assertions about the text that are reasonable and supportable).
2. Analyze the imagery, language, universal themes, and unique aspects of the text through the use of rhetorical strategies (e.g., narration, description, persuasion, exposition, a combination of those strategies).
3. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
4. Demonstrate an awareness of the author's use of stylistic devices and an appreciation of the effects created.
5. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.

D. Deliver multimedia presentations:
1. Combine text, images, and sound by incorporating information from a wide range of media, including films, newspapers, magazines, CD-ROMs, online information, television, videos, and electronic media-generated images.
2. Select an appropriate medium for each element of the presentation.
3. Use the selected media skillfully, editing appropriately and monitoring for quality.
4. Test the audience's response and revise the presentation accordingly.

E. Recite poems, selections from speeches, or dramatic soliloquies with attention to performance details to achieve clarity, force, and aesthetic effect and to demonstrate an understanding of the meaning (e.g., Hamlet's soliloquy "To Be or Not to Be").

Grade 12

Unit 1, Semester 1
Reading:
Word Analysis, Fluency, and Systematic Vocabulary Development
Reading Comprehension (Focus on Informational Materials)

C. Word Analysis, Fluency, and Systematic Vocabulary Development
1. Students apply their knowledge of word origins to determine the meaning of new words encountered in reading materials and use those words accurately.
2. Students trace the etymology of significant terms used in political science and history.
3. Students apply knowledge of Greek, Latin, and Anglo-Saxon roots and affixes to draw inferences concerning the meaning of scientific and mathematical terminology.
4. Students discern the meaning of analogies encountered, analyzing specific comparisons as well as relationships and inferences.

D. Reading Comprehension (Focus on Informational Materials)
1. Students read and understand grade-level-appropriate material. They analyze the organizational patterns, arguments, and positions advanced. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students. In addition, by grade twelve, students read two million words annually on their own, including a wide variety of classic and contemporary literature, magazines, newspapers, and online information.
2. Students analyze both the features and the rhetorical devices of different types of public documents (e.g., policy statements, speeches, debates, platforms) and the way in which authors use those features and devices.
3. Students analyze the way in which clarity of meaning is affected by the patterns of organization, hierarchical structures, repetition of the main ideas, syntax, and word choice in the text.
4. Students verify and clarify facts presented in other types of expository texts by using a variety of consumer, workplace, and public documents.
5. Students make warranted and reasonable assertions about the author's arguments by using elements of the text to defend and clarify interpretations.
6. Students analyze an author's implicit and explicit philosophical assumptions and beliefs about a subject.
7. Students critique the power, validity, and truthfulness of arguments set forth in public documents; their appeal to both friendly and hostile audiences; and the extent to which the arguments anticipate and address reader concerns and counterclaims (e.g., appeal to reason, to authority, to pathos and emotion).

**Unit 2, Semester 1**
**Literary Response and Analysis:**
Students read and respond to historically or culturally significant works of literature that reflect and enhance their studies of history and social science. They conduct in-depth analyses of recurrent themes. The selections in *Recommended Literature, Kindergarten Through Grade Twelve* illustrate the quality and complexity of the materials to be read by students.

C. Structural Features of Literature
1. Students analyze characteristics of subgenres (e.g., satire, parody, allegory, pastoral) that are used in poetry, prose, plays, novels, short stories, essays, and other basic genres.
2. Students analyze the way in which the theme or meaning of a selection represents a view or comment on life, using textual evidence to support the claim.
3. Students analyze the ways in which irony, tone, mood, the author's style, and the "sound" of language achieve specific rhetorical or aesthetic purposes or both.
4. Students analyze ways in which poets use imagery, personification, figures of speech, and sounds to evoke readers’ emotions.
5. Students analyze recognized works of American literature representing a variety of genres and traditions:
   d) Trace the development of American literature from the colonial period forward.
   e) Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period.
   f) Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings.
6. Analyze the way in which authors through the centuries have used archetypes drawn from...
myth
and tradition in literature, film, political speeches, and religious writings (e.g., how the
archetypes of banishment from an ideal world may be used to interpret Shakespeare's
tragedy *Macbeth*).

7. Analyze recognized works of world literature from a variety of authors:
   d) Contrast the major literary forms, techniques, and characteristics of the major literary
      periods (e.g., Homeric Greece, medieval, romantic, neoclassic, modern).
   e) Relate literary works and authors to the major themes and issues of their eras.
   f) Evaluate the philosophical, political, religious, ethical, and social influences of the
      historical period that shaped the characters, plots, and settings.

D. Literary Criticism
   1. Analyze the clarity and consistency of political assumptions in a selection of literary works
      or essays on a topic (e.g., suffrage, women's role in organized labor). (Political approach)
   2. Analyze the philosophical arguments presented in literary works to determine whether the
      authors' positions have contributed to the quality of each work and the credibility of the
      characters. (Philosophical approach)

**Unit 3, Semester 1**

Writing Strategies:
Students write coherent and focused texts that convey a well-defined perspective and tightly
reasoned argument. The writing demonstrates students' awareness of the audience and purpose
and progression through the stages of the writing process.

D. Organization and Focus
   1. Students demonstrate an understanding of the elements of discourse (e.g., purpose, speaker,
      audience, form) when completing narrative, expository, persuasive, or descriptive writing
      assignments.
   2. Students use point of view, characterization, style (e.g., use of irony), and related elements
      for specific rhetorical and aesthetic purposes.
   3. Students structure ideas and arguments in a sustained, persuasive, and sophisticated way
      and support them with precise and relevant examples.
   4. Students enhance meaning by employing rhetorical devices, including the extended use of
      parallelism, repetition, and analogy; the incorporation of visual aids (e.g., graphs, tables,
      pictures); and the issuance of a call for action.
   5. Students use language in natural, fresh, and vivid ways to establish a specific tone.

E. Research and Technology
   1. Students develop presentations by using clear research questions and creative and critical
      research strategies (e.g., field studies, oral histories, interviews, experiments, electronic
      sources).
   2. Students use systematic strategies to organize and record information (e.g., anecdotal
      scripting, annotated bibliographies).
   3. Students integrate databases, graphics, and spreadsheets into word-processed documents.

F. Evaluation and Revision
   1. Revise text to highlight the individual voice, improve sentence variety and style, and
      enhance subtlety of meaning and tone in ways that are consistent with the purpose,
      audience, and genre.

**Unit 4, Semester 2**

Writing Applications (Genres and Their Characteristics):
Students combine the rhetorical strategies of narration, exposition, persuasion, and description to
produce texts of at least 1,500 words each. Student writing demonstrates a command of standard
### American English and the research, organizational, and drafting strategies outlined in Writing Standard 1.0.

<table>
<thead>
<tr>
<th>G.</th>
<th>Using the writing strategies of grades eleven and twelve outlined in Writing Standard 1.0, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Write fictional, autobiographical, or biographical narratives</td>
</tr>
<tr>
<td>2.</td>
<td>Narrate a sequence of events and communicate their significance to the audience.</td>
</tr>
<tr>
<td>3.</td>
<td>Locate scenes and incidents in specific places.</td>
</tr>
<tr>
<td>4.</td>
<td>Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings.</td>
</tr>
<tr>
<td>5.</td>
<td>Pace the presentation of actions to accommodate temporal, spatial, and dramatic mood changes.</td>
</tr>
<tr>
<td>6.</td>
<td>Make effective use of descriptions of actions to accommodate temporal, spatial, and sensory details.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H.</th>
<th>Writing responses to literature, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Demonstrate a comprehensive understanding of the significant ideas in works or passages.</td>
</tr>
<tr>
<td>2.</td>
<td>Analyze the use of imagery, language, universal themes, and unique aspects of the text.</td>
</tr>
<tr>
<td>3.</td>
<td>Support important ideas and viewpoints through accurate and detailed references to the text and to other works.</td>
</tr>
<tr>
<td>4.</td>
<td>Demonstrate an understanding of the author's use of stylistic devices and an appreciation of the effects created.</td>
</tr>
<tr>
<td>5.</td>
<td>Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I.</th>
<th>Writing reflective compositions, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Explore the significance of personal experiences, events, conditions, or concerns by using rhetorical strategies (e.g., narration, description, exposition, persuasion).</td>
</tr>
<tr>
<td>2.</td>
<td>Draw comparisons between specific incidents and broader themes that illustrate the writer's important beliefs or generalizations about life.</td>
</tr>
<tr>
<td>3.</td>
<td>Maintain a balance in describing individual incidents and relate those incidents to more general and abstract ideas.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J.</th>
<th>Writing historical investigation reports, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Use exposition, narration, description, argumentation, or some combination of rhetorical strategies to support the main proposition.</td>
</tr>
<tr>
<td>2.</td>
<td>Analyze several historical records of a single event, examining critical relationships between elements of the research topic.</td>
</tr>
<tr>
<td>3.</td>
<td>Explain the perceived reason or reasons for the similarities and differences in historical records with information derived from primary and secondary sources to support or enhance the presentation.</td>
</tr>
<tr>
<td>4.</td>
<td>Include information from all relevant perspectives and take into consideration the validity and reliability of sources.</td>
</tr>
<tr>
<td>5.</td>
<td>Include a formal bibliography.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>K.</th>
<th>Writing job applications and résumés, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Provide clear and purposeful information and address the intended audience appropriately.</td>
</tr>
<tr>
<td>2.</td>
<td>Use varied levels, patterns, and types of language to achieve intended effects and aid comprehension.</td>
</tr>
<tr>
<td>3.</td>
<td>Modify the tone to fit the purpose and audience.</td>
</tr>
<tr>
<td>4.</td>
<td>Follow the conventional style for that type of document (e.g., résumé, memorandum) and use page formats, fonts, and spacing that contribute to the readability and impact of the document.</td>
</tr>
</tbody>
</table>

| L. | Delivering multimedia presentations, students:                                                     |


1. Combine text, images, and sound and draw information from many sources (e.g., television broadcasts, videos, films, newspapers, magazines, CD-ROMs, the Internet, electronic media-generated images).
2. Select an appropriate medium for each element of the presentation.
3. Use the selected media skillfully, editing appropriately and monitoring for quality.
4. Test the audience's response and revise the presentation accordingly.

**Unit 5, Semester 2**

**Written and Oral English Language Conventions:**
The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.

<table>
<thead>
<tr>
<th>D. Written and Oral English Language Conventions, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Write and speak with a command of Standard English conventions.</td>
</tr>
<tr>
<td>2. Demonstrate control of grammar, diction, and paragraph and sentence structure and an understanding of English usage.</td>
</tr>
<tr>
<td>3. Produce legible work that shows accurate spelling and correct punctuation and capitalization.</td>
</tr>
<tr>
<td>4. Reflect appropriate manuscript requirements in writing.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Listening and Speaking Strategies, students:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Formulate adroit judgments about oral communication. They deliver focused and coherent presentations that convey clear and distinct perspectives and demonstrate solid reasoning. They use gestures, tone, and vocabulary tailored to the audience and purpose.</td>
</tr>
<tr>
<td>2. Recognize strategies used by the media to inform, persuade, entertain, and transmit culture (e.g., advertisements; perpetuation of stereotypes; use of visual representations, special effects, language).</td>
</tr>
<tr>
<td>3. Analyze the impact of the media on the democratic process (e.g., exerting influence on elections, creating images of leaders, shaping attitudes) at the local, state, and national levels.</td>
</tr>
<tr>
<td>4. Interpret and evaluate the various ways in which events are presented and information is communicated by visual image makers (e.g., graphic artists, documentary filmmakers, illustrators, news photographers).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F. Organization and Delivery of Oral Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use rhetorical questions, parallel structure, concrete images, figurative language, characterization, irony, and dialogue to achieve clarity, force, and aesthetic effect.</td>
</tr>
<tr>
<td>2. Distinguish between and use various forms of classical and contemporary logical arguments, including:</td>
</tr>
<tr>
<td>c) Inductive and deductive reasoning</td>
</tr>
<tr>
<td>d) Syllogisms and analogies</td>
</tr>
<tr>
<td>3. Use logical, ethical, and emotional appeals that enhance a specific tone and purpose.</td>
</tr>
<tr>
<td>4. Use appropriate rehearsal strategies to pay attention to performance details, achieve command of the text, and create skillful artistic staging.</td>
</tr>
<tr>
<td>5. Use effective and interesting language, including:</td>
</tr>
<tr>
<td>d) Informal expressions for effect</td>
</tr>
<tr>
<td>e) Standard American English for clarity</td>
</tr>
<tr>
<td>f) Technical language for specificity</td>
</tr>
<tr>
<td>6. Use research and analysis to justify strategies for gesture, movement, and vocalization, including dialect, pronunciation, and enunciation.</td>
</tr>
</tbody>
</table>
| 7. Evaluate when to use different kinds of effects (e.g., visual, music, sound, graphics) to create effective productions.
## Analysis and Evaluation of Oral and Media Communications

1. Critique a speaker's diction and syntax in relation to the purpose of an oral communication and the impact the words may have on the audience.
2. Identify logical fallacies used in oral addresses (e.g., attack *ad hominem*, false causality, red herring, overgeneralization, bandwagon effect).
3. Analyze the four basic types of persuasive speech (i.e., propositions of fact, value, problem, or policy) and understand the similarities and differences in their patterns of organization and the use of persuasive language, reasoning, and proof.
4. Analyze the techniques used in media messages for a particular audience and evaluate their effectiveness (e.g., Orson Welles' radio broadcast "War of the Worlds").

### Unit 6, Semester 2

**Speaking Applications (Genres and Their Characteristics):**

**Students deliver polished formal and extemporaneous presentations that combine traditional rhetorical strategies of narration, exposition, persuasion, and description.**

### F. Delivering Reflective Presentations, Students:

1. Explore the significance of personal experiences, events, conditions, or concerns, using appropriate rhetorical strategies (e.g., narration, description, exposition, persuasion).
2. Draw comparisons between the specific incident and broader themes that illustrate the speaker's beliefs or generalizations about life.
3. Maintain a balance between describing the incident and relating it to more general, abstract ideas.

### G. Deliver Oral Reports on Historical Investigations:

1. Use exposition, narration, description, persuasion, or some combination of those to support the thesis.
2. Analyze several historical records of a single event, examining critical relationships between elements of the research topic.
3. Explain the perceived reason or reasons for the similarities and differences by using information derived from primary and secondary sources to support or enhance the presentation.
4. Include information on all relevant perspectives and consider the validity and reliability of sources.

### H. Deliver Oral Responses to Literature:

1. Demonstrate a comprehensive understanding of the significant ideas of literary works (e.g., make assertions about the text that are reasonable and supportable).
2. Analyze the imagery, language, universal themes, and unique aspects of the text through the use of rhetorical strategies (e.g., narration, description, persuasion, exposition, a combination of those strategies).
3. Support important ideas and viewpoints through accurate and detailed references to the text or to other works.
4. Demonstrate an awareness of the author's use of stylistic devices and an appreciation of the effects created.
5. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.

### I. Deliver Multimedia Presentations:

1. Combine text, images, and sound by incorporating information from a wide range of media, including films, newspapers, magazines, CD-ROMs, online information, television, videos, and electronic media-generated images.
2. Select an appropriate medium for each element of the presentation.
3. Use the selected media skillfully, editing appropriately and monitoring for quality.
4. Test the audience's response and revise the presentation accordingly.
J. Recite poems, selections from speeches, or dramatic soliloquies with attention to performance
details to achieve clarity, force, and aesthetic effect and to demonstrate an understanding of the
meaning (e.g., Hamlet's soliloquy "To Be or Not to Be").
Mathematics

Algebra 1A/1B

Symbolic reasoning and calculations with symbols are central in algebra. Through the study of algebra, a student develops an understanding of the symbolic language of mathematics and the sciences. In addition, algebraic skills and concepts are developed and used in a wide variety of problem-solving situations.

<table>
<thead>
<tr>
<th>Unit 1, Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Variables and Expressions:</td>
</tr>
<tr>
<td>1. Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable:</td>
</tr>
<tr>
<td>a) Students use properties of numbers to demonstrate whether assertions are true or false.</td>
</tr>
<tr>
<td>C. Order of Operations:</td>
</tr>
<tr>
<td>1. Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable:</td>
</tr>
<tr>
<td>a) Students use properties of numbers to demonstrate whether assertions are true or false.</td>
</tr>
<tr>
<td>2. Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.</td>
</tr>
<tr>
<td>D. Open Sentences:</td>
</tr>
<tr>
<td>Prep for 4.0 Students simplify expressions before solving linear equations and inequalities in one variable, such as 3(2x-5) + 4(x-2) = 12.</td>
</tr>
<tr>
<td>E. Identify and Equality Properties:</td>
</tr>
<tr>
<td>1. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and rising to a fractional power. They understand and use the rules of exponents.</td>
</tr>
<tr>
<td>2. Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements:</td>
</tr>
<tr>
<td>a) Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.</td>
</tr>
<tr>
<td>b) Students judge the validity of an argument according to whether the properties of the real number system and the order of operations have been applied correctly at each step.</td>
</tr>
<tr>
<td>c) Given a specific algebraic statement involving linear, quadratic, or absolute value expressions or equations or inequalities, students determine whether the statement is true sometimes, always, or never.</td>
</tr>
<tr>
<td>F. The Distributive Property:</td>
</tr>
<tr>
<td>1. Students simplify expressions before solving linear equations and inequalities in one variable, such as 3(2x-5) + 4(x-2) = 12.</td>
</tr>
<tr>
<td>2. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.</td>
</tr>
<tr>
<td>3. Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.</td>
</tr>
<tr>
<td>G. Commutative and Associative Property:</td>
</tr>
<tr>
<td>1. Students simplify expressions before solving linear equations and inequalities in one variable, such as 3(2x-5) + 4(x-2) = 12.</td>
</tr>
<tr>
<td>2. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.</td>
</tr>
</tbody>
</table>
3. Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.

H. Logical Reasoning and Counterexamples:
   1. Students use and know simple aspects of a logical argument:
      a) Students explain the difference between inductive and deductive reasoning and identify and provide examples of each.
      b) Students identify the hypothesis and conclusion in logical deduction.
      c) Students use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute an assertion.
   2. Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements:
      a) Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.
      b) Students judge the validity of an argument according to whether the properties of the real number system and the order of operations have been applied correctly at each step.
      c) Given a specific algebraic statement involving linear, quadratic, or absolute value expressions or equations or inequalities, students determine whether the statement is true sometimes, always, or never.

I. Number Systems:
   1. Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable:
      a) Students use properties of numbers to demonstrate whether assertions are true or false.
   2. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and rising to a fractional power. They understand and use the rules of exponents.

J. Functions and Graphs:
   1. Students understand the concepts of a relation and a function, determine whether a given relation defines a function, and give pertinent information about given relations and functions.
   2. Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.
   3. Students graph quadratic functions and know that their roots are the x-intercepts.

**Unit 2, Semester 1**

A. Writing Equations: Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.

B. Solving Equations by Using Addition and Subtraction: Students simplify expressions before solving linear equations and inequalities in one variable, such as \(3(2x-5) + 4(x-2) = 12\).

C. Solving Equations by Using Multiplication and Division: Students simplify expressions before solving linear equations and inequalities in one variable, such as \(3(2x-5) + 4(x-2) = 12\).

E. Solving Multi-Step Equations: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

F. Solving Equations with the Variable on Each Side: Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.

G. Solving Equations with the Variable on Each Side: Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.

H. Ratios and Proportions: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

I. Percent of Change: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
J. Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

**Unit 3, Semester 1**

A. Rate of Change and Slope: Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

B. Slope and Direct Variation: Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

C. Graphing Equations in Slope-Intercept Form: Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

D. Writing Equations in Slope-Intercept Form: Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

E. Writing Equations in Point-Slope Form: Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.

F. Geometry: Parallel and Perpendicular Lines: Students understand the concepts of parallel lines and perpendicular lines and how those slopes are related. Students are able to find the equation of a line perpendicular to a given line that passes through a given point.

**Unit 5, Semester 1**

A. Graphing Systems of Equations:
   1. Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).
   2. Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.
   3. Students understand the concepts of parallel lines and perpendicular lines and how those slopes are related. Students are able to find the equation of a line perpendicular to a given line that passes through a given point.

B. Substitution: Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

C. Elimination Using Addition and Subtraction: Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

D. Elimination Using Multiplication: Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

E. Applying Systems of Linear Equations: Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

**Unit 6, Semester 2**

A. Solving Inequalities by Addition and Subtraction: Students simplify expressions before solving linear equations and inequalities in one variable, such as $3(2x-5) + 4(x-2) = 12$.

B. Solving Inequalities by Multiplication and Division: Students simplify expressions before solving
linear equations and inequalities in one variable, such as $3(2x-5) + 4(x-2) = 12$.

C. Solving Multi-Step Inequalities: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

D. Solving Compound Inequalities: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

E. Solving Open Sentences Involving Absolute Value: Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

F. Solving Inequalities Involving Absolute Value: Students solve equations and inequalities involving absolute values.

G. Graphing Inequalities in Two Variables:
   1. Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).
   2. Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

H. Graphing Systems of Inequalities:
   1. Students graph a linear equation and compute the $x$- and $y$-intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).
   2. Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

**Unit 6, Semester 2**

A. Multiplying Monomials:
   1. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and rising to a fractional power. They understand and use the rules of exponents.
   2. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

B. Dividing Monomials:
   1. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and rising to a fractional power. They understand and use the rules of exponents.
   2. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

C. Polynomials: Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

D. Adding and Subtracting Polynomials: Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

E. Multiplying a Polynomial by a Monomial:
   1. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and rising to a fractional power. They understand and use the rules of exponents.
   2. Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

F. Multiplying Polynomials: Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.
### Unit 7, Semester 2

#### A. Monomials and Factoring:
Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.

#### B. Factoring Using the Distributive Property:
Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.

#### C. Factoring Trinomials: $x^2 + bx + c$:
1. Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.
2. Students solve a quadratic equation by factoring or completing the square.

#### D. Factoring Differences of Squares:
1. Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.
2. Students solve a quadratic equation by factoring or completing the square.

#### E. Perfect Squares and Factoring:
1. Students apply basic factoring techniques to second- and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.
2. Students solve a quadratic equation by factoring or completing the square.

### Unit 8, Semester 2

#### A. Graphing Quadratic Functions:
Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.

#### B. Solving Quadratic Equations by Graphic:
Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.

#### C. Solving Quadratic by Completing the Square:
Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.

#### D. Solving Quadratic Equations by Using the Quadratic Equation:
1. Students determine whether a relation defined by a graph, a set of ordered pairs, or a symbolic expression is a function and justify the conclusion.
2. Students use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations.
3. Students graph quadratic functions and know that their roots are the $x$-intercepts.
4. Students use the quadratic formula or factoring techniques or both to determine whether the graph of a quadratic function will intersect the $x$-axis in zero, one, or two points.
5. Students apply quadratic equations to physical problems, such as the motion of an object under the force of gravity.

### Unit 9, Semester 2

#### A. Simplifying Radical Expressions:
1. Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.
2. Students know the quadratic formula and are familiar with its proof by completing the
Algebra 2A/2B

This discipline complements and expands the mathematical content and concepts of algebra I and geometry. Students who master algebra II will gain experience with algebraic solutions of problems in various content areas, including the solution of systems of quadratic equations, logarithmic and exponential functions, the binomial theorem, and the complex number system.

Unit 1, Semester 1

A. Solving Linear Equations and Inequalities: Students solve equations and inequalities involving absolute value.

B. Absolute Value: Students solve equations and inequalities involving absolute value.

C. Equations/Inequalities: Students solve equations and inequalities involving absolute value.

D. Functions v. Non-Functions, Slope, Graphing Linear Equations, and Writing equations of Lines:
   1. Students solve equations and inequalities involving absolute value.
   2. Students solve problems involving functional concepts, such as A) composition, B) defining the inverse function and C) performing arithmetic operations on functions.

E. Intro to Families of Functions, Linear, absolute Value, and Graphing Linear Inequalities:
   1. Students solve equations and inequalities involving absolute value.
   2. Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.
F. Solving systems of equations (graphically, algebraically), solving systems of inequalities, and Linear Programming* (optional):
   1. Students solve equations and inequalities involving absolute value.
   2. Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.

G. Solving systems with 3 variables and Graphing in 3 dimensions: Students solve systems of linear equations and inequalities (in two or three variables) by substitution, with graphs, or with matrices.

**Unit 2, Semester 1**

A. Graphing Quadratic Functions, Transformation of Parabolas, and Vertex and Axis of Symmetry:
   1. Students demonstrate and explain the effect that changing a coefficient has on the graph of quadratic functions; that is, students can determine how the graph of a parabola changes as \( a, b, \) and \( c \) vary in the equation \( y = a(x-b)^2 + c \).
   2. Students graph quadratic functions and determine the maxima, minima, and zeros of the function.

B. Factoring Quadratics, Solving quadratic equations by factoring and by finding square roots, Complex numbers, Operations, Division (complex conjugates), and Graphing complex numbers:
   1. (A) Students solve and graph quadratic equations by factoring, (B) completing the square, (C) or using the quadratic formula. Students apply these techniques in solving word problems.
   2. Students demonstrate and explain the effect that changing a coefficient has on the graph of quadratic functions; that is, students can determine how the graph of a parabola changes as \( a, b, \) and \( c \) vary in the equation \( y = a(x-b)^2 + c \).
   3. Students graph quadratic functions and determine the maxima, minima, and zeros of the function.
   4. Students demonstrate knowledge of how real and complex numbers are related both arithmetically and graphically. In particular, they can plot complex numbers as points in the plane.
   5. Students add, subtract, multiply and divide complex numbers

C. Finish complex numbers, solving quadratic equations by completing the square, and solving quadratic equations by using the Quadratic Formula: (A) Students solve and graph quadratic equations by factoring, (B) completing the square, (C) or using the quadratic formula. Students apply these techniques in solving word problems. They also solve quadratic equations in the complex number system.

D. Classifying Polynomials; Add, Subtract, Multiply Polynomials (operations); and, Division of Polynomials:
   1. Students are adept at operations on polynomials, including long division.
   2. Students graph quadratic functions and determine the maxima, minima, and zeros of the function.

E. Factoring and Solving Polynomial equations, and Finding Polynomials (given zeros):
   1. Students are adept at operations on polynomials, including long division.
   2. Students factor polynomials representing the A) difference of squares, perfect square trinomials, and the B) sum and difference of two cubes.

F. Roots and Radical Expressions, Multiplying and Dividing Radical Expressions, and Binomial Radical Expressions: Students determine whether a specific algebraic statement involving A) rational expressions, B) radical expressions, or C) logarithmic or exponential functions is sometimes true, always true, or never true.

G. Function Operations (adding, subtracting, multiplying, dividing, and composition functions):
   1. Students solve problems involving functional concepts, such as composition, defining the inverse function and performing arithmetic operations on functions.
   2. Students use properties from number systems to justify steps in combining and simplifying functions.

**Unit 3, Semester 1**

A. Function Operations (adding, subtracting, multiplying, dividing, and composition functions), and Finding inverses:
1. Students solve problems involving functional concepts, such as composition, defining the inverse function and performing arithmetic operations on functions.
2. Students use number systems properties to justify steps in combining and simplifying functions.

B. Exponential growth/decay, The number “e”, Logarithmic Functions as Inverses, and Properties of Logarithms:
   1. Students prove simple laws of logarithms.
   2. Students understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
   3. Students understand and use the properties of logarithms to simplify logarithmic numeric expressions and to identify their approximate values.

C. Solving exponential and log Equations and Natural logarithms:
   1. Students prove simple laws of logarithms.
   2. Students use the definition of logarithms to translate between logarithms in any base.
   3. Students understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
   4. Students understand and use the properties of logarithms to simplify logarithmic numeric expressions and to identify their approximate values.
   5. Students determine whether a specific algebraic statement involving A) rational expressions, B) radical expressions, or C) logarithmic or exponential functions is sometimes true, always true, or never true.

D. Natural Log:
   1. Students prove simple laws of logarithms.
   2. Students understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
   3. Students understand and use the properties of logarithms to simplify logarithmic numeric expressions and to identify their approximate values.

E. Simple Probability, Conditional Probability, and Probability of Multiple Events:
   1. Students use fundamental counting principles to compute combinations and permutations.
   2. Students use combinations and permutations to compute probabilities.

**Unit 4, Semester 2**

A. Simplifying Rational Expressions, Multiplying and Dividing Rational Expressions, and Adding and Subtracting Rational Expressions:
   1. Students add, subtract, multiply, divide, reduce, and evaluate rational expressions with A) monomial and B) polynomial denominators and simplify complicated rational expressions, including those with negative exponents in the denominator.
   2. Students determine whether a specific algebraic statement involving A) rational expressions, B) radical expressions, or C) logarithmic or exponential functions is sometimes true, always true, or never true.

B. Simplifying complex fractions and Solving rational equations:
   1. Students add, subtract, multiply, divide, reduce, and evaluate rational expressions with A) monomial and B) polynomial denominators and simplify complicated rational expressions, including those with negative exponents in the denominator.
   2. Students determine whether a specific algebraic statement involving A) rational expressions, B) radical expressions, or C) logarithmic or exponential functions is sometimes true, always true, or never true.
   4. Arithmetic sequences Geometric sequences
   5. Students find the general term and the sums of 9-5, 9-6.

C. Arithmetic Series and Sequences, Geometric Sequences: Students find the general term and the sums
of arithmetic series and of both finite and infinite geometric series.

**Unit 5, Semester 2**

A. Arithmetic sequences, and Geometric series (finite and infinite series): Students find the general term and the sums of arithmetic series and of both finite and infinite geometric series.

B. Review of Translations, Intro to Conic Sections (parabola), Circles, Ellipses, Hyperbolas, Translations, Ellipses, Hyperbolas, Parabolas (Translated Conic Sections), and Finish conic sections:

1. Students demonstrate and explain how the geometry of the graph of a conic section (e.g., asymptotes, foci, eccentricity) depends on the coefficients of the quadratic equation representing it.
2. Given a quadratic equation of the form \( ax^2 + by^2 + cx + dy + e = 0 \), students can use the method for completing the square to put the equation into standard form and can recognize whether the graph of the equation is a circle, ellipse, parabola, or hyperbola. Students can then graph the equation.

**Geometry A/B**

The geometry skills and concepts developed in this discipline are useful to all students. Aside from learning these skills and concepts, students will develop their ability to construct formal, logical arguments and proofs in geometric settings and problems.

**Unit 1, Semester 1**

Understanding Points, Lines and Planes; Measuring and Constructing Segments; Measuring and Constructing Angles and Pairs of Angle; Using Formulas in Geometry; understanding Midpoint and Distance in the Coordinate Plane; Transformations in the Coordinate Plane; and understanding Reflections, Translations, and Rotations:

1. Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning.
2. Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
3. Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.
4. Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.
5. Students prove relationships between angles in polygons by using properties of complementary, supplementary, vertical, and exterior angles.
6. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.
7. Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.
8. Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.
9. Students know and are able to use angle and side relationships in problems with special right triangles, such as 30°, 60°, and 90° triangles and 45°, 45°, and 90° triangles.

**Unit 2, Semester 1**

Inductive Reasoning / Conditional Statements; Biconditional Statements and Definitions; Proof (Flow Chart & Two-Column); Lines and Angles; Angles Formed by Parallel Lines and Transversals; Proving Parallel and Perpendicular Lines:

1. Students construct and judge the validity of a logical argument and give counterexamples to
disprove a statement.
2. Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles.
3. Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
4. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.

**Unit 3, Semester 1**
Classifying Triangles; Angle Relationships in Triangles; Congruent Triangles; Isosceles and Equilateral Triangles; Triangle Congruence: SSS and SAS; Triangle Congruence (ASA, AAS, and HL); Triangle Congruence (CPCTC); Flow Chart Proofs (Triangle Congruence); and Two-Column Proofs (Triangle Congruence):

1. Students write geometric proofs, including proofs by contradiction.
2. Students prove basic theorems involving congruence and similarity.
3. Students prove that triangles are congruent or similar, and they are able to use the concept of
4. Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
5. Students prove relationships between angles in polygons by using properties of complementary, supplementary, vertical, and exterior angles.
6. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.
7. Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.

**Unit 4, Semester 2**
Perpendicular and Angle Bisectors; Bisectors of Triangles; Medians and Altitudes of Triangles; The Triangle Midsegment Theorem; and Inequalities in One Triangle:

1. Students write geometric proofs, including proofs by contradiction.
2. Students know and are able to use the triangle inequality theorem.
3. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.
4. Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.
5. Students prove the Pythagorean theorem.

**Unit 5, Semester 2**
Properties and Attributes of Polygons; Properties of Parallelograms; Conditions for Parallelograms; Properties of Special Parallelograms; Conditions for Special Parallelograms; Properties of Kites and Trapezoids; and Circles:

1. Students write geometric proofs, including proofs by contradiction.
2. Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
3. Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
4. Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles.
5. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.
6. Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.
7. Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles,
rhombi, parallelograms, and trapezoids.

8. Students prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles, and inscribed and circumscribed polygons of circles.

**Unit 6, Semester 2**

Ratio and Proportion; Ratios in Similar Polygons; Triangle Similarity: AA, SSS, and SAS; Applying Properties of Similar Triangles; and Using Proportional Relationships:

1. Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles.
2. Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
3. Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.
4. Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.
5. Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
6. Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.
7. Students know the definitions of the basic trigonometric functions defined by the angles of a right triangle. They also know and are able to use elementary relationships between them. For example, \( \tan(x) = \sin(x)/\cos(x) \), \( (\sin(x))^2 + (\cos(x))^2 = 1 \).
8. Students use trigonometric functions to solve for an unknown length of a side of a right triangle, given an angle and a length of a side.
AP Calculus AB

When taught in high school, calculus should be presented with the same level of depth and rigor as are entry-level college and university calculus courses. These standards outline a complete college curriculum in one variable calculus. Many high school programs may have insufficient time to cover all of the following content in a typical academic year. For example, some districts may treat differential equations lightly and spend substantial time on infinite sequences and series. Others may do the opposite. Consideration of the College Board syllabi for the Calculus AB and Calculus BC sections of the Advanced Placement Examination in Mathematics may be helpful in making curricular decisions. Calculus is a widely applied area of mathematics and involves a beautiful intrinsic theory. Students mastering this content will be exposed to both aspects of the subject.

Unit 1, Semester 1

<table>
<thead>
<tr>
<th>Topic Guide</th>
<th>CA AP Calc Content Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisites for Calculus</strong></td>
<td>Review of Essential Algebra 1, Geometry, Algebra 2, Trigonometry and Math Analysis Standards</td>
</tr>
<tr>
<td><strong>A. Lines</strong></td>
<td><strong>1.0</strong> Students demonstrate knowledge of both the formal definition and the graphical interpretation of limit of values of functions. This knowledge includes one-sided limits, infinite limits, and limits at infinity. Students know the definition of convergence and divergence of a function as the domain variable approaches either a number or infinity:</td>
</tr>
<tr>
<td>1. Slope as a rate of change</td>
<td>1.1 Students prove and use theorems evaluating the limits of sums, products, quotients, and composition of functions.</td>
</tr>
<tr>
<td>2. Parallel and Perpendicular Lines</td>
<td>1.2 Students use graphical calculators to verify and estimate limits.</td>
</tr>
<tr>
<td>3. Equations of Lines</td>
<td>1.3 Students prove and use special limits, such as the limits of (sin(x))/x and (1-cos(x))/x as x tends to 0.</td>
</tr>
<tr>
<td><strong>B. Functions and Graphs</strong></td>
<td></td>
</tr>
<tr>
<td>1. Functions</td>
<td></td>
</tr>
<tr>
<td>2. Domains and Ranges</td>
<td></td>
</tr>
<tr>
<td>3. Viewing and Interpreting Graphs</td>
<td></td>
</tr>
<tr>
<td>4. Even and Odd Functions – Symmetry</td>
<td></td>
</tr>
<tr>
<td>5. Piecewise Functions</td>
<td></td>
</tr>
<tr>
<td>6. Absolute Value Functions</td>
<td></td>
</tr>
<tr>
<td>7. Composite Functions</td>
<td></td>
</tr>
<tr>
<td><strong>C. Exponential Functions</strong></td>
<td><strong>2.0</strong> Students demonstrate knowledge of both the formal definition and the graphical</td>
</tr>
<tr>
<td>1. Exponential Growth and Decay</td>
<td></td>
</tr>
<tr>
<td>2. The Number e</td>
<td></td>
</tr>
<tr>
<td><strong>D. Functions and Logarithms</strong></td>
<td></td>
</tr>
<tr>
<td>1. One-to-One Functions</td>
<td></td>
</tr>
<tr>
<td>2. Inverses</td>
<td></td>
</tr>
<tr>
<td>3. Logarithmic Functions</td>
<td></td>
</tr>
<tr>
<td>4. Properties of Logarithms</td>
<td></td>
</tr>
<tr>
<td><strong>E. Trigonometric Functions</strong></td>
<td></td>
</tr>
<tr>
<td>1. Graphs of Trigonometric Functions</td>
<td></td>
</tr>
<tr>
<td>2. Periodicity</td>
<td></td>
</tr>
<tr>
<td>3. Even and Odd Trigonometric Functions</td>
<td></td>
</tr>
<tr>
<td>4. Transformations</td>
<td></td>
</tr>
<tr>
<td>5. Inverse Trigonometric Functions</td>
<td></td>
</tr>
</tbody>
</table>

Unit 2, Semester 1

<table>
<thead>
<tr>
<th>Limits and Continuity (3 weeks)</th>
<th><strong>2.0</strong> Students demonstrate knowledge of both the formal definition and the graphical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Rates of Change and Limits</strong></td>
<td></td>
</tr>
<tr>
<td>1. Average and Instantaneous Speed</td>
<td></td>
</tr>
<tr>
<td>2. Definition of a Limit</td>
<td></td>
</tr>
</tbody>
</table>
3. Properties of Limits
4. One-sided and Two-sided Limits
5. Sandwich Theorem

B. Limits Involving Infinity
1. Finite Limits as \( x \to a 
2. Infinite Limits as \( x \to a 
3. End Behavior Models

C. Continuity
1. Continuity at a Point
2. Continuous Functions
3. Algebraic Combinations
4. Composites
5. Intermediate Value Theorem for Continuous Functions

D. Rates of Change and Tangent Lines
1. Average Rates of Change
2. Tangent to a Curve
3. Slope of a Curve
4. Normal to a Curve

Interpretation of continuity of a function.

3.0 Students demonstrate an understanding and the application of the intermediate value theorem and the extreme value theorem.

4.0 Students demonstrate an understanding of the formal definition of the derivative of a function at a point and the notion of differentiability:

4.1 Students demonstrate an understanding of the derivative of a function as the slope of the tangent line to the graph of the function.

4.2 Students demonstrate an understanding of the interpretation of the derivative as an instantaneous rate of change. Students can use derivatives to solve a variety of problems from physics, chemistry, economics, and so forth that involve the rate of change of a function.

4.3 Students understand the relation between differentiability and continuity.

4.4 Students derive derivative formulas and use them to find the derivatives of algebraic, trigonometric, inverse trigonometric, exponential, and logarithmic functions.

---

Unit 3, Semester 1

Unit 3: Derivatives (5 Weeks)

A. Derivative of a Function
1. Definition of a Derivative
2. Relationship Between the Graphs of \( f \) and \( f' \)
3. Graphing Derivative from Data
4. One-Sided Derivatives

B. Differentiability
1. How \( f \) Might Fail to Exist
2. Differentiability Implies Local Linearity
3. Differentiability Implies Continuity
4. Intermediate Value Theorem for

4.0 Students demonstrate an understanding of the formal definition of the derivative of a function at a point and the notion of differentiability:

4.1 Students demonstrate an understanding of the derivative of a function as the slope of the tangent line to the graph of the function.
Derivatives

C. Rules for Differentiation
1. Positive Integer Powers, Multiples, Sums, and Differences
2. Products and Quotients
3. Negative Integer Powers of x
4. Second and Higher Order Derivatives

D. Velocity and Other Rates of Change
1. Instantaneous Rates of Change
2. Motion along a Line
3. Sensitivity to Change

E. Derivatives of Trigonometric Functions
1. Derivatives of Sine and Cosine Functions
2. Derivatives of Other Basic Trigonometric Functions
3. Simple Harmonic Motion

F. Chain Rule
1. Derivative of a Composite Function
2. Power Chain Rule

G. Implicit Differentiation
1. Implicitly Defined Functions
2. Lenses, Tangents, and Normal Lines
3. Derivatives of Higher Order
4. Rational Powers of Differentiable Functions

H. Derivatives of Inverse Trigonometric Functions
1. Derivatives of Inverse Functions
2. Derivatives of Arccosine, Arctangent, Arcsecant and the Other Three

I. Derivatives of Exponential and Logarithmic Functions
1. Derivatives of \( e^x, ax, \ln x, \) and \( \log_a x \)
2. Power Rule for Arbitrary Real Powers
3. Finding slopes of secant lines without numerical values (See #3 in Activities)
4. Graphing \( f \) and \( f' \) using a graphing calculator (See #4 in Activities)
5. Using nDer and Graphing nDer on a Graphing Calculator (See #5 Activities)

4.2 Students demonstrate an understanding of the interpretation of the derivative as an instantaneous rate of change. Students can use derivatives to solve a variety of problems from physics, chemistry, economics, and so forth that involve the rate of change of a function.

4.3 Students understand the relation between differentiability and continuity.

4.4 Students derive derivative formulas and use them to find the derivatives of algebraic, trigonometric, inverse trigonometric, exponential, and logarithmic functions.

5.0 Students know the chain rule and its proof and applications to the calculation of the derivative of a variety of composite functions.

6.0 Students find the derivatives of parametrically defined functions and use implicit differentiation in a wide variety of problems in physics, chemistry, economics, and so forth.

7.0 Students compute derivatives of higher orders.

Unit 4, Semester 1

Unit 4 : Applications of Derivatives (4 Weeks)
A. Extreme Values of Functions
1. Absolute (Global) Extreme Values
2. Local (Relative) Extreme Values
3. Finding Extreme Values

9.0 Students use differentiation to sketch, by hand, graphs of functions. They can identify maxima, minima, inflection points, and intervals in which the function is increasing and decreasing.
<table>
<thead>
<tr>
<th>B. Mean Value Theorem</th>
<th>10.0 Students know Newton's method for approximating the zeros of a function.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mean Value Theorem</td>
<td>11.0 Students use differentiation to solve optimization (maximum-minimum problems) in a variety of pure and applied contexts.</td>
</tr>
<tr>
<td>2. Increasing and Decreasing Functions</td>
<td>12.0 Students use differentiation to solve related rate problems in a variety of pure and applied contexts.</td>
</tr>
<tr>
<td>C. Connecting f and f with the Graph of f</td>
<td></td>
</tr>
<tr>
<td>1. First Derivative Test for Local Extrema</td>
<td></td>
</tr>
<tr>
<td>2. Concavity</td>
<td></td>
</tr>
<tr>
<td>3. Points of Inflection</td>
<td></td>
</tr>
<tr>
<td>4. Second Derivative Test for Local Extrema</td>
<td></td>
</tr>
<tr>
<td>5. Learning about Functions from Derivatives</td>
<td></td>
</tr>
<tr>
<td>D. Modeling and Optimization</td>
<td></td>
</tr>
<tr>
<td>1. Examples from Mathematics</td>
<td></td>
</tr>
<tr>
<td>2. Examples from Business and Industry</td>
<td></td>
</tr>
<tr>
<td>3. Examples from Economics</td>
<td></td>
</tr>
<tr>
<td>E. Linearization and Newton’s Method</td>
<td></td>
</tr>
<tr>
<td>1. Linear Approximation</td>
<td></td>
</tr>
<tr>
<td>2. Newton’s Method</td>
<td></td>
</tr>
<tr>
<td>3. Differentials</td>
<td></td>
</tr>
<tr>
<td>4. Estimating Change with Differentials</td>
<td></td>
</tr>
<tr>
<td>5. Absolute, Relative, and Percentage Change</td>
<td></td>
</tr>
<tr>
<td>F. Related Rates</td>
<td></td>
</tr>
<tr>
<td>1. Related Rate Equations</td>
<td></td>
</tr>
<tr>
<td>2. Solution Strategy</td>
<td></td>
</tr>
<tr>
<td>3. Simulating Related Motion</td>
<td></td>
</tr>
<tr>
<td>4. Exploration on Modeling with string (See #6 in Activities)</td>
<td></td>
</tr>
<tr>
<td>5. Exploring Extrema on Graphing Calculator (See #7 in Activities)</td>
<td></td>
</tr>
<tr>
<td>6. Exploring Graphs of f, f’ and f” on Graphing Calculator (See #8 in Activities)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 5, Semester 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 5: The Definite Integral (3 weeks)</td>
<td></td>
</tr>
<tr>
<td>A. Estimating with Finite Sums</td>
<td></td>
</tr>
<tr>
<td>1. Distance Traveled</td>
<td></td>
</tr>
<tr>
<td>2. Rectangular Approximation Method (RAM)</td>
<td></td>
</tr>
<tr>
<td>3. Volume of a Sphere</td>
<td></td>
</tr>
<tr>
<td>B. Definite Integrals</td>
<td></td>
</tr>
<tr>
<td>1. Riemann Sums</td>
<td></td>
</tr>
<tr>
<td>2. Definite Integral and Area</td>
<td></td>
</tr>
<tr>
<td>3. Constant Functions</td>
<td></td>
</tr>
<tr>
<td>4. Discontinuous Integrable Functions</td>
<td></td>
</tr>
<tr>
<td>C. Definite Integrals and Antiderivatives</td>
<td></td>
</tr>
<tr>
<td>1. Properties of Definite Integrals</td>
<td></td>
</tr>
<tr>
<td>2. Average Value of a Function</td>
<td></td>
</tr>
<tr>
<td>3. Mean Value Theorem for Definite Integrals</td>
<td></td>
</tr>
<tr>
<td>4. Connecting Differential and Integral Calculus</td>
<td></td>
</tr>
<tr>
<td>13.0 Students know the definition of the definite integral by using Riemann sums. They use this definition to approximate integrals.</td>
<td></td>
</tr>
<tr>
<td>14.0 Students apply the definition of the integral to model problems in physics, economics, and so forth, obtaining results in terms of integrals.</td>
<td></td>
</tr>
<tr>
<td>15.0 Students demonstrate knowledge and proof of the fundamental theorem of calculus and use it to interpret integrals as antiderivatives.</td>
<td></td>
</tr>
<tr>
<td>17.0 Students compute, by hand, the integrals of a wide variety of functions by using</td>
<td></td>
</tr>
</tbody>
</table>
D. Fundamental Theorem of Calculus
1. Fundamental Theorem, Part 1
2. Graphing the Function \( f \) at \( x \) dt.
3. Fundamental Theorem, Part 2
4. Area Connection
5. Analyzing Antiderivatives Graphically

E. Trapezoidal Rule
1. Trapezoidal Approximations
2. Error Analysis
3. Using fnInt on a Graphing Calculator (See #9 in Activities)
4. Evaluating Integrals using Graphs and Area (See #10 Activities)

Unit 6, Semester 2
Unit VI: Differential Equations and Mathematical Modeling (3-4 weeks)
A. Slope Fields and Euler’s Method
1. Differential Equations
2. Slope Fields
3. Euler’s Method

B. Antidifferentiation by Substitution
1. Indefinite Integrals
2. Leibniz Notation and Antiderivatives
3. Substitution in Indefinite Integrals
4. Substitution in Definite Integrals

C. Antidifferentiation by Parts
1. Product Rule in Integral Form
2. Solving for the Unknown Integral
3. Tabular Integration
4. Inverse Trigonometric and Logarithmic Functions

D. Exponential Growth and Decay
1. Separable Differential Equations
2. Law of Exponential Change
3. Continuously Compounded Interest
4. Radioactivity
5. Modeling Growth with Other Bases
6. Slope Fields exploration (See #11 in Activities)

...
Students demonstrate an understanding of the definitions of convergence and divergence of sequences and series of real numbers. By using such tests as the comparison test, ratio test, and alternate series test, they can determine whether a series converges.

**24.0** Students understand and can compute the radius (interval) of the convergence of power series.

**27.0** Students know the techniques of solution of selected elementary differential equations and their applications to a wide variety of situations, including growth-and-decay problems.

### Unit 7, Semester 2

#### Unit VII: Applications of Definite Integrals

(3-4 weeks)

**A. Integral As Net Change**
1. Linear Motion
2. Consumption Over Time
3. Net Change from Data
4. Work

**B. Areas in the Plane**
1. Area Between Curves
2. Area Enclosed by Intersecting Curves
3. Boundaries with Changing Functions
4. Integrating with Respect to y
5. Saving Time with Geometry Formulas

**C. Volumes**
1. Volume As an Integral – Disk Method
2. Square Cross Sections
3. Circular Cross Sections
4. Cylindrical Shells
5. Other Cross Sections
6. Volume

**16.0** Students use definite integrals in problems involving area, velocity, acceleration, volume of a solid, area of a surface of revolution, length of a curve, and work.

**8.0** Students know and can apply Rolle's theorem, the mean value theorem, and L'Hôpital's rule.

**25.0** Students differentiate and integrate the terms of a power series in order to form new series from known ones.

**26.0** Students calculate Taylor polynomials and Taylor series of basic functions, including the remainder term.
Science

High school science standards require more than two years of science courses for students to achieve the breadth and depth described. We have strengthened our science curriculum, providing students the maximum opportunity to learn the standards while encouraging them to study further in science.

The Science Content Standards listed below reflect the desired content of science curriculum in California public schools. This content will be taught at Academy of Science and Engineering so that students will have the opportunity to build connections that link science to technology and societal impacts. Science, technology, and societal issues are strongly connected to community health, population, natural resources, environmental quality, natural and human-induced hazards, and other global challenges. The standards should be viewed as the foundation for understanding these issues.

Time and considerable resources continue to be needed to implement the Science Content Standards fully. But the goal remains clear, and these standards are the foundation for increasing the scientific literacy of all students.

Standards that all students are expected to achieve in the course of their studies are unmarked. Standards that all students should have the opportunity to learn are marked with an asterisk (*).

Physics, Grade 12

<table>
<thead>
<tr>
<th>Unit 1, Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion and Forces:</td>
</tr>
<tr>
<td>Newton's laws predict the motion of most objects. As a basis for understanding this concept:</td>
</tr>
<tr>
<td><strong>a.</strong> Students know how to solve problems that involve constant speed and average speed.</td>
</tr>
<tr>
<td><strong>b.</strong> Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton's first law).</td>
</tr>
<tr>
<td><strong>c.</strong> Students know how to apply the law F=ma to solve one-dimensional motion problems that involve constant forces (Newton's second law).</td>
</tr>
<tr>
<td><strong>d.</strong> Students know that when one object exerts a force on a second object, the second object always exerts a force of equal magnitude and in the opposite direction (Newton's third law).</td>
</tr>
<tr>
<td><strong>e.</strong> Students know the relationship between the universal law of gravitation and the effect of gravity on an object at the surface of Earth.</td>
</tr>
<tr>
<td><strong>f.</strong> Students know applying a force to an object perpendicular to the direction of its motion causes the object to change direction but not speed (e.g., Earth's gravitational force causes a satellite in a circular orbit to change direction but not speed).</td>
</tr>
<tr>
<td><strong>g.</strong> Students know circular motion requires the application of a constant force directed toward the center of the circle.</td>
</tr>
<tr>
<td><strong>h.</strong> * Students know Newton's laws are not exact but provide very good approximations unless an object is moving close to the speed of light or is small enough that quantum effects are important.</td>
</tr>
</tbody>
</table>
i. * Students know how to solve two-dimensional trajectory problems.

j. * Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components.

k. * Students know how to solve two-dimensional problems involving balanced forces (statics).

l. * Students know how to solve problems in circular motion by using the formula for centripetal acceleration in the following form: \( a = \frac{v^2}{r} \).

m. * Students know how to solve problems involving the forces between two electric charges at a distance (Coulomb's law) or the forces between two masses at a distance (universal gravitation).

**Unit 2, Semester 1**

Conservation of Energy and Momentum:
The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. As a basis for understanding this concept:

a. Students know how to calculate kinetic energy by using the formula \( E = \frac{1}{2}mv^2 \).

b. Students know how to calculate changes in gravitational potential energy near Earth by using the formula (change in potential energy) = \( mg \Delta h \) (h is the change in the elevation).

c. Students know how to solve problems involving conservation of energy in simple systems, such as falling objects.

d. Students know momentum is a separately conserved quantity different from energy.

e. Students know an unbalanced force on an object produces a change in its momentum.

f. Students know how to solve problems involving elastic and inelastic collisions in one dimension by using the principles of conservation of momentum and energy.

g. * Students know how to solve problems involving conservation of energy in simple systems with various sources of potential energy, such as capacitors and springs.

**Unit 3, Semester 1**

Heat and Thermodynamics:
Energy cannot be created or destroyed, although in many processes energy is transferred to the environment as heat. As a basis for understanding this concept:

a. Students know heat flow and work are two forms of energy transfer between systems.

b. Students know that the work done by a heat engine that is working in a cycle is the difference between the heat flow into the engine at high temperature and the heat flow out at a lower temperature (first law of thermodynamics) and that this is an example of the law of conservation of energy.

c. Students know the internal energy of an object includes the energy of random motion of the object's atoms and molecules, often referred to as thermal energy. The greater the temperature of the object, the greater the energy of motion of the atoms and molecules that make up the object.

d. Students know that most processes tend to decrease the order of a system over time and that energy levels are eventually distributed uniformly.

e. Students know that entropy is a quantity that measures the order or disorder of a system and that this quantity is larger for a more disordered system.

f. * Students know the statement "Entropy tends to increase" is a law of statistical probability that governs all closed systems (second law of thermodynamics).

g. * Students know how to solve problems involving heat flow, work, and efficiency in a heat engine and
know that all real engines lose some heat to their surroundings.

Unit 4, Semester 2
Waves:
Waves have characteristic properties that do not depend on the type of wave. As a basis for understanding this concept:

a. Students know waves carry energy from one place to another
b. Students know how to identify transverse and longitudinal waves in mechanical media, such as springs and ropes, and on the earth (seismic waves).
c. Students know how to solve problems involving wavelength, frequency, and wave speed.
d. Students know sound is a longitudinal wave whose speed depends on the properties of the medium in which it propagates.
e. Students know radio waves, light, and X-rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately $3 \times 10^8$ m/s (186,000 miles/second).
f. Students know how to identify the characteristic properties of waves: interference (beats), diffraction, refraction, Doppler Effect, and polarization.

Unit 5, Semester 2
Electric and Magnetic Phenomena:
Electric and magnetic phenomena are related and have many practical applications. As a basis for understanding this concept:

a. Students know how to predict the voltage or current in simple direct current (DC) electric circuits constructed from batteries, wires, resistors, and capacitors.
b. Students know how to solve problems involving Ohm's law
c. Students know any resistive element in a DC circuit dissipates energy, which heats the resistor. Students can calculate the power (rate of energy dissipation) in any resistive circuit element by using the formula Power = $IR$ (potential difference) $\times$ I (current) = $I^2R$.
d. Students know the properties of transistors and the role of transistors in electric circuits.
e. Students know charged particles are sources of electric fields and are subject to the forces of the electric fields from other charges.
f. Students know magnetic materials and electric currents (moving electric charges) are sources of magnetic fields and are subject to forces arising from the magnetic fields of other sources.
g. Students know how to determine the direction of a magnetic field produced by a current flowing in a straight wire or in a coil.
h. Students know changing magnetic fields produce electric fields, thereby inducing currents in nearby conductors.
i. Students know plasmas, the fourth state of matter, contain ions or free electrons or both and conduct electricity.
j. * Students know electric and magnetic fields contain energy and act as vector force fields.
k. * Students know the force on a charged particle in an electric field is $qE$, where $E$ is the electric field at the position of the particle and $q$ is the charge of the particle.
l. * Students know how to calculate the electric field resulting from a point charge.
m. * Students know static electric fields have as their source some arrangement of electric charges.
n. * Students know the magnitude of the force on a moving particle (with charge $q$) in a magnetic field is
qvB sin(a), where a is the angle between v and B (v and B are the magnitudes of vectors v and B, respectively), and students use the right-hand rule to find the direction of this force.

o. * Students know how to apply the concepts of electrical and gravitational potential energy to solve problems involving conservation of energy.

Chemistry, Grade 11

Standards that all students are expected to achieve in the course of their studies are unmarked. Standards that all students should have the opportunity to learn are marked with an asterisk (*).

**Unit 1, Semester 1**

Atomic and Molecular Structure:
The periodic table displays the elements in increasing atomic number and shows how periodicity of the physical and chemical properties of the elements relates to atomic structure. As a basis for understanding this concept:

| a. | Students know how to relate the position of an element in the periodic table to its atomic number and atomic mass. |
| b. | Students know how to use the periodic table to identify metals, semimetals, nonmetals, and halogens. |
| c. | Students know how to use the periodic table to identify alkali metals, alkaline earth metals and transition metals, trends in ionization energy, electronegativity, and the relative sizes of ions and atoms. |
| d. | Students know how to use the periodic table to determine the number of electrons available for bonding. |
| e. | Students know the nucleus of the atom is much smaller than the atom yet contains most of its mass. |
| f. * | Students know how to use the periodic table to identify the lanthanide, actinide, and transactinide elements and know that the transuranium elements were synthesized and identified in laboratory experiments through the use of nuclear accelerators. |
| g. * | Students know how to relate the position of an element in the periodic table to its quantum electron configuration and to its reactivity with other elements in the table. |
| h. * | Students know the experimental basis for Thomson's discovery of the electron, Rutherford's nuclear atom, Millikan's oil drop experiment, and Einstein's explanation of the photoelectric effect. |
| i. * | Students know the experimental basis for the development of the quantum theory of atomic structure and the historical importance of the Bohr model of the atom. |
| j. * | Students know that spectral lines are the result of transitions of electrons between energy levels and that these lines correspond to photons with a frequency related to the energy spacing between levels by using Planck's relationship (E = hv). |

**Unit 2, Semester 1**

Chemical Bonds:
Biological, chemical, and physical properties of matter result from the ability of atoms to form bonds from electrostatic forces between electrons and protons and between atoms and molecules. As a basis for understanding this concept:

| a. | Students know atoms combine to form molecules by sharing electrons to form covalent or metallic bonds or by exchanging electrons to form ionic bonds. |
| b. | Students know chemical bonds between atoms in molecules such as H₂, CH₄, NH₃, H₂CCH₂, N₂, Cl₂, |
and many large biological molecules are covalent.

c. Students know salt crystals, such as NaCl, are repeating patterns of positive and negative ions held together by electrostatic attraction.

d. Students know the atoms and molecules in liquids move in a random pattern relative to one another because the intermolecular forces are too weak to hold the atoms or molecules in a solid form.

e. Students know how to draw Lewis dot structures.

f. * Students know how to predict the shape of simple molecules and their polarity from Lewis dot structures.

g. * Students know how electronegativity and ionization energy relate to bond formation.

h. * Students know how to identify solids and liquids held together by van der Waals forces or hydrogen bonding and relate these forces to volatility and boiling/melting point temperatures.

### Unit 3, Semester 1

**Conservation of Matter and Stoichiometry:**
The conservation of atoms in chemical reactions leads to the principle of conservation of matter and the ability to calculate the mass of products and reactants. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know how to describe chemical reactions by writing balanced equations.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know the quantity one mole is set by defining one mole of carbon 12 atoms to have a mass of exactly 12 grams.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know one mole equals $6.02 \times 10^{23}$ particles (atoms or molecules).</td>
</tr>
<tr>
<td>d.</td>
<td>Students know how to determine the molar mass of a molecule from its chemical formula and a table of atomic masses and how to convert the mass of a molecular substance to moles, number of particles, or volume of gas at standard temperature and pressure.</td>
</tr>
<tr>
<td>e.</td>
<td>Students know how to calculate the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses.</td>
</tr>
<tr>
<td>f.</td>
<td>* Students know how to calculate percent yield in a chemical reaction.</td>
</tr>
<tr>
<td>g.</td>
<td>* Students know how to identify reactions that involve oxidation and reduction and how to balance oxidation-reduction reactions.</td>
</tr>
</tbody>
</table>

### Unit 4, Semester 1

**Gases and Their Properties:**
The kinetic molecular theory describes the motion of atoms and molecules and explains the properties of gases. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know the random motion of molecules and their collisions with a surface create the observable pressure on that surface.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know the random motion of molecules explains the diffusion of gases.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know how to apply the gas laws to relations between the pressure, temperature, and volume of any amount of an ideal gas or any mixture of ideal gases.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know the values and meanings of standard temperature and pressure (STP).</td>
</tr>
<tr>
<td>e.</td>
<td>Students know how to convert between the Celsius and Kelvin temperature scales.</td>
</tr>
<tr>
<td>f.</td>
<td>Students know there is no temperature lower than 0 Kelvin.</td>
</tr>
<tr>
<td>g.</td>
<td>* Students know the kinetic theory of gases relates the absolute temperature of a gas to the average kinetic energy of its molecules or atoms.</td>
</tr>
</tbody>
</table>
Students know how to solve problems by using the ideal gas law in the form PV = nRT.

i. * Students know how to apply Dalton's law of partial pressures to describe the composition of gases and Graham's law to predict diffusion of gases.

### Unit 5, Semester 1

**Acids and Bases:**

Acids, bases, and salts are three classes of compounds that form ions in water solutions. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know the observable properties of acids, bases, and salt solutions.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know acids are hydrogen-ion-donating and bases are hydrogen-ion-accepting substances.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know strong acids and bases fully dissociate and weak acids and bases partially dissociate.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know how to use the pH scale to characterize acid and base solutions.</td>
</tr>
<tr>
<td>e.</td>
<td>* Students know the Arrhenius, Brønsted-Lowry, and Lewis acid-base definitions.</td>
</tr>
<tr>
<td>f.</td>
<td>* Students know how to calculate pH from the hydrogen-ion concentration.</td>
</tr>
<tr>
<td>g.</td>
<td>* Students know buffers stabilize pH in acid-base reactions.</td>
</tr>
</tbody>
</table>

### Unit 6, Semester 1

**Solutions:**

Solutions are homogeneous mixtures of two or more substances. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know the definitions of solute and solvent.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know how to describe the dissolving process at the molecular level by using the concept of random molecular motion.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know how to describe the dissolving process at the molecular level by using the concept of random molecular motion.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know temperature, pressure, and surface area affect the dissolving process.</td>
</tr>
<tr>
<td>e.</td>
<td>Students know how to calculate the concentration of a solute in terms of grams per liter, molarity, parts per million, and percent composition.</td>
</tr>
<tr>
<td>f.</td>
<td>* Students know the relationship between the molality of a solute in a solution and the solution's depressed freezing point or elevated boiling point.</td>
</tr>
<tr>
<td>g.</td>
<td>* Students know how molecules in a solution are separated or purified by the methods of chromatography and distillation.</td>
</tr>
</tbody>
</table>

### Unit 7, Semester 2

**Chemical Thermodynamics:**

Energy is exchanged or transformed in all chemical reactions and physical changes of matter. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know how to describe temperature and heat flow in terms of the motion of molecules (or atoms).</td>
</tr>
<tr>
<td>b.</td>
<td>Students know chemical processes can either release (exothermic) or absorb (endothermic) thermal energy.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know energy is released when a material condenses or freezes and is absorbed when a material evaporates or melts.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know how to solve problems involving heat flow and temperature changes, using known values</td>
</tr>
</tbody>
</table>
of specific heat and latent heat of phase change.

e. *Students know how to apply Hess's law to calculate enthalpy change in a reaction.

f. *Students know how to use the Gibbs free energy equation to determine whether a reaction would be spontaneous.

**Unit 8, Semester 2**

**Reaction Rates:**

Chemical reaction rates depend on factors that influence the frequency of collision of reactant molecules. As a basis for understanding this concept:

- a. Students know the rate of reaction is the decrease in concentration of reactants or the increase in concentration of products with time.

- b. Students know how reaction rates depend on such factors as concentration, temperature, and pressure.

- c. Students know the role a catalyst plays in increasing the reaction rate.

- d. *Students know the definition and role of activation energy in a chemical reaction.

**Unit 9, Semester 2**

**Chemical Equilibrium**

Chemical equilibrium is a dynamic process at the molecular level. As a basis for understanding this concept:

- a. Students know how to use Le Chatelier's principle to predict the effect of changes in concentration, temperature, and pressure.

- b. Students know equilibrium is established when forward and reverse reaction rates are equal.

- c. Students know how to write and calculate an equilibrium constant expression for a reaction.

**Unit 10, Semester 2**

**Organic Chemistry and Biochemistry:**

The bonding characteristics of carbon allow the formation of many different organic molecules of varied sizes, shapes, and chemical properties and provide the biochemical basis of life. As a basis for understanding this concept:

- a. Students know large molecules (polymers), such as proteins, nucleic acids, and starch, are formed by repetitive combinations of simple subunits.

- b. Students know the bonding characteristics of carbon that result in the formation of a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.

- c. Students know amino acids are the building blocks of proteins.

- d. *Students know the system for naming the ten simplest linear hydrocarbons and isomers that contain single bonds, simple hydrocarbons with double and triple bonds, and simple molecules that contain a benzene ring.

- e. *Students know how to identify the functional groups that form the basis of alcohols, ketones, ethers, amines, esters, aldehydes, and organic acids.

- f. *Students know the R-group structure of amino acids and know how they combine to form the polypeptide backbone structure of proteins.

**Unit 11, Semester 2**

**Nuclear Processes:**

Nuclear processes are those in which an atomic nucleus changes, including radioactive decay of naturally occurring and human-made isotopes, nuclear fission, and nuclear fusion. As a basis for understanding this concept:
a. Students know protons and neutrons in the nucleus are held together by nuclear forces that overcome the electromagnetic repulsion between the protons.

b. Students know the energy release per gram of material is much larger in nuclear fusion or fission reactions than in chemical reactions. The change in mass (calculated by $E = mc^2$) is small but significant in nuclear reactions.

c. Students know some naturally occurring isotopes of elements are radioactive, as are isotopes formed in nuclear reactions.

d. Students know the three most common forms of radioactive decay (alpha, beta, and gamma) and know how the nucleus changes in each type of decay.

e. Students know alpha, beta, and gamma radiation produce different amounts and kinds of damage in matter and have different penetrations.

f. * Students know how to calculate the amount of a radioactive substance remaining after an integral number of half-lives have passed.

g. * Students know protons and neutrons have substructures and consist of particles called quarks.

**Biology/Life Science, Grade 10**

Standards that all students are expected to achieve in the course of their studies are unmarked. Standards that all students should have the opportunity to learn are marked with an asterisk (*).

**Unit 1, Semester 1**

**Cell Biology:**

The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know cells are enclosed within semi permeable membranes that regulate their interaction with their surroundings.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know enzymes are proteins that catalyze biochemical reactions without altering the reaction equilibrium and the activities of enzymes depend on the temperature, ionic conditions, and the pH of the surroundings.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know how prokaryotic cells, eukaryotic cells (including those from plants and animals), and viruses differ in complexity and general structure.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know the central dogma of molecular biology outlines the flow of information from transcription of ribonucleic acid (RNA) in the nucleus to translation of proteins on ribosomes in the cytoplasm.</td>
</tr>
<tr>
<td>e.</td>
<td>Students know the role of the endoplasmic reticulum and Golgi apparatus in the secretion of proteins.</td>
</tr>
<tr>
<td>f.</td>
<td>Students know usable energy is captured from sunlight by chloroplasts and is stored through the synthesis of sugar from carbon dioxide.</td>
</tr>
<tr>
<td>g.</td>
<td>Students know the role of the mitochondria in making stored chemical-bond energy available to cells by completing the breakdown of glucose to carbon dioxide.</td>
</tr>
<tr>
<td>h.</td>
<td>Students know most macromolecules (polysaccharides, nucleic acids, proteins, lipids) in cells and organisms are synthesized from a small collection of simple precursors.</td>
</tr>
<tr>
<td>i.</td>
<td>* Students know how chemiosmotic gradients in the mitochondria and chloroplast store energy for ATP</td>
</tr>
</tbody>
</table>
production.

j. * Students know how eukaryotic cells are given shape and internal organization by a cytoskeleton or cell wall or both.

Unit 2, Semester 1
Genetics-1:
Mutation and sexual reproduction lead to genetic variation in a population. As a basis for understanding this concept:

a. Students know meiosis is an early step in sexual reproduction in which the pairs of chromosomes separate and segregate randomly during cell division to produce gametes containing one chromosome of each type.

b. Students know only certain cells in a multi cellular organism undergo meiosis.

c. Students know how random chromosome segregation explains the probability that a particular allele will be in a gamete.

d. Students know new combinations of alleles may be generated in a zygote through the fusion of male and female gametes (fertilization).

e. Students know why approximately half of an individual's DNA sequence comes from each parent.

f. Students know the role of chromosomes in determining an individual's sex.

g. Students know how to predict possible combinations of alleles in a zygote from the genetic makeup of the parents.

Unit 3, Semester 1
Genetics-2:
A multi cellular organism develops from a single zygote, and its phenotype depends on its genotype, which is established at fertilization. As a basis for understanding this concept:

a. Students know how to predict the probable outcome of phenotypes in a genetic cross from the genotypes of the parents and mode of inheritance (autosomal or X-linked, dominant or recessive).

b. Students know the genetic basis for Mendel's laws of segregation and independent assortment.

c. * Students know how to predict the probable mode of inheritance from a pedigree diagram showing phenotypes.

d. * Students know how to use data on frequency of recombination at meiosis to estimate genetic distances between loci and to interpret genetic maps of chromosomes.

Unit 4, Semester 1
Genetics-3:
Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. As a basis for understanding this concept:

a. Students know the general pathway by which ribosomes synthesize proteins, using tRNAs to translate genetic information in mRNA.

b. Students know how to apply the genetic coding rules to predict the sequence of amino acids from a sequence of codons in RNA.

c. Students know how mutations in the DNA sequence of a gene may or may not affect the expression of the gene or the sequence of amino acids in an encoded protein.

d. Students know specialization of cells in multi cellular organisms is usually due to different patterns of gene expression rather than to differences of the genes themselves.
e. Students know proteins can differ from one another in the number and sequence of amino acids.

f. * Students know why proteins having different amino acid sequences typically have different shapes and chemical properties.

**Unit 5, Semester 1**

**Genetics-4:**
The genetic composition of cells can be altered by incorporation of exogenous DNA into the cells. As a basis for understanding this concept:

- a. Students know the general structures and functions of DNA, RNA, and protein.
- b. Students know how to apply base-pairing rules to explain precise copying of DNA during semi-conservative replication and transcription of information from DNA into mRNA.
- c. Students know how genetic engineering (biotechnology) is used to produce novel biomedical and agricultural products.
- d. * Students know how basic DNA technology (restriction digestion by endonucleases, gel electrophoresis, ligation, and transformation) is used to construct recombinant DNA molecules.
- e. * Students know how exogenous DNA can be inserted into bacterial cells to alter their genetic makeup and support expression of new protein products.

**Unit 6, Semester 2**

**Ecology:**
Stability in an ecosystem is a balance between competing effects. As a basis for understanding this concept:

- a. Students know biodiversity is the sum total of different kinds of organisms and is affected by alterations of habitats.
- b. Students know how to analyze changes in an ecosystem resulting from changes in climate, human activity, introduction of nonnative species, or changes in population size.
- c. Students know how fluctuations in population size in an ecosystem are determined by the relative rates of birth, immigration, emigration, and death.
- d. Students know how water, carbon, and nitrogen cycle between abiotic resources and organic matter in the ecosystem and how oxygen cycles through photosynthesis and respiration.
- e. Students know a vital part of an ecosystem is the stability of its producers and decomposers.
- f. Students know at each link in a food web some energy is stored in newly made structures but much energy is dissipated into the environment as heat. This dissipation may be represented in an energy pyramid.
- g. * Students know how to distinguish between the accommodation of an individual organism to its environment and the gradual adaptation of a lineage of organisms through genetic change.

**Unit 7, Semester 2**

**Evolution -1:**
The frequency of an allele in a gene pool of a population depends on many factors and may be stable or unstable over time. As a basis for understanding this concept:

- a. Students know why natural selection acts on the phenotype rather than the genotype of an organism.
- b. Students know why alleles that are lethal in a homozygous individual may be carried in a heterozygote and thus maintained in a gene pool.
- c. Students know new mutations are constantly being generated in a gene pool.
d. Students know variation within a species increases the likelihood that at least some members of a species will survive under changed environmental conditions.

e. * Students know the conditions for Hardy-Weinberg equilibrium in a population and why these conditions are not likely to appear in nature.

f. * Students know how to solve the Hardy-Weinberg equation to predict the frequency of genotypes in a population, given the frequency of phenotypes.

**Unit 8, Semester 2**

*Evolution -2:*

Evolution is the result of genetic changes that occur in constantly changing environments. As a basis for understanding this concept:

| a. | Students know how natural selection determines the differential survival of groups of organisms. |
| b. | Students know a great diversity of species increases the chance that at least some organisms survive major changes in the environment. |
| c. | Students know the effects of genetic drift on the diversity of organisms in a population. |
| d. | Students know reproductive or geographic isolation affects speciation. |
| e. | Students know how to analyze fossil evidence with regard to biological diversity, episodic speciation, and mass extinction. |
| f. | * Students know how to use comparative embryology, DNA or protein sequence comparisons, and other independent sources of data to create a branching diagram (cladogram) that shows probable evolutionary relationships. |
| g. | * Students know how several independent molecular clocks, calibrated against each other and combined with evidence from the fossil record, can help to estimate how long ago various groups of organisms diverged evolutionarily from one another. |

**Unit 9, Semester 2**

*Physiology -1:*

As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. As a basis for understanding this concept:

| a. | Students know how the complementary activity of major body systems provides cells with oxygen and nutrients and removes toxic waste products such as carbon dioxide. |
| b. | Students know how the nervous system mediates communication between different parts of the body and the body's interactions with the environment. |
| c. | Students know how feedback loops in the nervous and endocrine systems regulate conditions in the body. |
| d. | Students know the functions of the nervous system and the role of neurons in transmitting electrochemical impulses. |
| e. | Students know the roles of sensory neurons, interneurons, and motor neurons in sensation, thought, and response. |
| f. | * Students know the individual functions and sites of secretion of digestive enzymes (amylases, proteases, nucleases, lipases), stomach acid, and bile salts. |
| g. | * Students know the homeostatic role of the kidneys in the removal of nitrogenous wastes and the role of the liver in blood detoxification and glucose balance. |
h. * Students know the cellular and molecular basis of muscle contraction, including the roles of actin, myosin, \( \text{Ca}^{2+} \), and ATP.

i. * Students know how hormones (including digestive, reproductive, and osmoregulatory) provide internal feedback mechanisms for homeostasis at the cellular level and in whole organisms.

### Unit 10, Semester 2

**Physiology-2:**

Organisms have a variety of mechanisms to combat disease. As a basis for understanding the human immune response:

- a. Students know the role of the skin in providing nonspecific defenses against infection.
- b. Students know the role of antibodies in the body's response to infection.
- c. Students know how vaccination protects an individual from infectious diseases.
- d. Students know there are important differences between bacteria and viruses with respect to their requirements for growth and replication, the body's primary defenses against bacterial and viral infections, and effective treatments of these infections.
- e. Students know why an individual with a compromised immune system (for example, a person with AIDS) may be unable to fight off and survive infections by microorganisms that are usually benign.
- f. * Students know the roles of phagocytes, B-lymphocytes, and T-lymphocytes in the immune system.

### Earth Sciences, Grade 9

Standards that all students are expected to achieve in the course of their studies are unmarked. Standards that all students should have the opportunity to learn are marked with an asterisk (*).

### Unit 1, Semester 1

**Earth's Place in the Universe:**

1. Astronomy and planetary exploration reveal the solar system's structure, scale, and change over time. As a basis for understanding this concept:

- a. Students know how the differences and similarities among the sun, the terrestrial planets, and the gas planets may have been established during the formation of the solar system.
- b. Students know the evidence from Earth and moon rocks indicates that the solar system was formed from a nebular cloud of dust and gas approximately 4.6 billion years ago.
- c. Students know the evidence from geological studies of Earth and other planets suggest that the early Earth was very different from Earth today.
- d. Students know the evidence indicating that the planets are much closer to Earth than the stars are.
- e. Students know the Sun is a typical star and is powered by nuclear reactions, primarily the fusion of hydrogen to form helium.
- f. Students know the evidence for the dramatic effects that asteroid impacts have had in shaping the surface of planets and their moons and in mass extinctions of life on Earth.
- g. * Students know the evidence for the existence of planets orbiting other stars.

### Unit 2, Semester 1

**Earth's Place in the Universe:**

2. Earth-based and space-based astronomy reveal the structure, scale, and changes in stars, galaxies,
and the universe over time. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know the solar system is located in an outer edge of the disc-shaped Milky Way galaxy, which spans 100,000 light years.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know galaxies are made of billions of stars and comprise most of the visible mass of the universe.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know the evidence indicating that all elements with an atomic number greater than that of lithium have been formed by nuclear fusion in stars.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know that stars differ in their life cycles and that visual, radio, and X-ray telescopes may be used to collect data that reveal those differences.</td>
</tr>
<tr>
<td>e.</td>
<td>* Students know accelerators boost subatomic particles to energy levels that simulate conditions in the stars and in the early history of the universe before stars formed.</td>
</tr>
<tr>
<td>f.</td>
<td>* Students know the evidence indicating that the color, brightness, and evolution of a star are determined by a balance between gravitational collapse and nuclear fusion.</td>
</tr>
<tr>
<td>g.</td>
<td>* Students know how the red-shift from distant galaxies and the cosmic background radiation provide evidence for the &quot;big bang&quot; model that suggests that the universe has been expanding for 10 to 20 billion years.</td>
</tr>
</tbody>
</table>

**Unit 3, Semester 1**
Dynamic Earth Processes:
Plate tectonics operating over geologic time has changed the patterns of land, sea, and mountains on Earth's surface. As the basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know features of the ocean floor (magnetic patterns, age, and sea-floor topography) provide evidence of plate tectonics.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know the principal structures that form at the three different kinds of plate boundaries.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know how to explain the properties of rocks based on the physical and chemical conditions in which they formed, including plate tectonic processes.</td>
</tr>
<tr>
<td>d.</td>
<td>Students know why and how earthquakes occur and the scales used to measure their intensity and magnitude.</td>
</tr>
<tr>
<td>e.</td>
<td>Students know there are two kinds of volcanoes: one kind with violent eruptions producing steep slopes and the other kind with voluminous lava flows producing gentle slopes.</td>
</tr>
<tr>
<td>f.</td>
<td>* Students know the explanation for the location and properties of volcanoes that are due to hot spots and the explanation for those that are due to subduction.</td>
</tr>
</tbody>
</table>

**Unit 4, Semester 1**
Energy in the Earth System:
4. Energy enters the Earth system primarily as solar radiation and eventually escapes as heat. As a basis for understanding this concept:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Students know the relative amount of incoming solar energy compared with Earth's internal energy and the energy used by society.</td>
</tr>
<tr>
<td>b.</td>
<td>Students know the fate of incoming solar radiation in terms of reflection, absorption, and photosynthesis.</td>
</tr>
<tr>
<td>c.</td>
<td>Students know the different atmospheric gases that absorb the Earth's thermal radiation and the mechanism and significance of the greenhouse effect.</td>
</tr>
<tr>
<td>d.</td>
<td>* Students know the differing greenhouse conditions on Earth, Mars, and Venus; the origins of those conditions; and the climatic consequences of each.</td>
</tr>
</tbody>
</table>
### Unit 5, Semester 1
**Energy in the Earth System:**

5. Heating of Earth's surface and atmosphere by the sun drives convection within the atmosphere and oceans, producing winds and ocean currents. As a basis for understanding this concept:

| a. | Students know how differential heating of Earth results in circulation patterns in the atmosphere and oceans that globally distribute the heat. |
| b. | Students know the relationship between the rotation of Earth and the circular motions of ocean currents and air in pressure centers. |
| c. | Students know the origin and effects of temperature inversions. |
| d. | Students know properties of ocean water, such as temperature and salinity, can be used to explain the layered structure of the oceans, the generation of horizontal and vertical ocean currents, and the geographic distribution of marine organisms. |
| e. | Students know rain forests and deserts on Earth are distributed in bands at specific latitudes. |
| f. | * Students know the interaction of wind patterns, ocean currents, and mountain ranges results in the global pattern of latitudinal bands of rain forests and deserts. |
| g. | * Students know features of the ENSO (El Niño southern oscillation) cycle in terms of sea-surface and air temperature variations across the Pacific and some climatic results of this cycle. |

### Unit 6, Semester 2
**Energy in the Earth System:**

6. Climate is the long-term average of a region's weather and depends on many factors. As a basis for understanding this concept:

| a. | Students know weather (in the short run) and climate (in the long run) involve the transfer of energy into and out of the atmosphere. |
| b. | Students know the effects on climate of latitude, elevation, topography, and proximity to large bodies of water and cold or warm ocean currents. |
| c. | Students know how Earth's climate has changed over time, corresponding to changes in Earth's geography, atmospheric composition, and other factors, such as solar radiation and plate movement. |
| d. | * Students know how computer models are used to predict the effects of the increase in greenhouse gases on climate for the planet as a whole and for specific regions. |

### Unit 7, Semester 2
**Biogeochemical Cycles:**

7. Each element on Earth moves among reservoirs, which exist in the solid earth, in oceans, in the atmosphere, and within and among organisms as part of biogeochemical cycles. As a basis for understanding this concept:

| a. | Students know the carbon cycle of photosynthesis and respiration and the nitrogen cycle. |
| b. | Students know the global carbon cycle: the different physical and chemical forms of carbon in the atmosphere, oceans, biomass, fossil fuels, and the movement of carbon among these reservoirs. |
| c. | Students know the movement of matter among reservoirs is driven by Earth's internal and external sources of energy. |
| d. | * Students know the relative residence times and flow characteristics of carbon in and out of its different reservoirs. |

### Unit 8, Semester 2
Structure and Composition of the Atmosphere:
8. Life has changed Earth's atmosphere, and changes in the atmosphere affect conditions for life. As a basis for understanding this concept:

| a. | Students know the thermal structure and chemical composition of the atmosphere. |
| b. | Students know how the composition of Earth's atmosphere has evolved over geologic time and know the effect of outgassing, the variations of carbon dioxide concentration, and the origin of atmospheric oxygen. |
| c. | Students know the location of the ozone layer in the upper atmosphere, its role in absorbing ultraviolet radiation, and the way in which this layer varies both naturally and in response to human activities. |

**Unit 9, Semester 2**
California Geology:
9. The geology of California underlies the state's wealth of natural resources as well as its natural hazards. As a basis for understanding this concept:

| a. | Students know the resources of major economic importance in California and their relation to California's geology. |
| b. | Students know the principal natural hazards in different California regions and the geologic basis of those hazards. |
| c. | Students know the importance of water to society, the origins of California’s fresh water, and the relationship between supply and need. |
| d. | *Students know how to analyze published geologic hazard maps of California and know how to use the map's information to identify evidence of geologic events of the past and predict geologic changes in the future. |

Investigation & Experimentation – Grades 9 through 12

1. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other four strands, students should develop their own questions and perform investigations. Students will:

| a. | Select and use appropriate tools and technology (such as computer-linked probes, spreadsheets, and graphing calculators) to perform tests, collect data, analyze relationships, and display data. |
| b. | Identify and communicate sources of unavoidable experimental error. |
| c. | Identify possible reasons for inconsistent results, such as sources of error or uncontrolled conditions. |
| d. | Formulate explanations by using logic and evidence. |
| e. | Solve scientific problems by using quadratic equations and simple trigonometric, exponential, and logarithmic functions. |
| f. | Distinguish between hypothesis and theory as scientific terms. |
| g. | Recognize the usefulness and limitations of models and theories as scientific representations of reality. |
| h. | Read and interpret topographic and geologic maps. |
| i. | Analyze the locations, sequences, or time intervals that are characteristic of natural phenomena (e.g., relative ages of rocks, locations of planets over time, and succession of species in an ecosystem). |
| j. | Recognize the issues of statistical variability and the need for controlled tests. |
| k. | Recognize the cumulative nature of scientific evidence. |
| l. | Analyze situations and solve problems that require combining and applying concepts from more than one area of science. |
| m. | Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings. Examples of issues include irradiation of food, cloning of animals by somatic cell nuclear transfer, choice of energy sources, and land and water use decisions in California. |
| n. | Know that when an observation does not agree with an accepted scientific theory, the observation is sometimes mistaken or fraudulent (e.g., the Piltdown Man fossil or unidentified flying objects) and that the theory is sometimes wrong (e.g., the Ptolemaic model of the movement of the Sun, Moon, and planets). |
**Advanced Placement (AP) Science**

AP is a rigorous academic program built on the commitment, passion and hard work of students and educators from both secondary schools and higher education. With more than 30 courses in a wide variety of subject areas, AP provides willing and academically prepared high school students with the opportunity to study and learn at the college levels.

Through AP courses, talented and dedicated AP teachers help students develop and apply the skills, abilities and content knowledge they will need later in college. Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. For example, through the AP Courses Audit, AP teachers submit their syllabi for review and approval by college faculty. Only courses using syllabi that meet or exceed the college-level curricular and resource requirements for each AP course are authorized to carry the “AP” label.

AP Courses culminate in a suite of college-level assessments developed and scored by college and university faculty members as well as experienced AP teachers. AP Exams are an essential part of the AP experience, enabling students to demonstrate their mastery of college-level course work. Strong performance on AP Exams is rewarded by colleges and universities worldwide. More than 90 percent of four-year colleges and universities in the United States grant students credits, placement or both on the basis of successful AP Exam scores. But performing well on an AP Exam means more than just the successful completion of a course; it is the gateway to success in college. Research consistently shows that students who score a 3 or higher typically experience greater academic success in college and improved graduation rates than their non-AP student peers.

**AP Physics, Grade 12**

<table>
<thead>
<tr>
<th>Unit 1, Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newtonian Mechanics:</strong></td>
</tr>
<tr>
<td>A. Kinematics (including vectors, vector algebra, components of vectors, coordinate systems, displacement, velocity, and acceleration)</td>
</tr>
<tr>
<td>1. Motion in one dimension</td>
</tr>
<tr>
<td>2. Motion in two dimensions, including projectile motion</td>
</tr>
<tr>
<td>B. Newton’s laws of motion</td>
</tr>
<tr>
<td>a) Static equilibrium (first law)</td>
</tr>
<tr>
<td>b) Dynamics of a single particle (second law)</td>
</tr>
<tr>
<td>c) Systems of two or more objects (third law)</td>
</tr>
<tr>
<td>C. Work, energy, power</td>
</tr>
<tr>
<td>1. Work and work-energy theorem</td>
</tr>
<tr>
<td>2. Forces and potential energy</td>
</tr>
<tr>
<td>3. Conservation of energy</td>
</tr>
<tr>
<td>4. Power</td>
</tr>
<tr>
<td>D. Systems of particles, linear momentum</td>
</tr>
<tr>
<td>1. Center of mass</td>
</tr>
<tr>
<td>2. Impulse and momentum</td>
</tr>
<tr>
<td>3. Conservation of linear momentum, collisions</td>
</tr>
</tbody>
</table>
### E. Circular motion and rotation
1. Uniform circular motion
2. Torque and rotational statics
3. Rotational kinematics and dynamics
4. Angular momentum and its conservation

### F. Oscillations and gravitation
1. Simple harmonic motion (dynamics and energy relationships)
2. Mass on a spring
3. Pendulum and other oscillations
4. Newton’s law of gravity
5. Orbits of planets and satellites
   a) Circular
   b) General

#### Unit 2, Semester 1
**Fluid Mechanics and Thermal Physics:**

<table>
<thead>
<tr>
<th>A. Fluid Mechanics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hydrostatic pressure</td>
<td>1.</td>
</tr>
<tr>
<td>2. Buoyancy</td>
<td>2.</td>
</tr>
<tr>
<td>3. Fluid flow continuity</td>
<td>3.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Temperature and heat</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mechanical equivalent of heat</td>
<td>1.</td>
</tr>
<tr>
<td>2. Heat transfer and thermal expansion</td>
<td>2.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Kinetic theory and thermodynamics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ideal gases</td>
<td>1.</td>
</tr>
<tr>
<td>a) Kinetic model</td>
<td>a)</td>
</tr>
<tr>
<td>b) Ideal gas law</td>
<td>b)</td>
</tr>
<tr>
<td>2. Laws of thermodynamics</td>
<td>2.</td>
</tr>
<tr>
<td>a) First law (including processes on pV diagrams)</td>
<td>a) First law</td>
</tr>
<tr>
<td>b) Second law (including heat engines)</td>
<td>b) Second law</td>
</tr>
</tbody>
</table>

#### Unit 3, Semester 1
**Electricity and Magnetism:**

<table>
<thead>
<tr>
<th>A. Electrostatics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Charge and Coulomb’s law</td>
<td>1.</td>
</tr>
<tr>
<td>2. Electric field and electric potential (including point charges)</td>
<td>2.</td>
</tr>
<tr>
<td>3. Gauss’s law</td>
<td>3.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Conductors, capacitors, dielectrics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electrostatics with conductors</td>
<td>1.</td>
</tr>
<tr>
<td>2. Capacitors</td>
<td>2.</td>
</tr>
<tr>
<td>a) Capacitance</td>
<td>a)</td>
</tr>
<tr>
<td>b) Parallel plate</td>
<td>b)</td>
</tr>
<tr>
<td>c) Spherical and cylindrical</td>
<td>c)</td>
</tr>
<tr>
<td>3. Dielectrics</td>
<td>3.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Electric Circuits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Steady-state direct current circuits with batteries and resistors only</td>
<td>2.</td>
</tr>
<tr>
<td>3. Capacitors in circuits</td>
<td>3.</td>
</tr>
<tr>
<td>Unit 4, Semester 2</td>
<td>Waves and Optics:</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>A. Wave motion (including sound)</td>
</tr>
<tr>
<td></td>
<td>1. Traveling waves</td>
</tr>
<tr>
<td></td>
<td>2. Wave propagation</td>
</tr>
<tr>
<td></td>
<td>3. Standing waves</td>
</tr>
<tr>
<td></td>
<td>4. Superposition</td>
</tr>
<tr>
<td></td>
<td>B. Physical optics</td>
</tr>
<tr>
<td></td>
<td>1. Interference and diffraction</td>
</tr>
<tr>
<td></td>
<td>2. Dispersion of light and the electromagnetic spectrum</td>
</tr>
<tr>
<td></td>
<td>C. Geometric optics</td>
</tr>
<tr>
<td></td>
<td>1. Reflection and refraction</td>
</tr>
<tr>
<td></td>
<td>2. Mirrors</td>
</tr>
<tr>
<td></td>
<td>3. Lenses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 5, Semester 2</th>
<th>Atomic and Nuclear Physics:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A. Atomic physics and quantum effects</td>
</tr>
<tr>
<td></td>
<td>1. Photons, the photoelectric effect, Compton scattering, x-rays</td>
</tr>
<tr>
<td></td>
<td>2. Atomic energy levels</td>
</tr>
<tr>
<td></td>
<td>3. Wave-particle duality</td>
</tr>
<tr>
<td></td>
<td>B. Nuclear physics</td>
</tr>
<tr>
<td></td>
<td>1. Nuclear reactions (including conservation of mass number and charge)</td>
</tr>
<tr>
<td></td>
<td>2. Mass-energy equivalence</td>
</tr>
</tbody>
</table>

AP Biology, Grade 12

<table>
<thead>
<tr>
<th>Unit 1, Semester 1</th>
<th>Molecules and Cells:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A. Chemistry of Life</td>
</tr>
<tr>
<td></td>
<td>1. Water</td>
</tr>
<tr>
<td></td>
<td>2. Organic molecules in organisms</td>
</tr>
<tr>
<td></td>
<td>3. Free energy changes</td>
</tr>
<tr>
<td></td>
<td>4. Enzymes</td>
</tr>
<tr>
<td></td>
<td>B. Cells</td>
</tr>
<tr>
<td></td>
<td>1. Prokaryotic and eukaryotic cells membranes</td>
</tr>
</tbody>
</table>
2. Membranes  
3. Sub-cellular organization  
4. Cell cycle and its regulations

C. Cellular Energetics  
1. Coupled reactions  
2. Fermentation and cellular respiration  
3. Photosynthesis

**Unit 2, Semester 1**  
**Heredity and Evolution**

A. Heredity  
1. Meiosis and gametogenesis  
2. Eukaryotic chromosomes  
3. Inheritance patterns

B. Molecular Genetics  
1. RNA and DNA structure and function  
2. Gene regulation  
3. Mutation  
4. Viral structure and replication  
5. Nucleic acid technology and applications

C. Evolutionary Biology  
1. Early evolution of life  
2. Evidence for evolution  
3. Mechanisms of evolution

**Unit 3, Semester 2**  
**Organisms and Populations**

A. Diversity of Organisms  
1. Evolutionary patterns  
2. Survey of the diversity of life  
3. Phylogenetic classification  
4. Evolutionary relationships

B. Structure and Function of Plants and Animals  
1. Reproduction, growth, and development  
2. Structural, physiological, and behavioral adaptations  
3. Response to the environment

C. Ecology  
1. Population dynamics  
2. Communities and ecosystems  
3. Global issues

AP Chemistry, Grade 12

**Unit 1, Semester 1**  
**Structure of Matter:**

A. Atomic theory and atomic structure  
1. Evidence for the atomic theory  
2. Atomic masses; determination by chemical and physical means  
3. Atomic number and mass number; isotopes
4. Electron energy levels: atomic spectra, quantum numbers, atomic orbitals
5. Periodic relationships including, for example, atomic radii, ionization energies, electron affinities, oxidation states

B. Chemical bonding
1. Binding forces
   a) Types: ionic, covalent, metallic, hydrogen, bonding, van der Waals (including London dispersion forces)
   b) Relationships to states, structure, and properties of matter
2. Molecular models
   a) Lewis structures
   b) Valence bond: hybridization of orbitals, resonance, sigma and pi bondsVSEPR
   c) Geometry of molecules and ions, structural isomerism of simple organic molecules and coordination complexes; dipole moments of molecules; relation of properties to structure

C. Nuclear chemistry
1. Nuclear equations
2. Half-lives
3. Radioactivity
4. Chemical applications

**Unit 2, Semester 1**
**States of Matter:**

A. Gases
1. Laws of ideal gases
   a) Equation of state for an ideal gas
   b) Partial pressures
2. Kinetic molecular theory
   a) Interpretation of ideal gas laws on the basis of this theory
   b) Avogadro’s hypothesis and the mole concept
   c) Dependence of kinetic energy of molecules on temperature
   d) Deviation from ideal gas laws

B. Liquid and solids
1. Liquids and solids from the kinetic-molecular viewpoint
2. Phase diagrams of one-component systems
3. Changes of state, including critical points and triple points
4. Structure of solids; lattice energies

C. Solutions
1. Types of solutions and factors affecting solubility
2. Methods of expressing concentration (use of normalities is not tested)
3. Raoult’s law and colligative properties (nonvolatile solutes); osmosis
4. Nonideal behavior (qualitative aspects)

**Unit 3, Semester 2**
**Reactions:**

A. Reaction types
1. Acid-base reactions; concepts of Arrhenius, Bronsted-Lowry and Lewis; coordination complexes; amphoterism
2. Precipitation reactions
3. Oxidation-reduction reactions
### a) Oxidation number
- The role of the electron in oxidation-reduction
- Electrochemistry: electrolytic and galvanic cells; Faraday’s laws; standard half-cell potentials; Nernst equation; prediction of the direction of redox reactions

### B. Stoichiometry
1. Ionic and molecular species present in chemical systems: net ionic equations
2. Balancing of equations, including those for redox reactions
3. Mass and volume relations with emphasis on the mole concept, including empirical formulas and limiting reactants

### C. Equilibrium
1. Concepts of dynamic equilibrium, physical and chemical; Le Chatelier’s principle; equilibrium constants
2. Quantitative treatment
   - Equilibrium constants for gaseous reactions: $K_p$, $K_c$
   - Equilibrium constants for reactions in solution
   - Constants for acids and bases; $pK$, $pH$
   - Solubility product constants and their application to precipitation and the dissolution of slightly soluble compounds
   - Communion effects; buffers; hydrolysis

### D. Kinetics
1. Concept of rate of reaction
2. Use of experimental data and graphical analysis to determine reactant order, rate constants and reaction rate laws
3. Effects of temperature change on rates
4. Energy of activation; the role of catalysts
5. The relationship between the rate-determining step and a mechanism

### E. Thermodynamics
1. State functions
2. First law: change in enthalpy; heat of formation; heat of reaction; Hess’s law; heats of vaporization and fusion; calorimetry
3. Second law: entropy; free energy of formation; free energy of reaction; dependence of change in free energy on enthalpy and entropy changes
4. Relationship of change in free energy to equilibrium constants and electrode potentials
History-Social Science Content Standards

Historical and Social Sciences Analysis Skills

The intellectual skills noted below are to be learned through, and applied to, the content standards for grades ten through twelve. They are to be assessed only in conjunction with the content standards in grades nine through twelve.

In addition to the standards for grades ten through twelve, students demonstrate the following intellectual, reasoning, reflection, and research skills.

Chronological and Spatial Thinking

1. Students compare the present with the past, evaluating the consequences of past events and decisions and determining the lessons that were learned.
2. Students analyze how change happens at different rates at different times; understand that some aspects can change while others remain the same; and understand that change is complicated and affects not only technology and politics but also values and beliefs.
3. Students use a variety of maps and documents to interpret human movement, including major patterns of domestic and international migration, changing environmental preferences and settlement patterns, the frictions that develop between population groups, and the diffusion of ideas, technological innovations, and goods.
4. Students relate current events to the physical and human characteristics of places and regions.

Historical Research, Evidence, and Point of View

1. Students distinguish valid arguments from fallacious arguments in historical interpretations.
2. Students identify bias and prejudice in historical interpretations.
3. Students evaluate major debates among historians concerning alternative interpretations of the past, including an analysis of authors' use of evidence and the distinctions between sound generalizations and misleading oversimplifications.
4. Students construct and test hypotheses; collect, evaluate, and employ information from multiple primary and secondary sources; and apply it in oral and written presentations.

Historical Interpretation

1. Students show the connections, causal and otherwise, between particular historical events and larger social, economic, and political trends and developments.
2. Students recognize the complexity of historical causes and effects, including the limitations on determining cause and effect.
3. Students interpret past events and issues within the context in which an event unfolded rather than solely in terms of present-day norms and values.
4. Students understand the meaning, implication, and impact of historical events and recognize that events could have taken other directions.
5. Students analyze human modifications of landscapes and examine the resulting environmental policy issues.
6. Students conduct cost-benefit analyses and apply basic economic indicators to analyze the aggregate economic behavior of the U.S. economy.
Grade Ten
World History, Culture, and Geography: The Modern World

Students in grade ten study major turning points that shaped the modern world, from the late eighteenth century through the present, including the cause and course of the two world wars. They trace the rise of democratic ideas and develop an understanding of the historical roots of current world issues, especially as they pertain to international relations. They extrapolate from the American experience that democratic ideals are often achieved at a high price, remain vulnerable, and are not practiced everywhere in the world. Students develop an understanding of current world issues and relate them to their historical, geographic, political, economic, and cultural contexts. Students consider multiple accounts of events in order to understand international relations from a variety of perspectives.

**Unit 1, Semester 1**
Students relate the moral and ethical principles in ancient Greek and Roman philosophy, in Judaism, and in Christianity to the development of Western political thought.

1. Analyze the similarities and differences in Judeo-Christian and Greco-Roman views of law, reason and faith, and duties of the individual.
2. Trace the development of the Western political ideas of the rule of law and illegitimacy of tyranny, using selections from Plato's *Republic* and Aristotle's *Politics*.
3. Consider the influence of the U.S. Constitution on political systems in the contemporary world.

**Unit 2, Semester 1**
Students compare and contrast the Glorious Revolution of England, the American Revolution, and the French Revolution and their enduring effects worldwide on the political expectations for self-government and individual liberty.

1. Compare the major ideas of philosophers and their effects on the democratic revolutions in England, the United States, France, and Latin America (e.g., John Locke, Charles-Louis Montesquieu, Jean-Jacques Rousseau, Simón Bolívar, Thomas Jefferson, James Madison).
2. List the principles of the Magna Carta, the English Bill of Rights (1689), the American Declaration of Independence (1776), the French Declaration of the Rights of Man and the Citizen (1789), and the U.S. Bill of Rights (1791).
3. Understand the unique character of the American Revolution, its spread to other parts of the world, and its continuing significance to other nations.
4. Explain how the ideology of the French Revolution led France to develop from constitutional monarchy to democratic despotism to the Napoleonic empire.
5. Discuss how nationalism spread across Europe with Napoleon but was repressed for a generation under the Congress of Vienna and Concert of Europe until the Revolutions of 1848.

**Unit 3, Semester 1**
Students analyze the effects of the Industrial Revolution in England, France, Germany, Japan, and the United States.

1. Analyze why England was the first country to industrialize.
2. Examine how scientific and technological changes and new forms of energy brought about massive social, economic, and cultural change (e.g., the inventions and discoveries of James Watt, Eli Whitney, Henry Bessemer, Louis Pasteur, Thomas Edison).
3. Describe the growth of population, rural to urban migration, and growth of cities associated with the Industrial Revolution.

4. Trace the evolution of work and labor, including the demise of the slave trade and the effects of immigration, mining and manufacturing, division of labor, and the union movement.

5. Understand the connections among natural resources, entrepreneurship, labor, and capital in an industrial economy.

6. Analyze the emergence of capitalism as a dominant economic pattern and the responses to it, including Utopianism, Social Democracy, Socialism, and Communism.

7. Describe the emergence of Romanticism in art and literature (e.g., the poetry of William Blake and William Wordsworth), social criticism (e.g., the novels of Charles Dickens), and the move away from Classicism in Europe.

**Unit 4, Semester 1**

Students analyze patterns of global change in the era of New Imperialism in at least two of the following regions or countries: Africa, Southeast Asia, China, India, Latin America, and the Philippines

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Describe the rise of industrial economies and their link to imperialism and colonialism (e.g., the role played by national security and strategic advantage; moral issues raised by the search for national hegemony, Social Darwinism, and the missionary impulse; material issues such as land, resources, and technology).</td>
</tr>
<tr>
<td>2.</td>
<td>Discuss the locations of the colonial rule of such nations as England, France, Germany, Italy, Japan, the Netherlands, Russia, Spain, Portugal, and the United States.</td>
</tr>
<tr>
<td>3.</td>
<td>Explain imperialism from the perspective of the colonizers and the colonized and the varied immediate and long-term responses by the people under colonial rule.</td>
</tr>
<tr>
<td>4.</td>
<td>Describe the independence struggles of the colonized regions of the world, including the roles of leaders, such as Sun Yat-sen in China, and the roles of ideology and religion.</td>
</tr>
</tbody>
</table>

**Unit 5, Semester 1**

Students analyze the causes and course of the First World War.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Analyze the arguments for entering into war presented by leaders from all sides of the Great War and the role of political and economic rivalries, ethnic and ideological conflicts, domestic discontent and disorder, and propaganda and nationalism in mobilizing the civilian population in support of &quot;total war.&quot;</td>
</tr>
<tr>
<td>2.</td>
<td>Examine the principal theaters of battle, major turning points, and the importance of geographic factors in military decisions and outcomes (e.g., topography, waterways, distance, climate).</td>
</tr>
<tr>
<td>3.</td>
<td>Explain how the Russian Revolution and the entry of the United States affected the course and outcome of the war.</td>
</tr>
<tr>
<td>4.</td>
<td>Understand the nature of the war and its human costs (military and civilian) on all sides of the conflict, including how colonial peoples contributed to the war effort.</td>
</tr>
<tr>
<td>5.</td>
<td>Discuss human rights violations and genocide, including the Ottoman government's actions against Armenian citizens.</td>
</tr>
</tbody>
</table>

**Unit 6, Semester 1**

Students analyze the effects of the First World War.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Analyze the aims and negotiating roles of world leaders, the terms and influence of the Treaty of Versailles and Woodrow Wilson's Fourteen Points, and the causes and effects of the United States's rejection of the League of Nations on world politics.</td>
</tr>
</tbody>
</table>
| 2. | Describe the effects of the war and resulting peace treaties on population movement, the
international economy, and shifts in the geographic and political borders of Europe and the Middle East.

3. Understand the widespread disillusionment with prewar institutions, authorities, and values that resulted in a void that was later filled by totalitarians.

4. Discuss the influence of World War I on literature, art, and intellectual life in the West (e.g., Pablo Picasso, the "lost generation" of Gertrude Stein, Ernest Hemingway).

**Unit 7, Semester 2**

Students analyze the rise of totalitarian governments after World War I.

1. Understand the causes and consequences of the Russian Revolution, including Lenin's use of totalitarian means to seize and maintain control (e.g., the Gulag).

2. Trace Stalin's rise to power in the Soviet Union and the connection between economic policies, political policies, the absence of a free press, and systematic violations of human rights (e.g., the Terror Famine in Ukraine).

3. Analyze the rise, aggression, and human costs of totalitarian regimes (Fascist and Communist) in Germany, Italy, and the Soviet Union, noting especially their common and dissimilar traits.

**Unit 8, Semester 2**

Students analyze the causes and consequences of World War II.

1. Compare the German, Italian, and Japanese drives for empire in the 1930s, including the 1937 Rape of Nanking, other atrocities in China, and the Stalin-Hitler Pact of 1939.

2. Understand the role of appeasement, nonintervention (isolationism), and the domestic distractions in Europe and the United States prior to the outbreak of World War II.

3. Identify and locate the Allied and Axis powers on a map and discuss the major turning points of the war, the principal theaters of conflict, key strategic decisions, and the resulting war conferences and political resolutions, with emphasis on the importance of geographic factors.

4. Describe the political, diplomatic, and military leaders during the war (e.g., Winston Churchill, Franklin Delano Roosevelt, Emperor Hirohito, Adolf Hitler, Benito Mussolini, Joseph Stalin, Douglas MacArthur, Dwight Eisenhower).

5. Analyze the Nazi policy of pursuing racial purity, especially against the European Jews; its transformation into the Final Solution; and the Holocaust that resulted in the murder of six million Jewish civilians.

6. Discuss the human costs of the war, with particular attention to the civilian and military losses in Russia, Germany, Britain, the United States, China, and Japan.

**Unit 9, Semester 2**

Students analyze the international developments in the post-World World War II world.

1. Compare the economic and military power shifts caused by the war, including the Yalta Pact, the development of nuclear weapons, Soviet control over Eastern European nations, and the economic recoveries of Germany and Japan.

2. Analyze the causes of the Cold War, with the free world on one side and Soviet client states on the other, including competition for influence in such places as Egypt, the Congo, Vietnam, and Chile.

3. Understand the importance of the Truman Doctrine and the Marshall Plan, which established the pattern for America's postwar policy of supplying economic and military aid to prevent the spread of Communism and the resulting economic and political competition in arenas such as Southeast Asia (i.e., the Korean War, Vietnam War), Cuba, and Africa.

4. Analyze the Chinese Civil War, the rise of Mao Tse-tung, and the subsequent political and
economic upheavals in China (e.g., the Great Leap Forward, the Cultural Revolution, and the Tiananmen Square uprising).

5. Describe the uprisings in Poland (1952), Hungary (1956), and Czechoslovakia (1968) and those countries' resurgence in the 1970s and 1980s as people in Soviet satellites sought freedom from Soviet control.

6. Understand how the forces of nationalism developed in the Middle East, how the Holocaust affected world opinion regarding the need for a Jewish state, and the significance and effects of the location and establishment of Israel on world affairs.

7. Analyze the reasons for the collapse of the Soviet Union, including the weakness of the command economy, burdens of military commitments, and growing resistance to Soviet rule by dissidents in satellite states and the non-Russian Soviet republics.


**Unit 10, Semester 2**
Students analyze instances of nation-building in the contemporary world in at least two of the following regions or countries: the Middle East, Africa, Mexico and other parts of Latin America, and China.

1. Understand the challenges in the regions, including their geopolitical, cultural, military, and economic significance and the international relationships in which they are involved.

2. Describe the recent history of the regions, including political divisions and systems, key leaders, religious issues, natural features, resources, and population patterns.

3. Discuss the important trends in the regions today and whether they appear to serve the cause of individual freedom and democracy.

**Unit 11, Semester 2**
Students analyze the integration of countries into the world economy and the information, technological, and communications revolutions (e.g., television, satellites, computers).

---

**Grade Eleven**

**United States History and Geography: Continuity and Change in the Twentieth Century**

Students in grade eleven study the major turning points in American history in the twentieth century. Following a review of the nation's beginnings and the impact of the Enlightenment on U.S. democratic ideals, students build upon the tenth grade study of global industrialization to understand the emergence and impact of new technology and a corporate economy, including the social and cultural effects. They trace the change in the ethnic composition of American society; the movement toward equal rights for racial minorities and women; and the role of the United States as a major world power. An emphasis is placed on the expanding role of the federal government and federal courts as well as the continuing tension between the individual and the state. Students consider the major social problems of our time and trace their causes in historical events. They learn that the United States has served as a model for other nations and that the rights and freedoms we enjoy are not accidents, but the results of a defined set of political principles that are not always basic to citizens of other countries. Students understand that our rights under the U.S. Constitution are a precious inheritance that depends on an educated citizenry for their preservation and protection.
### Unit 1, Semester 1

Students analyze the significant events in the founding of the nation and its attempts to realize the philosophy of government described in the Declaration of Independence.

1. Describe the Enlightenment and the rise of democratic ideas as the context in which the nation was founded.
2. Analyze the ideological origins of the American Revolution, the Founding Fathers' philosophy of divinely bestowed unalienable natural rights, the debates on the drafting and ratification of the Constitution, and the addition of the Bill of Rights.
3. Understand the history of the Constitution after 1787 with emphasis on federal versus state authority and growing democratization.
4. Examine the effects of the Civil War and Reconstruction and of the industrial revolution, including demographic shifts and the emergence in the late nineteenth century of the United States as a world power.

### Unit 2, Semester 1

Students analyze the relationship among the rise of industrialization, large-scale rural-to-urban migration, and massive immigration from Southern and Eastern Europe.

1. Know the effects of industrialization on living and working conditions, including the portrayal of working conditions and food safety in Upton Sinclair's *The Jungle*.
2. Describe the changing landscape, including the growth of cities linked by industry and trade, and the development of cities divided according to race, ethnicity, and class.
3. Trace the effect of the Americanization movement.
4. Analyze the effect of urban political machines and responses to them by immigrants and middle-class reformers.
5. Discuss corporate mergers that produced trusts and cartels and the economic and political policies of industrial leaders.
6. Trace the economic development of the United States and its emergence as a major industrial power, including its gains from trade and the advantages of its physical geography.
7. Analyze the similarities and differences between the ideologies of Social Darwinism and Social Gospel (e.g., using biographies of William Graham Sumner, Billy Sunday, Dwight L. Moody).
8. Examine the effect of political programs and activities of Populists.
9. Understand the effect of political programs and activities of the Progressives (e.g., federal regulation of railroad transport, Children's Bureau, the Sixteenth Amendment, Theodore Roosevelt, Hiram Johnson).

### Unit 3, Semester 1

Students analyze the role religion played in the founding of America, its lasting moral, social, and political impacts, and issues regarding religious liberty.

1. Describe the contributions of various religious groups to American civic principles and social reform movements (e.g., civil and human rights, individual responsibility and the work ethic, antimonarchy and self-rule, worker protection, family-centered communities).
2. Analyze the great religious revivals and the leaders involved in them, including the First Great Awakening, the Second Great Awakening, the Civil War revivals, the Social Gospel Movement, the rise of Christian liberal theology in the nineteenth century, the impact of the Second Vatican Council, and the rise of Christian fundamentalism in current times.
3. Cite incidences of religious intolerance in the United States (e.g., persecution of Mormons,
anti-Catholic sentiment, anti-Semitism).

4. Discuss the expanding religious pluralism in the United States and California that resulted from large-scale immigration in the twentieth century.

5. Describe the principles of religious liberty found in the Establishment and Free Exercise clauses of the First Amendment, including the debate on the issue of separation of church and state.

**Unit 4, Semester 1**

Students trace the rise of the United States to its role as a world power in the twentieth century.

1. List the purpose and the effects of the Open Door policy.


3. Discuss America's role in the Panama Revolution and the building of the Panama Canal.


5. Analyze the political, economic, and social ramifications of World War I on the home front.

6. Trace the declining role of Great Britain and the expanding role of the United States in world affairs after World War II.

**Unit 5, Semester 1**

Students analyze the major political, social, economic, technological, and cultural developments of the 1920s.

1. Discuss the policies of Presidents Warren Harding, Calvin Coolidge, and Herbert Hoover.

2. Analyze the international and domestic events, interests, and philosophies that prompted attacks on civil liberties, including the Palmer Raids, Marcus Garvey's "back-to-Africa" movement, the Ku Klux Klan, and immigration quotas and the responses of organizations such as the American Civil Liberties Union, the National Association for the Advancement of Colored People, and the Anti-Defamation League to those attacks.

3. Examine the passage of the Eighteenth Amendment to the Constitution and the Volstead Act (Prohibition).

4. Analyze the passage of the Nineteenth Amendment and the changing role of women in society.

5. Describe the Harlem Renaissance and new trends in literature, music, and art, with special attention to the work of writers (e.g., Zora Neale Hurston, Langston Hughes).

6. Trace the growth and effects of radio and movies and their role in the worldwide diffusion of popular culture.

7. Discuss the rise of mass production techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.

**Unit 6, Semester 1**

Students analyze the different explanations for the Great Depression and how the New Deal fundamentally changed the role of the federal government.

1. Describe the monetary issues of the late nineteenth and early twentieth centuries that gave rise to the establishment of the Federal Reserve and the weaknesses in key sectors of the economy in the late 1920s.

2. Understand the explanations of the principal causes of the Great Depression and the steps taken by the Federal Reserve, Congress, and Presidents Herbert Hoover and Franklin Delano
Roosevelt to combat the economic crisis.

3. Discuss the human toll of the Depression, natural disasters, and unwise agricultural practices and their effects on the depopulation of rural regions and on political movements of the left and right, with particular attention to the Dust Bowl refugees and their social and economic impacts in California.

4. Analyze the effects of and the controversies arising from New Deal economic policies and the expanded role of the federal government in society and the economy since the 1930s (e.g., Works Progress Administration, Social Security, National Labor Relations Board, farm programs, regional development policies, and energy development projects such as the Tennessee Valley Authority, California Central Valley Project, and Bonneville Dam).

5. Trace the advances and retreats of organized labor, from the creation of the American Federation of Labor and the Congress of Industrial Organizations to current issues of a postindustrial, multinational economy, including the United Farm Workers in California.

### Unit 7, Semester 2
Students analyze America's participation in World War II.

1. Examine the origins of American involvement in the war, with an emphasis on the events that precipitated the attack on Pearl Harbor.

2. Explain U.S. and Allied wartime strategy, including the major battles of Midway, Normandy, Iwo Jima, Okinawa, and the Battle of the Bulge.

3. Identify the roles and sacrifices of individual American soldiers, as well as the unique contributions of the special fighting forces (e.g., the Tuskegee Airmen, the 442nd Regimental Combat team, the Navajo Code Talkers).

4. Analyze Roosevelt's foreign policy during World War II (e.g., Four Freedoms speech).

5. Discuss the constitutional issues and impact of events on the U.S. home front, including the internment of Japanese Americans (e.g., Fred Korematsu v. United States of America) and the restrictions on German and Italian resident aliens; the response of the administration to Hitler's atrocities against Jews and other groups; the roles of women in military production; and the roles and growing political demands of African Americans.

6. Describe major developments in aviation, weaponry, communication, and medicine and the war's impact on the location of American industry and use of resources.

7. Discuss the decision to drop atomic bombs and the consequences of the decision (Hiroshima and Nagasaki).

8. Analyze the effect of massive aid given to Western Europe under the Marshall Plan to rebuild itself after the war and the importance of a rebuilt Europe to the U.S. economy.

### Unit 8, Semester 2
Students analyze the economic boom and social transformation of post-World War II America.

1. Trace the growth of service sector, white collar, and professional sector jobs in business and government.

2. Describe the significance of Mexican immigration and its relationship to the agricultural economy, especially in California.

3. Examine Truman's labor policy and congressional reaction to it.

4. Analyze new federal government spending on defense, welfare, interest on the national debt, and federal and state spending on education, including the California Master Plan.

5. Describe the increased powers of the presidency in response to the Great Depression, World
6. Discuss the diverse environmental regions of North America, their relationship to local economies, and the origins and prospects of environmental problems in those regions.

7. Describe the effects on society and the economy of technological developments since 1945, including the computer revolution, changes in communication, advances in medicine, and improvements in agricultural technology.

8. Discuss forms of popular culture, with emphasis on their origins and geographic diffusion (e.g., jazz and other forms of popular music, professional sports, architectural and artistic styles).

<table>
<thead>
<tr>
<th>Unit 9, Semester 2</th>
<th>Students analyze U.S. foreign policy since World War II.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Discuss the establishment of the United Nations and International Declaration of Human Rights, International Monetary Fund, World Bank, and General Agreement on Tariffs and Trade (GATT) and their importance in shaping modern Europe and maintaining peace and international order.</td>
<td></td>
</tr>
<tr>
<td>2. Understand the role of military alliances, including NATO and SEATO, in deterring communist aggression and maintaining security during the Cold War.</td>
<td></td>
</tr>
<tr>
<td>3. Trace the origins and geopolitical consequences (foreign and domestic) of the Cold War and containment policy, including the following:</td>
<td></td>
</tr>
<tr>
<td>- The era of McCarthyism, instances of domestic Communism (e.g., Alger Hiss) and blacklisting</td>
<td></td>
</tr>
<tr>
<td>- The Truman Doctrine</td>
<td></td>
</tr>
<tr>
<td>- The Berlin Blockade</td>
<td></td>
</tr>
<tr>
<td>- The Korean War</td>
<td></td>
</tr>
<tr>
<td>- The Bay of Pigs invasion and the Cuban Missile Crisis</td>
<td></td>
</tr>
<tr>
<td>- Atomic testing in the American West, the &quot;mutual assured destruction&quot; doctrine, and disarmament policies</td>
<td></td>
</tr>
<tr>
<td>- The Vietnam War</td>
<td></td>
</tr>
<tr>
<td>- Latin American policy</td>
<td></td>
</tr>
<tr>
<td>4. List the effects of foreign policy on domestic policies and vice versa (e.g., protests during the war in Vietnam, the &quot;nuclear freeze&quot; movement).</td>
<td></td>
</tr>
<tr>
<td>5. Analyze the role of the Reagan administration and other factors in the victory of the West in the Cold War.</td>
<td></td>
</tr>
<tr>
<td>6. Describe U.S. Middle East policy and its strategic, political, and economic interests, including those related to the Gulf War.</td>
<td></td>
</tr>
<tr>
<td>7. Examine relations between the United States and Mexico in the twentieth century, including key economic, political, immigration, and environmental issues.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 10, Semester 2</th>
<th>Students analyze the development of federal civil rights and voting rights.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain how demands of African Americans helped produce a stimulus for civil rights, including President Roosevelt's ban on racial discrimination in defense industries in 1941, and how African Americans' service in World War II produced a stimulus for President Truman's decision to end segregation in the armed forces in 1948.</td>
<td></td>
</tr>
</tbody>
</table>
| 2. Examine and analyze the key events, policies, and court cases in the evolution of civil rights, including *Dred Scott v. Sandford*, *Plessy v. Ferguson*, *Brown v. Board of Education, Regents of*
3. Describe the collaboration on legal strategy between African American and white civil rights lawyers to end racial segregation in higher education.

4. Examine the roles of civil rights advocates (e.g., A. Philip Randolph, Martin Luther King, Jr., Malcolm X, Thurgood Marshall, James Farmer, Rosa Parks), including the significance of Martin Luther King, Jr.'s "Letter from Birmingham Jail" and "I Have a Dream" speech.

5. Discuss the diffusion of the civil rights movement of African Americans from the churches of the rural South and the urban North, including the resistance to racial desegregation in Little Rock and Birmingham, and how the advances influenced the agendas, strategies, and effectiveness of the quests of American Indians, Asian Americans, and Hispanic Americans for civil rights and equal opportunities.

6. Analyze the passage and effects of civil rights and voting rights legislation (e.g., 1964 Civil Rights Act, Voting Rights Act of 1965) and the Twenty-Fourth Amendment, with an emphasis on equality of access to education and to the political process.

7. Analyze the women's rights movement from the era of Elizabeth Stanton and Susan Anthony and the passage of the Nineteenth Amendment to the movement launched in the 1960s, including differing perspectives on the roles of women.

Unit 11, Semester 2

Students analyze the major social problems and domestic policy issues in contemporary American society.

1. Discuss the reasons for the nation's changing immigration policy, with emphasis on how the Immigration Act of 1965 and successor acts have transformed American society.

2. Discuss the significant domestic policy speeches of Truman, Eisenhower, Kennedy, Johnson, Nixon, Carter, Reagan, Bush, and Clinton (e.g., with regard to education, civil rights, economic policy, environmental policy).

3. Describe the changing roles of women in society as reflected in the entry of more women into the labor force and the changing family structure.

4. Explain the constitutional crisis originating from the Watergate scandal.

5. Trace the impact of, need for, and controversies associated with environmental conservation, expansion of the national park system, and the development of environmental protection laws, with particular attention to the interaction between environmental protection advocates and property rights advocates.

6. Analyze the persistence of poverty and how different analyses of this issue influence welfare reform, health insurance reform, and other social policies.

7. Explain how the federal, state, and local governments have responded to demographic and social changes such as population shifts to the suburbs, racial concentrations in the cities, Frostbelt-to-Sunbelt migration, international migration, decline of family farms, increases in out-of-wedlock births, and drug abuse.

Grade Twelve

Principles of American Democracy and Economics

Students in grade twelve pursue a deeper understanding of the institutions of American government. They compare systems of government in the world today and analyze the history and changing
interpretations of the Constitution, the Bill of Rights, and the current state of the legislative, executive, and judiciary branches of government. An emphasis is placed on analyzing the relationship among federal, state, and local governments, with particular attention paid to important historical documents such as the *Federalist Papers*. These standards represent the culmination of civic literacy as students prepare to vote, participate in community activities, and assume the responsibilities of citizenship.

In addition to studying government in grade twelve, students will also master fundamental economic concepts, applying the tools (graphs, statistics, equations) from other subject areas to the understanding of operations and institutions of economic systems. Studied in a historic context are the basic economic principles of micro- and macroeconomics, international economics, comparative economic systems, measurement, and methods.

### PRINCIPLES OF AMERICAN DEMOCRACY

#### Unit 1, Semester 1

Students explain the fundamental principles and moral values of American democracy as expressed in the U.S. Constitution and other essential documents of American democracy.

1. Analyze the influence of ancient Greek, Roman, English, and leading European political thinkers such as John Locke, Charles-Louis Montesquieu, Niccolò Machiavelli, and William Blackstone on the development of American government.
2. Discuss the character of American democracy and its promise and perils as articulated by Alexis de Tocqueville.
3. Explain how the U.S. Constitution reflects a balance between the classical republican concern with promotion of the public good and the classical liberal concern with protecting individual rights; and discuss how the basic premises of liberal constitutionalism and democracy are joined in the Declaration of Independence as "self-evident truths."
4. Explain how the Founding Fathers' realistic view of human nature led directly to the establishment of a constitutional system that limited the power of the governors and the governed as articulated in the *Federalist Papers*.
5. Describe the systems of separated and shared powers, the role of organized interests (*Federalist Paper Number 10*), checks and balances (*Federalist Paper Number 51*), the importance of an independent judiciary (*Federalist Paper Number 78*), enumerated powers, rule of law, federalism, and civilian control of the military.
6. Understand that the Bill of Rights limits the powers of the federal government and state governments.

#### Unit 2, Semester 1

Students evaluate and take and defend positions on the scope and limits of rights and obligations as democratic citizens, the relationships among them, and how they are secured.

1. Discuss the meaning and importance of each of the rights guaranteed under the Bill of Rights and how each is secured (e.g., freedom of religion, speech, press, assembly, petition, privacy).
2. Explain how economic rights are secured and their importance to the individual and to society (e.g., the right to acquire, use, transfer, and dispose of property; right to choose one's work; right to join or not join labor unions; copyright and patent).
3. Discuss the individual's legal obligations to obey the law, serve as a juror, and pay taxes.
4. Understand the obligations of civic-mindedness, including voting, being informed on civic issues, volunteering and performing public service, and serving in the military or alternative service.
5. Describe the reciprocity between rights and obligations; that is, why enjoyment of one's rights entails respect for the rights of others.
6. Explain how one becomes a citizen of the United States, including the process of naturalization (e.g., literacy, language, and other requirements).

Unit 3, Semester 1
Students evaluate and take and defend positions on what the fundamental values and principles of civil society are (i.e., the autonomous sphere of voluntary personal, social, and economic relations that are not part of government), their interdependence, and the meaning and importance of those values and principles for a free society.

1. Explain how civil society provides opportunities for individuals to associate for social, cultural, religious, economic, and political purposes.
2. Explain how civil society makes it possible for people, individually or in association with others, to bring their influence to bear on government in ways other than voting and elections.
3. Discuss the historical role of religion and religious diversity.
4. Compare the relationship of government and civil society in constitutional democracies to the relationship of government and civil society in authoritarian and totalitarian regimes.

Unit 4, Semester 1
Students analyze the unique roles and responsibilities of the three branches of government as established by the U.S. Constitution.

1. Discuss Article I of the Constitution as it relates to the legislative branch, including eligibility for office and lengths of terms of representatives and senators; election to office; the roles of the House and Senate in impeachment proceedings; the role of the vice president; the enumerated legislative powers; and the process by which a bill becomes a law.
2. Explain the process through which the Constitution can be amended.
3. Identify their current representatives in the legislative branch of the national government.
4. Discuss Article II of the Constitution as it relates to the executive branch, including eligibility for office and length of term, election to and removal from office, the oath of office, and the enumerated executive powers.
5. Discuss Article III of the Constitution as it relates to judicial power, including the length of terms of judges and the jurisdiction of the Supreme Court.
6. Explain the processes of selection and confirmation of Supreme Court justices.

Unit 5, Semester 1
Students summarize landmark U.S. Supreme Court interpretations of the Constitution and its amendments.

1. Understand the changing interpretations of the Bill of Rights over time, including interpretations of the basic freedoms (religion, speech, press, petition, and assembly) articulated in the First Amendment and the due process and equal-protection-of-the-law clauses of the Fourteenth Amendment.
2. Analyze judicial activism and judicial restraint and the effects of each policy over the decades (e.g., the Warren and Rehnquist courts).
3. Evaluate the effects of the Court's interpretations of the Constitution in Marbury v. Madison, McCulloch v. Maryland, and United States v. Nixon, with emphasis on the arguments espoused by each side in these cases.

Unit 6, Semester 1
**Students evaluate issues regarding campaigns for national, state, and local elective offices**

1. Analyze the origin, development, and role of political parties, noting those occasional periods in which there was only one major party or were more than two major parties.
2. Discuss the history of the nomination process for presidential candidates and the increasing importance of primaries in general elections.
3. Evaluate the roles of polls, campaign advertising, and the controversies over campaign funding.
4. Describe the means that citizens use to participate in the political process (e.g., voting, campaigning, lobbying, filing a legal challenge, demonstrating, petitioning, picketing, running for political office).
5. Discuss the features of direct democracy in numerous states (e.g., the process of referendums, recall elections).
6. Analyze trends in voter turnout; the causes and effects of reapportionment and redistricting, with special attention to spatial districting and the rights of minorities; and the function of the Electoral College.

**Unit 7, Semester 1**

**Students analyze and compare the powers and procedures of the national, state, tribal, and local governments.**

1. Explain how conflicts between levels of government and branches of government are resolved.
2. Identify the major responsibilities and sources of revenue for state and local governments.
3. Discuss reserved powers and concurrent powers of state governments.
4. Discuss the Ninth and Tenth Amendments and interpretations of the extent of the federal government's power.
5. Explain how public policy is formed, including the setting of the public agenda and implementation of it through regulations and executive orders.
6. Compare the processes of lawmaking at each of the three levels of government, including the role of lobbying and the media.
7. Identify the organization and jurisdiction of federal, state, and local (e.g., California) courts and the interrelationships among them.
8. Understand the scope of presidential power and decision making through examination of case studies such as the Cuban Missile Crisis, passage of Great Society legislation, War Powers Act, Gulf War, and Bosnia.

**Unit 8, Semester 1**

**Students evaluate and take and defend positions on the influence of the media on American political life.**

1. Discuss the meaning and importance of a free and responsible press.
2. Describe the roles of broadcast, print, and electronic media, including the Internet, as means of communication in American politics.
3. Explain how public officials use the media to communicate with the citizenry and to shape public opinion.

**Unit 9, Semester 1**

**Students analyze the origins, characteristics, and development of different political systems across time, with emphasis on the quest for political democracy, its advances, and its obstacles.**
1. Explain how the different philosophies and structures of feudalism, mercantilism, socialism, fascism, communism, monarchies, parliamentary systems, and constitutional liberal democracies influence economic policies, social welfare policies, and human rights practices.

2. Compare the various ways in which power is distributed, shared, and limited in systems of shared powers and in parliamentary systems, including the influence and role of parliamentary leaders (e.g., William Gladstone, Margaret Thatcher).

3. Discuss the advantages and disadvantages of federal, con federal, and unitary systems of government.

4. Describe for at least two countries the consequences of conditions that gave rise to tyrannies during certain periods (e.g., Italy, Japan, Haiti, Nigeria, Cambodia).

5. Identify the forms of illegitimate power that twentieth-century African, Asian, and Latin American dictators used to gain and hold office and the conditions and interests that supported them.

6. Identify the ideologies, causes, stages, and outcomes of major Mexican, Central American, and South American revolutions in the nineteenth and twentieth centuries.

7. Describe the ideologies that give rise to Communism, methods of maintaining control, and the movements to overthrow such governments in Czechoslovakia, Hungary, and Poland, including the roles of individuals (e.g., Alexander Solzhenitsyn, Pope John Paul II, Lech Walesa, Vaclav Havel).

8. Identify the successes of relatively new democracies in Africa, Asia, and Latin America and the ideas, leaders, and general societal conditions that have launched and sustained, or failed to sustain, them.

**PRINCIPLES OF ECONOMICS**

**Unit 1, Semester 1**

Students formulate questions about and defend their analyses of tensions within our constitutional democracy and the importance of maintaining a balance between the following concepts:

1. Majority rule and individual rights;
2. Liberty and equality;
3. State and national authority in a federal system;
4. Civil disobedience and the rule of law;
5. Freedom of the press and the right to a fair trial;
6. Relationship of religion and government.

**Unit 1, Semester 2**

Students understand common economic terms and concepts and economic reasoning.

1. Examine the causal relationship between scarcity and the need for choices.
2. Explain opportunity cost and marginal benefit and marginal cost.
3. Identify the difference between monetary and non monetary incentives and how changes in incentives cause changes in behavior.
4. Evaluate the role of private property as an incentive in conserving and improving scarce resources, including renewable and nonrenewable natural resources.
5. Analyze the role of a market economy in establishing and preserving political and personal liberty (e.g., through the works of Adam Smith).

**Unit 2, Semester 2**

Students analyze the elements of America's market economy in a global setting.

1. Understand the relationship of the concept of incentives to the law of supply and the relationship of the concept of incentives and substitutes to the law of demand.
2. Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products.
3. Explain the roles of property rights, competition, and profit in a market economy.
4. Explain how prices reflect the relative scarcity of goods and services and perform the allocative function in a market economy.
5. Understand the process by which competition among buyers and sellers determines a market price.
6. Describe the effect of price controls on buyers and sellers.
7. Analyze how domestic and international competition in a market economy affects goods and services produced and the quality, quantity, and price of those products.
8. Explain the role of profit as the incentive to entrepreneurs in a market economy.
9. Describe the functions of the financial markets.
10. Discuss the economic principles that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities.

Unit 3, Semester 2
Students analyze the influence of the federal government on the American economy.

1. Understand how the role of government in a market economy often includes providing for national defense, addressing environmental concerns, defining and enforcing property rights, attempting to make markets more competitive, and protecting consumers' rights.
2. Identify the factors that may cause the costs of government actions to outweigh the benefits.
3. Describe the aims of government fiscal policies (taxation, borrowing, spending) and their influence on production, employment, and price levels.
4. Understand the aims and tools of monetary policy and their influence on economic activity (e.g., the Federal Reserve).

Unit 4, Semester 2
Students analyze the elements of the U.S. labor market in a global setting.

1. Understand the operations of the labor market, including the circumstances surrounding the establishment of principal American labor unions, procedures that unions use to gain benefits for their members, the effects of unionization, the minimum wage, and unemployment insurance.
2. Describe the current economy and labor market, including the types of goods and services produced, the types of skills workers need, the effects of rapid technological change, and the impact of international competition.
3. Discuss wage differences among jobs and professions, using the laws of demand and supply and the concept of productivity.
4. Explain the effects of international mobility of capital and labor on the U.S. economy.

Unit 5, Semester 2
Students analyze the aggregate economic behavior of the U.S. economy.

1. Distinguish between nominal and real data.
2. Define, calculate, and explain the significance of an unemployment rate, the number of new jobs created monthly, inflation or deflation rate, and a rate of economic growth.
3. Distinguish between short-term and long-term interest rates and explain their relative significance.

Unit 6, Semester 2
Students analyze issues of international trade and explain how the U.S. economy affects, and is affected by, economic forces beyond the United States's borders.

1. Identify the gains in consumption and production efficiency from trade, with emphasis on the main products and changing geographic patterns of twentieth-century trade among countries in
the Western Hemisphere.

2. Compare the reasons for and the effects of trade restrictions during the Great Depression compared with present-day arguments among labor, business, and political leaders over the effects of free trade on the economic and social interests of various groups of Americans.

3. Understand the changing role of international political borders and territorial sovereignty in a global economy.

4. Explain foreign exchange, the manner in which exchange rates are determined, and the effects of the dollar's gaining (or losing) value relative to other currencies.

12th Grade - Visual Arts

The proficient level of achievement for students in grades nine through twelve can be attained at the end of one year of high school study within the discipline of the visual arts after the student has attained the level of achievement in visual arts required of all students in grade eight.

<table>
<thead>
<tr>
<th>Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1 - 1.0 ARTISTIC PERCEPTION</strong></td>
</tr>
<tr>
<td>Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to the Visual Arts</td>
</tr>
<tr>
<td>Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations.</td>
</tr>
<tr>
<td><strong>Unit 2 - 2.0 CREATIVE EXPRESSION Creating, Performing, and Participating in the Visual Arts</strong></td>
</tr>
<tr>
<td>Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.</td>
</tr>
</tbody>
</table>

| **Unit 1 - 1.0 ARTISTIC PERCEPTION** |
| Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to the Visual Arts |
| Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations. Develop Perceptual Skills and Visual Arts Vocabulary |
| **1.1** Identify and use the principles of design to discuss, analyze, and write about visual aspects in the environment and in works of art, including their own. |
| **1.2** Describe the principles of design as used in works of art, focusing on dominance and subordination. |

**Analyze Art Elements and Principles of Design**

| **1.3** Research and analyze the work of an artist and write about the artist’s distinctive style and its contribution to the meaning of the work. |
| **1.4** Analyze and describe how the composition of a work of art is affected by the use of a particular principle of design. |

**Impact of Media Choice**

| **1.5** Analyze the material used by a given artist and describe how its use influences the... |
meaning of the work.

1.6 Compare and contrast similar styles of works of art done in electronic media with those done with materials traditionally used in the visual arts.

<table>
<thead>
<tr>
<th>Unit 2 - 2.0 CREATIVE EXPRESSION Creating, Performing, and Participating in the Visual Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art. <em>Skills, Processes, Materials, and Tools</em></td>
</tr>
<tr>
<td>2.1 Solve a visual arts problem that involves the effective use of principles of design.</td>
</tr>
<tr>
<td>2.2 Prepare a portfolio of original two- and three-dimensional works of art that reflects refined craftsmanship and technical skills.</td>
</tr>
<tr>
<td>2.3 Develop and refine skill in the manipulation of digital imagery (either still or video).</td>
</tr>
<tr>
<td>2.4 Review and refine observational drawing skills.</td>
</tr>
</tbody>
</table>

*Communication and Expression Through Original Works of Art*

| 2.5 Create an expressive composition, focusing on dominance and subordination. |
| 2.6 Create a two- or three-dimensional work of art that addresses a social issue. |

**Semester 2**

**Unit 1 - 3.0 HISTORICAL AND CULTURAL CONTEXT**

*Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts*

Students analyze the role and development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

**Unit 2 - 4.0 AESTHETIC VALUING**

*Responding to, Analyzing, and Making Judgments About Works in the Visual Arts*

Students analyze, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.

**Unit 3 - 5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS**

*Connecting and Applying What Is Learned in the Visual Arts to Other Art Forms and Subject Areas and to Careers*

Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts.

**Unit 1 - 3.0 HISTORICAL AND CULTURAL CONTEXT**

*Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts*

Students analyze the role and development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

*Role and Development of the Visual Arts*

| 3.1 Identify similarities and differences in the purposes of art created |
| 3.2 Identify and describe the role and influence of new technologies on contemporary works of art. |
### Diversity of the Visual Arts

3.3 Identify and describe trends in the visual arts and discuss how the issues of time, place, and cultural influence are reflected in selected works of art.

3.4 Discuss the purposes of art in selected contemporary cultures.

### Unit 2 - 4.0 AESTHETIC VALUING

**Responding to, Analyzing, and Making Judgments About Works in the Visual Arts**

Students analyze, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.

### Derive Meaning

4.1 Articulate how personal beliefs, cultural traditions, and current social, political contexts influence the interpretation of the meaning or message in a work of art.

4.2 Compare the ways in which the meaning of a specific work of art has been affected over time because of changes in interpretation and context.

### Make Informed Judgments

4.3 Formulate and support a position regarding the aesthetic value of a specific work of art and change or defend that position after considering the views of others.

4.4 Articulate the process and rationale for refining and reworking one of their own works of art.

4.5 Employ the conventions of art criticism in writing and speaking about works of art.

### Unit 3 - 5.0 CONNECTIONS, RELATIONSHIPS, APPLICATIONS

**Connecting and Applying What Is Learned in the Visual Arts to Other Art Forms and Subject Areas and to Careers**

Students apply what they learn in the visual arts across subject areas. They develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills. They also learn about careers in and related to the visual arts.

### Connections and Applications

5.1 Design an advertising campaign for a theatre or dance production creating images that represent characters and major events in the production.

5.2 Create a work of art that communicates a cross-cultural or universal theme taken from literature or history.

### Visual Literacy

5.3 Compare and contrast the ways in which different media (television, newspapers, magazines) cover the same art exhibition.

### Careers and Career-Related Skills

5.4 Demonstrate an understanding of the various skills of an artist, art critic, art historian, art collector, art gallery owner, and philosopher of art (aesthetician).
9th Grade Physical Education – Course 1

The high school course descriptions presented here communicate the essence of the high school physical education experience. The content articulates the knowledge, skills, and confidence students need to maintain meaningful physical activity throughout their lifetime. The course sequence provides a blueprint for delivering the content in a manner that equips students to make a successful transition from the physical education instructional program to participation in physical activity during adulthood. The adult lifestyle demands that individuals initiate and monitor their own participation in physical activity. Family responsibilities, career demands, and individual choices influence physical activity patterns.

Courses 1 and 2 provide the foundation for high school instruction. Students develop proficient movement skills in each area of physical education; they expand their capabilities for independent learning; and they examine practices that allow for sound decision making to enhance successful participation in movement activities.

<table>
<thead>
<tr>
<th>Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 - Standard 1:</td>
</tr>
<tr>
<td>Students demonstrate knowledge of and competency in motor skills, movement patterns, and strategies needed to perform a variety of physical activities.</td>
</tr>
<tr>
<td>Unit 2 - Standard 2:</td>
</tr>
<tr>
<td>Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.</td>
</tr>
</tbody>
</table>

| Unit 1 - Standard 1: |
| Students demonstrate knowledge of and competency in motor skills, movement patterns, and strategies needed to perform a variety of physical activities. |
| 1.1 Combine and apply movement patterns, simple to complex, in aquatic, rhythms/dance, and individual and dual activities. |
| 1.2 Demonstrate proficient movement skills in aquatic, rhythms/dance, and individual and dual activities. |
| 1.2 Demonstrate proficient movement skills in aquatic, rhythms/dance, and individual and dual activities. |
| 1.3 Identify, explain, and apply the skill-related components of balance, reaction time, agility, coordination, explosive power, and speed that enhance performance levels in aquatic, rhythms/dance, and individual and dual activities. |
| 1.4 Explain and demonstrate advanced offensive, defensive, and transition strategies in aquatic and individual and dual activities. |
| 1.5 Explain the use of the principles of biomechanics (leverage, force, inertia, rotary motion, opposition, and buoyancy); apply the principles to achieve advanced performance in aquatic, rhythms/dance, and individual and dual activities; and evaluate the performance based on the use of the principles. |
| 1.6 Examine the physical, emotional, cognitive, and scientific factors that affect performance and explain the relationship between those factors. |
1.7 Analyze and evaluate feedback from proprioception, from others, and from the performance of complex motor (movement) activities to improve performance in aquatic, rhythms/dance, individual activities, and dual activities.

1.8 Analyze and explain which training and conditioning practices have the greatest impact on skill acquisition and performance in aquatic, rhythms/dance, and individual and dual activities.

1.9 Create or modify practice/training plans based on evaluative feedback of skill acquisition and performance in aquatic, rhythms/dance, and individual and dual activities.

1.10 Analyze situations and determine appropriate strategies for improved performance in aquatic, rhythms/dance, and individual and dual activities.

1.11 Assess the effect/outcome of a particular performance strategy in aquatic, rhythms/dance, and individual and dual activities.

1.12 Demonstrate independent learning of movement skills.

**Unit 2 - Standard 2:**

**Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.**

2.1 Participate in moderate to vigorous physical activity at least four days each week.

2.2 Participate in enjoyable and challenging physical activities that develop and maintain the five components of physical fitness.

2.3 Meet health-related physical fitness standards established by a scientifically based health-related fitness assessment.

2.4 Use physical fitness test results to set and adjust goals to improve fitness.

**Semester 2**

**Unit 1 - Standard 2:**

**Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.**

**Unit 2 - Standard 3:**

**Students demonstrate knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.**

**Unit 1 - Standard 2:**

**Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.**

2.5 Improve and maintain physical fitness by adjusting physical activity levels according to the principles of exercise.

2.6 Identify the physical fitness requirements of an occupation.

2.7 Develop and implement a one-month personal physical fitness plan.

2.8 Analyze consumer physical fitness products and programs.

2.9 Explain the inherent risks associated with physical activity in extreme environments.

2.10 Identify and list available fitness resources in the community.
2.11 Explain the role of physical activity in the prevention of disease and the reduction of health care costs.

**Unit 2 - Standard 3:**
Students demonstrate knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

*Self-Responsibility*

3.1 Accept personal responsibility to create and maintain a physically and emotionally safe and nonthreatening environment for physical activity.
3.2 Act independently of negative peer pressure during physical activity.
3.3 Identify and evaluate personal psychological responses to physical activity.
3.4 Describe the enjoyment, self-expression, challenge, and social benefits experienced by achieving one’s best in physical activities.
3.5 Develop personal goals to improve one’s performance in physical activities.

*Social Interaction*

3.6 Discuss the changing psychological and sociological needs of a diverse society in relation to physical activity.
3.7 Analyze the role that physical activity plays in social interaction and cooperative opportunities in the family and the workplace.
3.8 Recognize the value of physical activity in understanding multiculturalism.

*Group Dynamics*

3.9 Recognize and evaluate the role of cooperation and positive interactions with others when participating in physical activity.
3.10 Identify and utilize the potential strengths of each individual in physical activities.

10th Grade Physical Education – Course 2

**Semester 1**

Unit 1 - Standard 1:
Students demonstrate knowledge of and competency in motor skills, movement patterns, and strategies needed to perform a variety of physical activities.

Unit 2 - Standard 2:
Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.

Unit 1 - Standard 1:
Students demonstrate knowledge of and competency in motor skills, movement patterns, and strategies needed to perform a variety of physical activities.
1.1 Combine and apply movement patterns, from simple to complex, in combative, gymnastic/tumbling, and team activities.
1.2 Demonstrate proficient movement skills in combative, gymnastic/tumbling, and team activities.
1.3 Explain the skill-related components of balance, reaction time, agility, coordination, explosive power, and speed that enhance performance levels in combative, gymnastic/tumbling, and team activities and apply those components in performance.
1.4 Explain and demonstrate advanced offensive, defensive, and transition strategies and tactics in combative, gymnastic/tumbling, and team activities.
1.5 Explain the use of the principles of biomechanics (leverage, force, inertia, rotary motion, and opposition); apply the principles to achieve advanced performance in combative, gymnastic/tumbling, and team activities; and evaluate the performance based on use of the principles.
1.6 Evaluate the relationships of physical, emotional, and cognitive factors affecting individual and team performance.
1.7 Analyze and evaluate feedback from proprioception, from others, and from the performance of complex motor (movement) activities to improve performance in combative, gymnastic/tumbling, and team activities.
1.8 Analyze and explain which training and conditioning practices have the greatest impact on skill acquisition and performance in combative, gymnastic/tumbling, and team activities.
1.9 Create or modify practice/training plans based on evaluative feedback from skill acquisition and performance in combative, gymnastic/tumbling, and team activities.
1.10 Analyze situations to determine appropriate strategies to use in combative, gymnastic/tumbling, and team activities.
1.11 Assess the effect/outcome of a particular performance strategy used in combative, gymnastic/tumbling, and team activities.
1.12 Evaluate independent learning of movement skills.

Unit 2 - Standard 2:
Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.

2.1 Participate in moderate to vigorous physical activity at least four days each week.
2.2 Participate in challenging physical fitness activities using the principles of exercise to meet individual needs and interests.
2.3 Identify and achieve levels of excellence in physical fitness that enhance physical and mental performance beyond the standards established by scientifically based health-related fitness assessments.
2.4 Assess levels of physical fitness and adjust physical activity to accommodate changes in age, growth, and development.
2.5 Justify the use of particular physical activities to achieve desired fitness goals.

**Semester 2**

**Unit 1 - Standard 2:**
Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.

**Unit 2 - Standard 3:**
Students demonstrate knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

**Unit 1 - Standard 2:**
Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies.

2.6 Develop and describe a physical fitness plan that enhances personal health and performance in future leisure and workplace activities.

2.7 Develop and implement an appropriate personal physical fitness program for a family or community member.

2.8 Explain how to evaluate consumer physical fitness products and programs.

2.9 Identify and evaluate ergogenic aids that claim to enhance body composition, appearance, physical fitness, and performance.

2.10 Evaluate the availability and quality of fitness resources in the community.

2.11 Use and analyze scientifically based data and protocols to assess oneself on the five components of health-related physical fitness.
19. Supporting All Students

Ensuring support for all students including academically under-performing students, gifted, low SES, ELLs, special education, and reclassification of ELLs shall be accomplished through the student’s Personal Learning Plan (PLP) procedure in which each student, upon entrance to the school, undergoes a comprehensive evaluation procedure conducted by a school counselor or an administrator. The process is accomplished by October 1st for all students and begins with consideration of CST scores. Then students are given a mathematics assessment by MathLinks by UCLA’s CMAT and a literacy assessment the Gates-MacGinitie Reading Tests by Riverside Publishing. ASE will enter into an agreement with these entities to use these materials. These tests are still in use and the cost to administer them is reflected in the budget under Books. Lastly students are given a comprehensive interview by a counselor or an administrator that identifies what kinds of academic and emotional support that will be most beneficial for the student’s success, including intervention or expansion opportunities, course placement, and determine frequency that counselor/administrator should review student’s emotional wellbeing. Additionally, all PLPs undergo review in October, December, February, April, and June by each student’s advisory teacher to determine if the student is: (1) keeping up with his or her academic studies; (2) is not hindered for any reason from advancing; and (3) is receiving the necessary instructions and help that allow him or her to be academically successful (for further information, refer to Skills and Measurable Outcomes on page 124). Academy of Science and Engineering will meet all requirements of Federal law as it pertains to providing equal educational opportunities for English language learners.

Underperforming Students

All students entering Academy of Science and Engineering will be thoroughly tested via normally accepted and appropriate testing methods to determine their academic grade level. The results of such testing will provide information toward developing a Personal Learning Plan (PLP) for each student. Students discovered to be underperforming (below grade level) will be given remediation in the needed area until grade level proficiency in that area is met. These intensive intervention and support classes or sessions will be managed by teachers who hold credentials in those specific subjects. And any student that falls behind grade level performance at any time during his or her stay at Academy of Science and Engineering will have their PLP altered to include participation in remediation activities. Remediation activities include before school, after school tutoring, and Saturday classes. Tutoring program will include classroom teachers and volunteers working with students in a one-on-one or small group setting. Students needing required intervention will be determined by the following criteria:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Requirement for Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Standards Test – Language Arts</td>
<td>Basic, Below Basic, Far Below Basic</td>
</tr>
<tr>
<td>California Standards Test – Mathematics</td>
<td>Basic, Below Basic, Far Below Basic</td>
</tr>
<tr>
<td>California high School Exit Exam</td>
<td>Not Passing</td>
</tr>
<tr>
<td>Parent Recommendation</td>
<td>Parent Request</td>
</tr>
<tr>
<td>Teacher Recommendation</td>
<td>Teacher Administered Formative Assessment</td>
</tr>
</tbody>
</table>
Gifted Students

ASE has adopted guidelines for identifying Gifted/Talented students that mirror those of LAUSD. To be identified Gifted/Talented students must meet one of the following three criteria:

a) Students may be also be referred and assessed as high ability if they can demonstrate the ability to meet the following four critical thinking and problem solving skills in their primary language: 1) explain meanings or relationships among facts, information or concepts that demonstrate depth and complexity; 2) formulate new ideas or solutions and elaborate on the information; 3) use alternative methods in approaching new or unfamiliar mathematical problems; and 4) use extensive vocabulary easily and accurately to express creative ideas.

b) Students may be referred and assessed for gifted or high ability if they have percentile scores of 85% or above on California Standards Test (CST) in English Language Arts and math.

c) And lastly, students may be identified as gifted by the school psychologist in the intellectual, high achievement or specific academic ability categories.

High achieving students will be given the opportunity to advance as quickly as their abilities permit and participate in Advanced Placement (AP) classes, thus allowing those that prove capable to take college courses in their 11th and 12th grades. Some may even earn an AA degree while still officially being enrolled in high school. The West Athens counselor will help students apply and enroll in local community colleges including Los Angeles South West College and West Los Angeles College. Finally, any gifted students can be accelerated to a high grade level at the discretion of the parent and principal.

English Learners

Supports for ELs include a comprehensive approach for students who are at ELD (English Language Development) levels 1 and 2. West Athens provides a Basic Bilingual Program that will offer both access to standards-based core curriculum classes and ESL (English as a Second Language) classes for English language literacy. This program will be supported by the following student learning opportunities:

- Connect students to after school and Saturday English Learner classes at the local community colleges
- Provide supplemental materials in the home language to ensure access to core
- For ELD levels 3 and 4 provide a full immersion program with access to differentiated instruction in all core classes through the different projects, as well as full access to A-G requirements.
- Utilize High Point as the main textbook for lower level ELD and for on-going support for upper levels
Monitor EL progress by creating EL folders in their PLP, with EL target goals that include all the components for reclassification.

Provide lower level ELs the opportunity to participate in arts and hands-on activities with language support to enhance their academic vocabulary in English.

Provide the opportunity for students to fulfill the Foreign Language requirements through the Language Equivalent Examination.

After-school and Saturday tutoring

Bilingual aides and tutors as primary language support

Cooperative learning activities, conducted in English with primary language support as needed, in all classes that serve to immerse students in the language while giving them opportunities to practice listening, comprehension, and speaking skills

Frequent writing assignments in all classes that give students opportunities to practice writing and editing in English

Teachers will need to adapt how they teach to accommodate the needs of their students who are English Language Learners. It is important to prepare lessons in advance to make suitable accommodations, and to be aware of how much EL students actually understand.

Teachers will employ the following strategies to help their students, and also adjust the class structure and assignments:

- Simplify the language of instruction and not the concept being taught. Use simple sentence structure (verb-subject-object). Avoid the passive tense and compound and/or complex sentences.
- Provide instructions and messages in written and verbal form.
- Build background knowledge before teaching a lesson.
- Write homework assignments on the board.
- Use scaffolding techniques so that new students can be successful on assignments with the rest of the class.
- Work toward depth, not breadth of information, presenting materials in a clear, concise, comprehensible manner, eliminating all nonessential information.
- Impart information through several learning modalities: oral, visual, auditory, realia, and kinesthetic.
- Present content area vocabulary and concepts using pictures, objects and hands-on activities.
- Provide concrete examples of words using PowerPoint, flashcards, pictures and objects.
- Use graphic organizers such as webs, Venn diagrams, and charts to make information more accessible. Textual material is usually too dense for second language learners.
- Employ a variety of questioning and dialogue strategies in order to determine students’ level of comprehension, that are specific to students’ level of language understanding.

Academy of Science and Engineering teachers and administrators will constantly monitor the progress of EL students using the following measurement tools:

- California English Language Development Test (CELDT)- once a year
- EL Portfolio that includes writing examples and results of oral assessments
• Measures of Academic Progress (MAP) Reading and Language Use Tests- three times a year
• Weekly Formative Assessments
• Quarterly Summative Assessments
• Classroom observations

Principal will have quarterly meetings with teachers and discuss the ELD level of EL students and determine the necessary modifications in teaching strategies.

Parents: Provide information to parents in all the available support for English Learners, including but not limited to, support classes through the community colleges – dual enrollment-, information in the Reclassification Process and the supplemental home language materials available for students in levels 1-4. Inform parents of their right to participate in all decision making committees including the school’s Curricular Committee.

Professional Development: In order to ensure access to core and the delivery of differentiated instruction for EL students, teachers at Academy of Science and Engineering will be CLAD/BCLAD Certified and be Highly Qualified as defined by No Child Left Behind. We will hold Professional Development in all SDAIE strategies, specifically around Language through all content areas. Teachers will be required to participate in a series of on-going training for Thinking Maps in all the phases of its implementation.

Reclassification Procedures

Reclassification procedures utilize multiple criteria in determining whether to classify a pupil as proficient in English including, but not limited to, all of the following:
• Assessment of language proficiency using an objective assessment instrument including, but not limited to, the CELDT.
• Participation of the pupil’s classroom teachers and any other certificated staff with direct responsibility for teaching or placement decisions of the pupil to evaluate the pupil’s curriculum mastery.
• Parental opinion and consultation, achieved through notice to parents or guardians of the language reclassification and placement including a description of the reclassification process and the parents opportunity to participate, and encouragement of the participation of parents or guardians in the reclassification procedure including seeking their opinion and consultation during the reclassification process.
• Comparison of the pupil’s performance in basic skills against an empirically established range of performance and basic skills based upon the performance of English proficient pupils of the same age that demonstrate to others that the pupil is sufficiently proficient in English to participate effectively in a curriculum designed for pupils of the same age whose native language is English.
• The Student Oral Language Observation Matrix will be used by teachers to measure progress regarding comprehension, fluency, vocabulary, pronunciation, and grammar usage.
**Decision Guide**

New Enrollees:
- a. Home Language Survey is administered
- b. If English Only, then student is placed in a regular instructional program

If there is an indication of Primary Language other than English
- c. Student is assessed using the CELDT in listening, speaking, reading, and writing

If student’s are IFEP
- d. Students will be placed in the regular instructional program

If students are English Learner (EL)
- e. Initial placement in appropriate EL program and services
- f. CELDT annual assessment until reclassification criteria met

Reclassification criteria:
1. Student has an annual CELDT overall performance level of 4 or 5 with skill area scores of 3 or higher in Listening, Speaking, Reading, and Writing.
2. The student scores Basic or above on the ELA section of the CST.
3. The student is judged successful in a mainstream English Program based on a grade C or better in English.
4. The parent has been consulted and notified that the student is eligible for Reclassification, using the Notification of Reclassification Letter.

If student is reclassified to fluent English proficient (RFEP)
- g. Regular instructional program, monitoring progress for two years
- h. Teachers, administrators, and parents monitor student academic performance
  - i. CST Basic, Proficient and Advanced Language Arts scores are monitored
  - ii. Maintains grade C or better
  - iii. Teacher recommendation
- i. Parents are notified in writing at least once a year if student is making adequate progress or is at risk of not meeting grade level standards.
i. Parents are notified in November or December and offered intervention services during school hours and after hours.

j. Evidence that student is provided linguistic and academic instructional services appropriate to student’s diagnosed academic need.

Teacher Responsibility

Additionally, even though Academy of Science and Engineering students will be responsible for their performance, the school’s teachers will carry the majority of the responsibility for their students’ academic achievements. That is that Academy of Science and Engineering’ teachers will own their students’ success. The teachers will be evaluated to ensure that they are consistently employing engaging and dynamic instructional practice in their teaching of essential standards. It is expected that students will make reasonable progress on the CST and CAHSEE. Teachers who are unable to show good instructional practice and reasonable progress will not have their contracts renewed. The teacher has the primary responsibility of keeping their student on track academically.
ELEMENT TWO: Measurable Pupil Outcomes

1. Skills and Measurable Outcomes

The School is committed to ensuring that all students progress academically and demonstrate their knowledge, skills and attitudes through standardized testing procedures and student projects. Whether students are low achieving, high achieving, English language learners or of special needs, their progress toward expected outcomes depends on continual tracking and monitoring of individual student growth. Consistent with the legislative intent, the school is adopting a performance-based accountability system. Specifically, measurable student outcomes will include:

- Achievement of fluency or substantial progress toward fluency in English for English Language Learner students using the California English Language Development Test (CELDT) to measure proficiency, our goal for reclassification will be 15% in year one and 20% in years two through five;
- Achievement of or substantial progress toward learning goals for Special education students as outlined in their Individual Education Plan (IEP);
- Demonstrate ability to apply knowledge through student projects associated with career goals;
- Incorporating personal interests and skills in core academics, the arts, technology, and health and wellness; and,
- Demonstrated proficiency in English/Language Arts, mathematics, history/social studies, and science in alignment with the California Content Standards and consistent with the No Child Left Behind Act (NCLB), the California High School Exit Exam (CAHSEE) and the California Standards Test (CST) – see chart below.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Measurable Outcomes</th>
<th>Assessment Tools</th>
<th>Frequency</th>
<th>Proficiency Goal</th>
<th>Annual Goal - % of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Arts</td>
<td>Students will be expected to communicate ideas clearly and effectively in various modes of expression appropriate to audience and purpose. Through the examination of various texts, students will be expected to demonstrate critical reading and active listening skills in order to comprehend interpret and evaluate ideas. Students will write extensively in both expository and creative form.</td>
<td>Gates-MacGairntie Reading Tests (9-12)</td>
<td>2x a year</td>
<td>At or above grade level</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Department Created Quarterly Summative Assessments (9-12)</td>
<td>3x a year</td>
<td>90% correct</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>California Standards Test (9-11)</td>
<td>Once a year</td>
<td>Proficiency</td>
<td>12-13 20% (average of all grades) 13-14 35% (average of all grades)</td>
</tr>
<tr>
<td>Subject</td>
<td>Description</td>
<td>Frequency</td>
<td>Passing Score Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Students will be expected to apply mathematical concepts and processes, including number systems, operations, graphics and logic, in order to problem-solve within and outside of mathematics. Students will be expected to demonstrate facility with the language of mathematics and express generalizations discovered through investigation. Students will be expected to be competent in symbolic reasoning and in constructing logical arguments.</td>
<td>2x a year</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MathLinks by UCLA’s CMAT (9-12)</td>
<td>3x a year</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department Created Quarterly Summative Assessments (9-12)</td>
<td>Once a year</td>
<td>12-13 12% (average of all grades) 13-14 25% (average of all grades) 14-15 35% (average of all grades) 15-16 45% (average of all grades) 16-17 55% (average of all grades)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>California Standards Test (9-11)</td>
<td>3x a year</td>
<td>12-13 60% 13-14 70% 14-15 75% 15-16 80% 16-17 90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department Created Quarterly Summative Assessments (9-12)</td>
<td>3x a year</td>
<td>12-13 60% 13-14 70% 14-15 75% 15-16 80% 16-17 90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>Students will be expected to demonstrate understanding of scientific concepts and ideas through real-world applications. Students will be expected to utilize scientific research and inquiry methods to</td>
<td>3x a year</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**History/Social Studies**

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Assessment Details</th>
<th>Frequency</th>
<th>Proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be expected to apply historical, political, philosophical, geographical, economic and sociological knowledge to local and global situations in order to comprehend contexts and events, predict and evaluate the outcomes of human actions, and act responsibly as world citizens.</td>
<td>California Standards Test (10-11)</td>
<td>Once a year</td>
<td>Proficiency 12-13 12% (average of all grades) 13-14 25% (average of all grades) 14-15 35% (average of all grades) 15-16 45% (average of all grades) 16-17 55% (average of all grades)</td>
</tr>
<tr>
<td>Department Created Quarterly Summative Assessments (10-12)</td>
<td>3x a year</td>
<td>90% correct</td>
<td>12-13 50% (average of all grades) 13-14 60% (average of all grades) 14-15 70% (average of all grades) 15-16 75% (average of all grades) 16-17 80% (average of all grades)</td>
</tr>
<tr>
<td>California Standards Test (10-11)</td>
<td>Once a year</td>
<td>Proficiency 12-13 20% (average of all grades) 13-14 35% (average of all grades) 14-15 50% (average of all grades) 15-16 60% (average of all grades) 16-17 65% (average of all grades)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Refer to page 156 for further reference to NCLB

### 2. Applied Skills and Outcomes

The following applied skills were derived primarily from the Partnership for 21st Century Skills, as reported in, *Are They Really Ready to Work? – Employers’ Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* released in October 2006.

a). **High-level Competence in the Traditional Academic Disciplines**: Demonstrated knowledge and ability to apply and transfer knowledge across disciplines through rigorous projects that are meaningful and address real-world issues.

b). **Critical Thinking/Problem Solving**: Exercise sound reasoning and analytical thinking; use knowledge, facts, and data to solve workplace problems; apply math and science concepts to problem solving.

c). **Oral Communications**: Articulate thoughts/ideas clearly and effectively; have public speaking skills.

d). **Written Communications**: Write memos, letters and complex technical reports clearly and effectively.
e). **Teamwork/Collaboration**: Build collaborative relationships with adults and peers; be able to work with diverse teams, and effectively negotiate and manage conflicts.

f). **Diversity**: Learn from and work collaboratively with individuals representing diverse cultures, races, ages, genders, religions, lifestyles, and viewpoints.

g). **Information Technology Application**: Select and use appropriate technology to accomplish a given task, apply computing skills to problem-solving.

h). **Leadership**: Leverage the strengths of others to achieve common goals; use interpersonal skills to coach and develop others.

i). **Creativity/Innovation**: Demonstrate originality and inventiveness in work; communicate new ideas to others; integrate knowledge across different disciplines.

j). **Lifelong Learning/Self Direction**: Continuously acquire new knowledge and skills; monitor one’s own learning needs; be able to learn from one’s mistakes.

k). **Professionalism/Work Ethic**: Demonstrate personal accountability, effective work habits, e.g., punctuality, working productively with others, and time and workload management.

l). **Ethics/Social Responsibility**: Demonstrate integrity and ethical behavior; act responsibly with the interests of the larger community in mind.

3. **Achievement Targets**

**API Growth Target**
Academy of Science and Engineering’s proposed Academic Performance Index (API) growth target for the first year of operation is 770 with growth to reach 815. These API targets are in alignment with the requirements of NCLB. (see chart under AYP Target)

**AYP Target**
Academy of Science and Engineering will meet or exceed the AYP targets as per NCLB.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>770</td>
<td>800</td>
<td>805</td>
<td>810</td>
<td>815</td>
</tr>
<tr>
<td>AYP – ELA</td>
<td>89.0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>AYP – Math</td>
<td>89.1%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**CST Target**
The California Standards Test (CST) is a major component of CDE’s STAR program. The CST target for Academy of Science and Engineering for the percentage of Proficient and Advanced students in all subgroups (e.g. African American, Hispanic, Socioeconomically Disadvantaged, EL’s, and Students with Disabilities) is as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English/Language Arts – All Students</strong></td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>ELA – African American</td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>ELA – Hispanic</td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>ELA – Socioeconomically Disadvantaged</td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>ELA – EL’s</td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>ELA – Students with Disabilities</td>
<td>20%</td>
<td>35%</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td><strong>Mathematics – All Students</strong></td>
<td>12%</td>
<td>25%</td>
<td>35%</td>
<td>45%</td>
<td>55%</td>
</tr>
</tbody>
</table>
The goal for Academy of Science and Engineering will be for over fifty percent of students to score Proficient and Advance Proficient on the CST in all subject areas within five years.

When administering California Standards Tests (CSTs), the school will follow the California Department of Education’s *California Standardized Testing and Reporting Directions for Administration* guide for grades 9-11.

**CAHSEE Target**

Academy of Science and Engineering’ California High School Exit Exam (CAHSEE) target for English Language Arts and Mathematics will be (shown for first time 10th Graders and also for combined passage rates, based on multiple test administrations):

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English/Language Arts – 1st time</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>English/Language Arts – Multiple Times</td>
<td>60%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>Mathematics – 1st Time</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>Mathematics – Multiple Times</td>
<td>60%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
</tr>
</tbody>
</table>

4. **Graduation Rate Target**

The graduation rate target for Academy of Science and Engineering is 85% and our Average Daily Attendance target percentage is 95%. ASE will exceed these targets.

5. **Assessing Student Outcomes and Progress**

The Assessment Strategy table on page 209 aligns pupil outcomes to the teaching and learning strategies that will drive them and the multiple assessment measures that will be used to
measure students’ progress over time, and ultimately their fulfillment of their PLP, proficiency in California content standards and applied skills. The matrix also includes the currently required state assessments. Behavioral expectations will be measured by a combination of Advisor narrative observations, student self-assessments and parent feedback. The School intends to use all measures listed in the table on page 209 though the exact combination may evolve with experience. But, not all of the assessments listed will be used with every student in any given year. And, the extent to which student assessment will be measured will depend upon each student’s progress within the courses she or he is studying and determined by his or her individual teacher of such courses. However, all students will undergo an academic assessment process at least by-weekly (every two weeks) or sooner as needed via traditional testing measures or through other means such as evaluating projects, portfolios, etc. and according to whichever method of instruction is being used.

As a result of the granting of this charter, Academy of Science and Engineering will be accountable to the Los Angeles Unified School District Board for producing the academic results outlined herein. As further outlined below, Academy of Science and Engineering will be required to participate in the statewide assessment tests.

The School’s staff, parents and students, and the District’s Board members will be able to monitor the School’s progress in meeting student outcomes by connecting to the School’s Web page at anytime, using a secure password, and viewing the continuously updated reports the School will publish that site such progress, or the lack thereof, in simple language and visuals. The School will also produce hard copies of such reports and mail them to parents and District Board members the last week of each quarter during each school year.

6. Accountability for Student Progress

Advisory Group Accountability (AGA): The school’s educational program and school culture is designed to create a true sense of ownership for student achievement and the overall success of the school. Everyone in the learning community is responsible and accountable for their respective roles – students, parents, and educators. This begins with the co-development of each student’s Personal Learning Plan (PLP). The development of PLPs involves gathering information about each student to determine: a) the level of academic proficiency of which the student is capable; and b) what remediation, if any, is needed in what academic area. This process may include individual testing, classroom observation, interviews with the student and school personnel who work with him or her, and review of school records, reports and work samples. Preparation of PLPs will be carried out by each student’s advisory class teacher (Advisor) in collaboration with the student’s other teachers and his/her parents/guardians.

Before a project can be approved, a project proposal, signed by the student’s parents/guardians, must be submitted by the student. Students, Advisors and parents will track progress through ProjectFoundry (described further in the next section), or another similar student project tracking tool. Student/parent conferences, regular progress reports and report cards will provide additional means to assess progress and celebrate success and/or create a means to course correct where needed.
7. Graduation Requirements

To graduate, Academy of Science and Engineering students shall meet or exceed the following:

- Meet all State of California graduation requirements including passing the California High School Exit Exam (CAHSEE);
- Complete a service learning program prior to the end of their senior year;
- Satisfy any other graduation requirements approved by the school board and published in the Parent/Students Handbook; and,
- Obtain a minimum of 220 credits
ELEMENT THREE: Methods to Assess Pupil Progress

Academy of Science and Engineering agrees to comply with and adhere to the State requirements for participation and administration of all state mandated tests. If the school does not test (i.e., STAR, CELDT, CAHSEE) with the District, it hereby grants authority to the state of California to provide a copy of all test results directly to the District as well as the Charter School.

Outcomes: Consistent with the legislative intent, the Academy of Science and Engineering will provide a performance-based accountability system. The School’s measuring and reporting system will consider students’ diverse characteristics, recognize their unique abilities and needs, and help students, teachers, and parents reflect and identify how to improve teaching and learning. A Web-based project management system such as WorkZone, Easy Projects, or Microsoft Project, that will be utilized to capture baseline data as well as ongoing progress monitoring data throughout the year and/or years at the School (described below). This or similar commercially available assessment tools will capture the story of each student as s/he creates, shapes and realizes his/her educational program. Students, Advisors (teachers) and parents will use this system to track and monitor progress on an ongoing basis.

Academy of Science and Engineering, as with other public schools, will be subject to the state and federal accountability systems, including the Academic Performance Index (API) and Adequate Yearly Progress (AYP). The School will include standardized test results as one of multiple assessment methods to chart and document student performance and assessment. API growth goals will be made clear to the staff. The Principal and teachers will review the STAR test scores, and API and AYP results as part of their overall assessment data analysis.

In order to measure students’ progress in achieving their learning objectives described in their PLP, Advisors will also develop and utilize such school-based assessments as portfolios and evaluations, including class quizzes, tests, narrative reports, etc. Portfolios will be standards-based, providing authentic student work samples aligned to state standards. Parents and students will use portfolios to set goals, measure progress, and showcase areas of personal interest. Students will be pre- and post-tested using formal and informal assessments to determine their progress in individual subjects for the duration of their time at the School. Measures will include tests, standardized measures and student-designed assessments, such as student-generated rubrics that have been created with guidance from advisory group teachers.

The School will collect, analyze, and report a variety of reports on student achievement, including disaggregated data by content strand, student subgroup, grade-level, and student-level analyses. Weekly formative assessment data is used as part of the PD process on a weekly basis to reteach standards that are missed. Quarterly summative assessments are used to inform instruction about how to improve whole units of study. PD time is spent by teachers to collaborate on how to improve these units.

Advisors and students will cooperatively record ongoing student performance assessments that track students’ progress toward achieving identified learning objectives. These electronic records will reflect the daily performance of students regarding specific academic and applied skills. Advisors will monitor each student frequently and hold a meeting at least monthly with their individual student advisees to discuss ongoing performance and to identify changes
needed in attitudes, effort, and focus on task.

Ultimately, the School will analyze student performance data, including standardized test scores, to ensure that all staff, board members, and parents are kept abreast of how students are performing, and make appropriate changes to instructions to ensure continuous improvement; both of the students’ progress, and of the educational program. The School will publish the School Accountability Report Card (SARC) online and mail hardcopies to students’ families.

1. **Annual Programmatic Audit**

To make sure Academy of Science and Engineering is complying with the terms of its charter, the School’s Board will develop a checklist of programs and goals as described in this charter. And, every year will appoint a committee of parents, Advisors and community members to determine the School’s success at implementing programs, meeting goals and making recommendations for areas of improvement. The School’s Board will then, in coordination with Advisors and parents at the School, make recommendations as to how the School can further refine its educational program in order to comply with the terms of the charter and fulfill the promise of the School’s vision. This analysis and the resulting recommendations will be described in an annual programmatic performance review to the District. The School will also release this report to parents and the public at an annual public meeting. The programmatic performance review will include but may not be limited to:

a). Summary data showing students’ progress towards the goals and outcomes from assessment instruments and techniques listed above. This data will be displayed on both a school-wide basis and disaggregated by major racial and ethnic categories to the extent feasible without compromising any student’s confidentiality.

b). A summary of major decisions and policies established by the School’s Board during the year.

c). Data regarding the number of staff working at the School and their qualifications.

d). A copy of the School’s health and safety policies and a summary of any major changes to those policies during the year.

e). Information demonstrating whether the School implemented the means listed in this charter to achieve a racially and ethnically balanced student population.

f). An overview of the School’s admission practices during the year and data regarding the numbers of students enrolled, on waiting lists, expelled and/or suspended.

g). Analysis of the School’s internal and external dispute mechanisms and data on the number and resolution of disputes and complaints.

h). Other information regarding the educational program and the administrative, legal and governance operations of the School relative to compliance with the terms of the Charter.

2. **Assessment of Student and School Outcomes**

The awarding of credits will be based on student’s daily documentation of time and learning, and the use of longitudinal, survey and other data (in-house assessments).

Credits will be awarded based on a student’s demonstrated understanding of the particular subject matter and their ability to demonstrate proficiency in related content standards and course content requirements.
To monitor student projects and gage them for their effectiveness to demonstrate what students are learning in the classroom, the School will use a project management system such as ProjectFoundry, which is used as a means to streamline paperwork, stay organized, and track and document student success. The California content standards, applied skills, and the School’s graduation requirements will be downloaded into ProjectFoundry, or a similar Web-based educational tracking tool, which will provide a framework to:

a). Develop and update students’ Personal Learning Plan;
b). Capture and monitor the project proposal process and plan for other learning activities;
c). Track the specific content standards, applied skills and course/graduation requirements to be addressed through each project;
d). Document completion of specific content standards, applied skills and related levels of proficiency;
e). Document course credits and graduation requirements earned;
f). Document time and learning on a daily basis;
g). View a summary of learning activities showing time spent in and credits earned from each learning activity;
h). Capture and view results of standardized testing and various authentic assessments; and,
i). Develop an online portfolio of student projects and cognitive learning activities.

Given all the data captured by such programs as ProjectFoundry, a means is also provided to “translate” students’ achievement into progress reports, report cards and more traditional transcripts, including credits and grades. The ultimate goal of these “tracking” measures is to maintain a graduation rate of at least 85%.

Additionally, using a rubric that will be created, student projects will also be used as a measure of student success. If a student completes a project on time and within its planned outline structure, it will be used as a measure of the student’s ability to plan and carryout reasonably complex tasks with some degree of confidence. If the student has difficulty in completing a project, it will be used to measure of the student’s ability to follow instructions, stay on track, and keep within a schedule. The experience will also be used as a learning tool to determine where the project went wrong and what the student needs to do to complete it successfully. Students will also complete a culminating project each year that if 90% of students pass with a grade B or higher would indicate that the School is successful in its project-based learning instructions.

3. Process for Conducting Student Assessments

To ensure that all statewide standards are met and pupil assessments conducted, the LAUSD Board of Education will be able monitor Academy of Science and Engineering’s progress in meeting student outcomes and California State Learning Standards through a the School’s mandated state pupil assessment data it collects as required pursuant to Education Code § 60602.5 and following the school’s timelines and protocols consistent with the District, including administration, collection and security of tests. Mandated assessments include the California Standards Tests; California Achievement Tests; the Physical Fitness Test; California High School Exit Exam (CAHSEE); Aprenda 3 or the new Spanish Test of Standards; and, the
California English Language Development Test. Proficiency for the School’s English Learners will be determined using the CELDT, STAR test data, teacher observations, parent input, and project performance data.

4. Reporting Student Progress/Grading Policy
At least quarterly, individual students will receive a report card indicating level of performance in core academic subjects with separate indicators for knowledge, skills, and attitudes. Grades will be provided to fulfill the needs of college transcripts and/or transfer to another school. If a student is not making adequate progress, Advisor and student will collaboratively lead conferences with parents/guardians to discuss issues related to student performance and develop an action plan to ensure the student has the support needed for success. This process will be the responsibility of Advisors concerning all the students in their individual advisory group.

The grading policy will be as follows for all courses. On a scale of 100%-0% grades will be given thusly:

- A – 90-100%
- B – 80-89%
- C – 70-79%
- F – 0-69%

5. Academic Performance Index and State-Mandated Tests
As a California public school, Academy of Science and Engineering will be subject to the tenets and consequences of the state and federal accountability systems including API and AYP assessment measures (See Element 2: Measurable Student Outcomes section above). API growth goals will be included in the annual goals established by faculty. Teachers and the School’s Principal will review STAR, API and AYP results as part of their overall assessment data analysis and will use such data to improve instruction and the overall performance of the School. Such analysis will include examining numerically significant subgroups to determine areas in need of concentrated effort or remediation so that all students achieve academically. The School will modify teaching techniques and explore professional development opportunities as necessary to target any gaps in the instructional program and student achievement profile. Academy of Science and Engineering will also administer the mandatory state STAR tests and other required state assessments such as the CAHSEE and CELDT.

6. School-Developed Assessments
At Academy of Science and Engineering, every new student upon entry to the school will be tested, using normally accepted testing means, in English/Language Arts and Math to determine his or her grade level baseline. Additionally, teachers will be administering weekly formative assessments on essential state standards and re-teaching such standards as necessary prior to advancing to the next lesson or level.

Along with this strong monitoring to determine if essential standards have been learned is the involvement of parents in the progress of their students. Academy of Science and Engineering will use the web-based student tracking system, PowerSchool, which will allow parents to
follow their student’s achievement and attendance online. And teachers will be required to keep achievement data current on a weekly basis and attendance data current on a daily basis. This system will allow parents to follow their student’s achievement progress on weekly formative assessments and other assignments continually and at their convenience.
ELEMENT FOUR: Governance

_Academy of Science and Engineering, and/or its non-profit corporation, is a separate legal entity and will be solely responsible for the debts and obligations of the Charter School._

Academy of Science and Engineering will comply with the Brown Act.

The members of the Academy of Science and Engineering executive board, any administrators, managers or employees, and any other committees of the School shall comply with federal and state laws, nonprofit integrity standards and LAUSD’s Charter School policies and regulations regarding ethics and conflicts of interest.

The District reserves the right to appoint a single representative to the charter school board pursuant to Education Code section 47604(b).

1. Grievance Procedure for Parents and Students

Academy of Science and Engineering will designate at least one employee to coordinate its efforts to comply with and carry out its responsibilities under Title IX of the Education Amendments of 1972 (Title IX) and Section 504 of the Rehabilitation Act of 1973 (Section 504) including any investigation of any complaint filed with Charter School alleging its noncompliance with these laws or alleging any actions which would be prohibited by these laws. Charter School will notify all its students and employees of the name, office address, and telephone number of the designated employee, or employees.

Academy of Science and Engineering will adopt and publish grievance procedures providing for prompt and equitable resolution of student and employee complaints alleging any action, which would be prohibited by Title IX, or Section 504.

Academy of Science and Engineering will implement specific and continuing steps to notify applicants for admission and employment, students and parents of elementary and secondary school students, employees, sources of referral of applicants for admission and employment, and all unions or professional organizations holding collective bargaining or professional agreements with the recipient, that it does not discriminate on the basis of sex or mental or physical disability in the educational program or activity which it operates, and that it is required by Title IX and Section 504 not to discriminate in such a manner.

A “Dispute Resolution” committee that includes Academy of Science and Engineering staff members will be created before the school begins operation to discuss and resolve, following the guidelines of the McKinney-Vento Homeless Assistance Act, disputes that arise on the Academy of Science and Engineering Campus between staff and parents.

The Charter Schools Dispute Resolution Committee may develop By-Laws to expedite its meetings and procedures, but the goal of the Committee is to reach decisions by consensus. If the Committee is unable to resolve an issue within a reasonable time, the issue is to be referred to the schools Board or to the appropriate school council or authority for a formal resolution.
The Dispute Resolution Process for Academy of Science and Engineering does not begin at the Dispute Resolution Committee. It follows a stepwise order that leads from informal attempts to resolve the issue at hand to a hearing before the Dispute Resolution Committee and, if necessary, beyond to the school’s Board or other appropriate authority. We expect the process will work in this way:

a) If disagreement continues or mediation is not possible, the issue will be brought to the principal as a second step in finding a common resolution. It is the responsibility of the principal to make every effort to clarify the possible dispute and attempt to resolve issues before proceeding to the next step.

b) The dispute resolution process shall be completed within five (5) working days.

c) In the event of a dispute, the student will remain enrolled in the school pending resolution of the dispute.

d) The parent/guardian or student will be provided with the Dispute Resolution Form to complete and return to the school to facilitate the dispute resolution process (such a form will be created and approved by the Academy of Science and Engineering Board before the school commences operation). A copy of the completed form shall be provided to the parents/guardians for their records.

e) Parents, guardian and unaccompanied youth must be informed that they can provide oral or written documentation to support their positions about school selection or enrollment.

f) Parents, guardian and unaccompanied youth must be informed that they can seek the assistance of social services, advocates and/or service providers in the dispute process.

g) Every effort must be made to obtain a mailing address of parents/guardians at the initiation of the dispute resolution process.

h) The principal or designee, while complying with any provisions/guidelines in the McKinney-Vento Homeless Assistance Act, must report the dispute to the Homeless Education Program Coordinator within the same school day the dispute resolution process was initiated. Relevant documentation must be faxed to the Homeless Education Program Office. The Homeless Education Program Coordinator must contact the school’s Homeless Liaison within two (2) working days and fax relevant documentation regarding the dispute.

i) A decision must be made by the Homeless Education Program Coordinator and the school’s Homeless Education Liaison within two (2) working days, and a written report of the decision sent to the parent/guardian within three (3) working days. This report shall be sent via mail and a copy sent home with the student or other agreed upon alternative means of communication. A copy of the outcome of the dispute shall be provided to the parents, guardians, or unaccompanied youth for their records, even when the dispute is immediately resolved satisfactorily without a dispute hearing.
j) If the dispute remains unresolved or if the parent/guardian is not satisfied with the decision, they may appeal to the California Department of Education (CDE) within three (3) working days to:

The California Department of Education
 c/o Homeless State Coordinator
 1430 N Street, 6th floor, Suite 6208
  Sacramento, CA 95814
  (916) 319-0383

k) The school’s homeless liaison shall forward all written documentation and related paperwork to the State Homeless Coordinator. Upon the review of the school and parent information, the CDE will notify the parent of the final school selection or enrollment decision within ten (10) working days of receipt of materials.

2. LAUSD Charter Policy
The Academy of Science and Engineering will comply with the District policy related to Charter Schools, as it may be changed from time to time after notice and reasonable opportunity for input from the Charter School Collaborative.

3. Responding to Inquiries
Academy of Science and Engineering shall promptly respond to all inquiries, including but not limited to, inquiries regarding financial records from the District and shall consult with the District regarding any inquiries. Academy of Science and Engineering acknowledges that it is subject to audit by LAUSD including, without limitation, audit by the District Office of the Inspector General.

If an allegation of waste, fraud or abuse related to the Charter School operations is received by the District, the Charter School shall be expected to cooperate with any investigation undertaken by the District and/or the Office of the Inspector General, Investigations Unit.

4. Notifications
Notification is to be made to the Innovation and Charter Schools Division in writing of any notices of workplace hazards, investigations by outside regulatory agencies, lawsuits, or other formal complaints, within one week of receipt of such notices by Academy of Science and Engineering.

5. Charter School Incorporation
Academy of Science and Engineering shall be operated by Academy of Science and Engineering, Inc., a California non-profit corporation. The Articles of Incorporation are filed with the California Secretary of State.

Academy of Science and Engineering shall be governed pursuant to its Corporate Bylaws which shall be consistent with the California Charter Schools Association and compliant with the Brown Act: Education Code Section 47604 (c).
Academy of Science and Engineering shall operate autonomously from the Los Angeles Unified School District (LAUSD) with the exception of supervisory oversight and Special Education services as required by the statute.

The LAUSD shall not be liable for the debts and obligations of Academy of Science and Engineering, which will be operated as a California non-profit, public benefit corporation.

6. Charter School Articles of Incorporation and By-Laws

Academy of Science and Engineering, Inc. is an independent, non-governmental and non-sectarian organization which will serve the humanitarian needs of the public in general.

Academy of Science and Engineering will comply with District policy related to charter schools.

Any amendments to the Academy of Science and Engineering, Inc. bylaws that affect or impact the approved charter or the charter school operations must be approved through the District’s petition amendment process (please find the Articles of Incorporation on page 210, and the Corporate Bylaws of Academy of Science and Engineering on page 212).

7. Governance Structure - Organizational and Technical Designs

The governance structure of Academy of Science and Engineering shall include processes to ensure parental involvement as stated in California Education Code Section 47605 (b) (5) D). Academy of Science and Engineering’s success will depend on broad-based community partnerships, collaboration, creativity, and most importantly, a respect for the diverse cultures of our community. As Academy of Science and Engineering opens its doors and grows in size, opportunities will be provided for parent and community participation on the Board and school committees.

All meetings of the Academy of Science and Engineering Governing Board and its’ committees shall be held in accordance with the Brown Act.

The Academy of Science and Engineering Governing Board will create a functioning structure that supports educational goals through a vigorous process of decision-making and consensus building, in which representatives from all stakeholder groups are represented. The Academy of Science and Engineering Governing Board shall have ultimate responsibility for the overall operation of the school, while the school’s Principal governs the day-to-day activities of the school. Board members have the responsibility to solicit input/opinions from parents regarding issues of significance and to weigh the input/opinions carefully before taking action.

Academy of Science and Engineering will operate autonomously from the District, with the exception of the supervisory oversight as required by statute and other contracted services as negotiated between the District and Academy of Science and Engineering.

Any amendments to the Academy of Science and Engineering charter petition must first be approved by the Academy of Science and Engineering Governing Board with input from school staff and parents. The Academy of Science and Engineering Governing Board would then be responsible to submit the changed request for approval to the Charter School’s
Division of LAUSD. If this change is a substantive change, then it will be submitted to the LAUSD Board for approval. Once the request for change has been approved, Academy of Science and Engineering may implement the change at the school site.

Academy of Science and Engineering will be managed by a Governing Board in accordance with its adopted corporate bylaws, which shall be consistent with the terms of this Charter. The Academy of Science and Engineering Governing Board will make policy decisions for Academy of Science and Engineering and the School’s principal will act in an advisory capacity to the Governing Board. Although it is important to point out that policy decisions are made by the Academy of Science and Engineering Governing Board, the Principal will make recommendations and the Academy of Science and Engineering Governing Board will make the final decision.

Academy of Science and Engineering petitioners collectively have held a variety of professional educational positions and have accumulated a great deal of educational experiences to be capable of designing curriculum and making financial decisions that will support its educational vision.

The Board brings a background of professional experiences & dedication to ensure the success of Academy of Science and Engineering. The Academy of Science and Engineering Governing Board will consist of at least five (5) and no more than nine (9) voting community representatives including one parent representative. In addition, in accordance with Education Code Section 47604(b), the authority that grants the charter to a charter school to be operated by a nonprofit public benefit corporation shall be entitled to a single representative on the Governing Board of the nonprofit public benefit corporation.

Academy of Science and Engineering will seek additional community members to serve on the Board that have expertise in areas critical to school success including but not limited to: education, school finance, fundraising, facilities, government, and business and legal practices.

No Governing Board members will serve as staff members at Academy of Science and Engineering, neither in a part-time or full-time capacity. If a member of the Founding Governing Board expresses interest in being an employee of the Charter School, he or she must resign prior to consideration for employment at the school. The Founding Governing Board consists of members with the following areas of expertise:

- **Chairperson:** Dr. Edward Robillard – Retired Chief School Administrator for MLA Partner Schools; founding principal of West Adams Preparatory High School; participated in pioneering an unprecedented private-public partnership between MLA and LAUSD; is a twenty-one year veteran of LAUSD; principal of Manual Arts High School from 2001 to 2005; received doctorate in educational leadership from the University of Southern California and also holds degrees in economics and engineering; served as an adjunct professor of school finance at the graduate school level; coauthored a number of school finance publications in prestigious journals and books; past member of LAUSD’s chief financial officer ad hoc advisory committee; helped create A Better LA in 2005; served as an engineer for GTE Sylvania (now Verizon),
Texas Instruments, and the United States Navy; and served in the United States Naval Reserve for 19 years after four years of active duty, retiring with the rank of Commander.

**Co-Chairperson:** Brian Center – Executive Director of A Better LA; obtained Juris Doctor Degree from U.C.L.A in 1993 and practiced law for 8 years; as Justice Deputy for Los Angeles County Supervisor, Gloria Molina, he helped manage LA County’s $16 billion budget and 90,000 employees; participated in gang task forces with law enforcement and helped manage police oversight efforts; led efforts to reform the juvenile justice and children services systems; oversaw funding of non-profits participating in crime prevention work; played an instrumental role in bringing evidence-based programs to key departments within LA County; served as Judge Pro Tem for the Los Angeles County Superior Court; is a board member of the South Pasadena Educational Foundation; helped found CalAware, an organization dedicated to open government; serves on the Advisory Boards of Foothill Family Services and Art Share LA, both of which are non-profit organizations that help at-risk families and youth; and is a delegate to the Alliance of Youth Movements, a non-profit that has brought together the State Department and non-profits from around the world to combat extremism, violence and injustice, with a focus on the use of social media to transform communities.

**Treasurer/Financial Manager:** Dr. Herbert Nichols – Dr. Nichols has been an educator for the Los Angeles Unified School District for ten years. After receiving a BA in History and a teaching credential from Master’s College in Santa Clarita, CA in 2000, he taught 6th Grade at Olive Vista Middle School in Sylmar, CA. He also holds a Masters of Education degree from National University in La Jolla (2003), CA and a Doctor of Education degree from UCLA (2007). He has held various instructional positions at the Central District, Local District, and school site levels. He currently is the Title I Coordinator at Manual Arts High School where he supervises eleven instructional staff who supports hundreds of students daily. In addition to focusing on the needs of students, he also manages Manual Arts’ two million dollar Title I budget to comply with all legal mandates and compliances.

**Secretary:** Lynne Macer Rhodes – Fulltime volunteer for A Better LA where she coordinates the administration of an empowerment curriculum to gang intervention workers, community members, service providers and youth in West Athens/Westmont; graduated from USC in 1970 with a BA degree in Political Science, and in 1973 she completed her Masters degree from USC’s School of Policy, Planning and Development Department of Public Administration; past Director of the City of Glendale Police Department’s Interagency Counseling Program; and worked for The Walt Disney Company in its Imagineering division from 1977 until her retirement as a Producer in 2001.

**Founding Member:** Keith Bandy – Charter school developer/researcher; retired construction business owner; served as a high school English teacher; graduated from CSU Fresno in 1971 with a BA degree in English and a secondary teaching credential;
received a charter school planning grant from the California Dept. of Ed. in 2000; helped start and operate a site-based, k-8 charter school that was a satellite site of the Heritage Family Charter School, which operated a distance learning program; received a charter school planning grant from the Gates/EdVisions Project in 2006; and was instrumental in bringing A Better LA onboard to form the Academy of Science and Engineering development team.

- **Founding Member**: Brenda Pensamiento – A native of Nicaragua moving to Los Angeles at age 14 attending Los Angeles High School learning to read and write English there. Eligible for scholarships from several prestigious universities but not being able to receive them because of her migratory status, upon graduating from high school she attended CSU Northridge to pursue a career in journalism and then CSU Los Angeles where she obtained a BA Degree in Spanish Literature and a California teaching credential. She has worked within LAUSD as a third grade teacher, a high school Spanish and EL teacher, and after earning her Masters Degree in Counseling, became a Counselor for the ESL Program and later a Title I Coordinator, both at LA High. She is now a Principal at Student Empowerment Academy (SEA), New Technology High School. SEA is a unique school that fully employs Project Based Learning as their core instructional program.

- **Founding Member**: Rita Ray – A native of Toledo, Ohio, Ms. Ray moved to the Los Angeles area to attend the University of Southern California, graduating with a degree in Broadcast Journalism. After several years in the field of journalism, working as a copy editor, production assistant and reporter, she entered the field of education. Ms. Ray spent six years in elementary education, eight years with middle and junior high schools, before teaching at the high school level for one year. Ms. Ray broadened her knowledge base in the field of education by accepting a district position with the Los Angeles Unified School District. She worked for three years in the Secondary Literacy Unit at Local District 7. In that capacity, she assisted middle and high schools with the implementation of reading intervention programs, formative and summative assessments, and other district initiatives.

  While working at the district office, she completed the Tier I of the Administrative Services Credential and accepted a position as an assistant principal. She worked for two years at Locke High School in Los Angeles and is now in her third year as an assistant principal at West Adams Preparatory High School. The School of Media, Film and Art is one of six small schools on the West Adams campus. In addition to the school of MFA, which has approximately 450 students, Ms. Ray has oversight of the accreditation process, high school exit exam and admissions procedures for West Adams.

- **LAUSD Representative** (TBA) – Ex Officio with board voting rights.

Responsibilities of the Governing Board with input from the School’s Leadership Council (SLC) include, but are not limited to the following:
• Adopting, evaluating, and updating school policies consistent with the law and Academy of Science and Engineering’s mission;
• Adopting a fiscally responsible budget based on the school’s vision and goals;
• Review of decisions from Academy of Science and Engineering’s SLC for the hiring of school personnel or independent contractors;
• Monitoring the fiscal health of Academy of Science and Engineering on a monthly basis and approving budget expenditure recommendations in excess of one thousand dollars ($1,000);
• Approval of annual fiscal and performance audits;
• Development of school calendar and the scheduling of Board meetings;
• Development of Board policies and procedures Development and approval of the annual budget;
• Review of requests for educational field trips;
• Review and recommend curriculum changes as needed;
• Maintaining accountability for student learning by monitoring student progress;
• Ensuring that a safe and appropriate educational environment is provided to all students;
• Hiring, Supervising, and evaluating the Principal and if necessary, terminating;
• Meeting corporate requirements;
• Overseeing and approving Academy of Science and Engineering’s annual budget, fiscal affairs, and audits;
• Review of quarterly financial reports;
• Election of Governing Board members once every three years or as necessary;
• Assessing and determining salary increases;
• Overseeing the dispute resolution and compliant procedures when necessary;
• Approval of school proposed charter amendments, with material revisions to be submitted for approval by the chartering agency, pursuant of Education Code Section 47607;
• Approval of personnel discipline (suspensions or dismissals) as needed;
• Appointing an administrative panel, from the Governing Board, to act as a hearing body to take action on recommended student expulsions; and,
• Creation of Advisory Councils, sub-committees as needed including but not limited to a hiring committee, a compensation committee, and an audit committee.

The Board may initiate and carryout any program, activity or may otherwise act in any manner which is not in conflict or inconsistent with, or preempted by, any law and which are not in conflict with the purposes for which California public schools are established.

8. Process for Selecting Governing Board

The selection process of members of the Academy of Science and Engineering Governing Board shall be conducted through nomination by a Nominating Committee. The Nominating Committee could include members from the Academy of Science and Engineering Governing Board, the Advisory Board, Parents & Community representatives. The Nominating Committee will recruit and interview prospective candidates and recommend qualified candidates to the Governing Board, which will make the final selection.
The Academy of Science and Engineering Governing Board members will serve for a term of three (3) years. There shall be no fewer than five (5) or more than nine (9) seated voting members of the Corporation’s Board of Directors. At the end of third (3rd) year, for staggering purpose & by lottery, no fewer than two (2) or more than three (3) of the members’ terms will end. At the end of the fourth (4th) year, a different two (2) to three (3) members’ terms will end & at the end of the fifth (5th) year the remaining one (1) to three (3) members’ terms will end. This way, at any given time approximately 2/3rd of the Governing Board members will continue to serve on the Board. However, upon expiration of their term, the Academy of Science and Engineering Governing Board members may be reselected to serve additional terms but not to exceed two terms.

9. Board Meetings Frequency
The Academy of Science and Engineering Governing Board will meet at least once a month (in the beginning few months the Board will meet twice per month or as needed to ensure that the school starts on a strong footing) to review the school’s achievements and provide support in achieving the school’s short term and long term goals. This team is responsible for sound management of the school’s resources and is accountable for student learning goals. This oversight will ensure the success of Academy of Science and Engineering. All meetings will comply with the Brown Act.

10. Procedures for Posting Meeting Notices, Distributing Agendas, and Recording Minutes
All meetings will be scheduled in advance and will occur on site at Academy of Science and Engineering. All meeting dates, times and agendas will be posted in Academy of Science and Engineering’s office and on its website at least 72 hours prior to the meeting and 24 hours prior to a special meeting. All Board meetings will have minutes taken as required and will be kept in a binder in Academy of Science and Engineering’s main office.

Academy of Science and Engineering committee meetings will also be held in compliance with Brown Act requirements.

11. Resumes and Questionnaire Responses of Governing Board Members
Submitted to LAUSD charter school division.

12. Leadership and School Operations
School-based decision-making as realized through the School Leadership Council and its’ committees will comply with the requirements of the Brown Act and is designed to:

- Ensure that all decisions regarding policy and practice made at Academy of Science and Engineering have a single focus, which is to achieve the learning outcomes delineated for students in the charter;
- Ensure that staff members are involved in the decision-making process at the school;
- Ensure that stakeholders (parents, community members, and all school personnel) are involved as active partners in the decision-making process;
- Ensure long-term effectiveness of local school control and accountability;
- Ensure that a collaborative, consensus building model is applied to all decision-making processes at the school; and,
• Ensure that Academy of Science and Engineering’s principal is an integral part of the decision-making process throughout discussions on key issues on a daily basis. If consensus from the Administrative team on an issue cannot be reached, the Governing Board will have final authority.

a) **Councils and Council Sub-Committees**
The role of the principal in the School Leadership Council and all sub-committees is to help support and maintain Academy of Science and Engineering’s vision and also be the conduit to the Academy of Science and Engineering Governing Board for recommendations or requests. In the interest of creating a large base of input from the staff and to ensure that grade level and program needs are met, whenever possible a different representative will be selected for each of the SLC sub-committees.

During the first 3 weeks of each school year new representatives will be selected for the committees by school staff or parents (as appropriate). Recognizing that the first year of teaching is a crucial one, first year teachers will not be required to serve on committees.

Interested teachers will be nominated or nominate themselves and the teaching staff will select its representatives.

Charter Schools are not required to establish a School Site Council (Education Code 47605). Categorical funding, as with other budgets are under the purview of the School Leadership Council.

b) **Day-to-day Decision Making**
The day-to-day decisions of the Academy of Science and Engineering will be managed by the school’s Principal.

c) **School Leadership Council**
Recognizing that “hierarchical decision-making has tended to reduce the effectiveness and productivity of the teachers in educating pupils,” Ed. Code Section 44666(b)(1), the School Leadership Council will be the mechanism for Expanded School-Based Management in order to ensure that a more collaborative decision-making process will result in more effective teaching and pupil learning.

Academy of Science and Engineering intends to fully realize the goals of the State Legislature in passing Education Code Sections 44666-44669, to create a complete Expanded School-Based Management Model program increasing teachers’ decision making authority in responsibilities that affect their ability to teach 44667(a).” Therefore, through the School Leadership Council, teachers at Academy of Science and Engineering will be actively involved in all of the following procedures (find in parentheses, the applicable sub-committee responsible for each activity):

1. Selection of new teachers and classified staff members. (Human Resources Committee)
2. Evaluation of teacher and classified performance. (Human Resources Committee)
   Note: The hiring and evaluation of administrators (principal, vice principal, etc.) will be conducted by the School’s Board of Directors.
3. Selection of textbooks and curricular areas for improvement. (Curriculum Committee)
4. Tailoring and coordination of curriculum and instruction across grade levels and within departments at the school-site level. (Curriculum Committee)
5. Establishment of pupil discipline policies. (Health & Safety)
6. Design and conduct of staff development programs and policies. (Prof. Development)
7. Assignment of pupils and scheduling of classes. (Curriculum Committee)
8. School wide problem solving and program development. (Parent Involvement & Curriculum Committee)
9. Organization of the school for effective instruction. (Curriculum Committee)
10. Development of procedures designed to institutionalize teacher involvement in decision making. (Human Resources Committee)
11. Determining the roles and functions of teachers, administrators, and classified employees at the school site. (Human Resources Committee)
12. Establishment of policies to decentralize budget decision making by providing school site administrators and teachers with greater budget authority including the allocation of fiscal, personnel, and other resources at the school site. (Human Resources Committee)

School Leadership Council Composition

<table>
<thead>
<tr>
<th># of Members</th>
<th>Teachers</th>
<th>Principal</th>
<th>Parent/Comm. Rep</th>
<th>Student</th>
<th>Classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 or fewer teachers</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7-15 teachers</td>
<td>8</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>16-25 teachers</td>
<td>12</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

SLC teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. Classified and parent representatives will be elected once every two years. The classified representative will be elected by his/her peers and parent representatives will be elected by the parents of Academy of Science and Engineering. The parent involvement committee representative will facilitate the elections of parents.

From time to time there may be a need to change a scheduled meeting. However, any change in a meeting schedule will take place with at least a 72 hour notice. SLC meeting agendas will always posted 72 hours in advance and the minutes of the meetings will be kept in the main office along with the agendas and sign-ins.

Our underlying belief about shared decision making is that consensus is crucial to building stakeholder buy-in. SLC members will strive to reach decisions by consensus.

SLC meetings will be scheduled for the 3rd Wednesday of every month.

d) Curriculum Committee
The Curriculum Committee will act as a sub-committee of the School Leadership Council and advisory body to the School Principal. The committee will have purview over:
   1. The selection of curricular areas for improvement.
2. Tailoring and coordination of curriculum and instruction across grade levels and within departments at the school-site level.
3. Assignment of pupils and scheduling of classes.
4. School-wide problem solving and program development.
5. Organization of the school for effective instruction.

It will make recommendations to the SLC about the Academy of Science and Engineering’s educational and instructional program and develop curriculum and Staff Development plans. Additionally, it will address the educational needs of English learners, gifted and talented students, and students with special needs.

Curriculum Committee teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. Parent representatives will be elected once every two years. Parent representatives will be elected by the parents of Academy of Science and Engineering. The parent involvement committee representative will facilitate the elections of parents. This committee will meet on the 1st Thursday of the month.

Curriculum Committee includes:
- The school’s principal;
- 1 teacher from each grade level;
- 2 teachers representing each program (ELA, Math, Science, SS, VAPA); and,
- 2 parent representatives.

e) Parent Involvement Committee
The Parent Involvement Committee (PIC) will act as a sub-committee of the School Leadership Council and advisory body to the School Principal. In conjunction with the Curriculum Committee the PIC will have purview over school-wide problem solving and program development.

Parents will be partners in the education of their children and will be encouraged to actively participate in the school’s decision making processes. The purpose of the PIC is to coordinate all parents activities associated with the school.

Additionally, PIC will recruit volunteers, engage parents in educational issues that affect their children and the school in general, and assist in fundraising and other school associated activities. Every enrolled family becomes a member of this group and is encouraged to participate in meetings and activities. Teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. The classified representative will be elected once every two years. The classified representative will be elected by his/her peers. The PIC will meet on the 2nd Tuesday of every month.

Parent Involvement Committee includes:
- The school’s principal;
- All parents;
- 2 teachers; and
- 1 classified representative.
f) **Professional Development Committee**
The Professional Development Committee (PDC) will act as a sub-committee of the School Leadership Council and advisory body to the School Principal. The committee will have purview over design and conduct of staff development programs and policies.

The PDC plans and develops quality staff developments that keep teachers and staff abreast of new research, strategies and techniques that are geared to improve student achievement. Also, the PDC will be involved in seeking out and attending cutting-edge workshops and conferences, and encourage the participation of faculty and parents.

The PDC teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. Classified and parent representatives will be elected once every two years. The classified representative will be elected by his/her peers and parent representatives will be elected by the parents of Academy of Science and Engineering. The parent involvement committee representative will facilitate the elections of parents.

The PDC will officially meet on the 3rd Thursday of every month to plan and develop relevant/quality staff development.

The Professional Development Committee includes:
- The school’s principal;
- 3 teachers;
- School nurse;
- 2 parents;
- 1 classified representative; and,

![Image](99x357 to 110x430)

![Image](99x80 to 110x95)

![Image](81x52)

![Image](148)

![Image](81x695)

![Image](99x682)

![Image](81x668)

![Image](81x654)

![Image](81x626)

![Image](94x626)

![Image](274x626)

![Image](81x613)

![Image](81x609)

![Image](81x605)

![Image](81x601)

![Image](81x599)

![Image](81x585)

![Image](81x557)

![Image](81x544)

![Image](81x530)

![Image](81x516)

![Image](81x502)

![Image](81x475)

![Image](240x475)

![Image](81x461)

![Image](81x433)

![Image](117x418)

![Image](117x404)

![Image](117x389)

![Image](117x374)

![Image](117x360)

![Image](81x332)

![Image](99x332)

![Image](81x318)

![Image](284x318)

![Image](361x318)

![Image](365x318)

![Image](81x305)

![Image](81x291)

![Image](150x291)

![Image](169x291)

![Image](81x263)

![Image](129x263)

![Image](151x263)

![Image](173x263)

![Image](81x249)

![Image](81x236)

![Image](81x222)

![Image](112x222)

![Image](116x222)

![Image](81x208)

![Image](81x194)

![Image](81x180)

![Image](90x180)

![Image](81x167)

![Image](81x153)

![Image](326x153)

![Image](514x153)

![Image](81x139)

![Image](212x125)

![Image](262x125)

![Image](81x125)

![Image](81x98)

![Image](148)

![Image](g) **Health and Safety Committee**
The Health and Safety Committee (HSC) will act as a sub-committee of the School Leadership Council and advisory body to the School Principal. The committee will have purview over establishment of pupil discipline policies.

The HSC will also be responsible for the creation and implementation of the Health and School Safety Plan. This plan includes monthly emergency fire drills, earthquake preparedness and drills, blood borne pathogens, hate crimes, child abuse and reporting procedures, and annual follow-ups on students’ health and growth status (i.e., eye, ear, teeth, growth, gait, and spinal check).

The HSC teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. Classified and parent representatives will be elected once every two years. The classified representative will be elected by his/her peers and parent representatives will be elected by the parents of Academy of Science and Engineering. The parent involvement committee representative will facilitate the elections of parents. This committee will meet on an as needed basis.

Health and Safety Committee includes:
- The school’s principal;
The Human Resources Committee (HRC) will act as a sub-committee of the School Leadership Council and advisory body to the School Principal. The committee will have purview over:

1. Selection of new teachers, administrators, and classified.
3. Development of procedures designed to institutionalize teacher involvement in decision-making.
4. Determining the roles and functions of teachers, administrators, and classified employees at the school site.
5. Establishment of policies to decentralize budget decision-making by providing school site administrators and teachers with greater budget authority including the allocation of fiscal, personnel, and other resources at the school site.

The HRC will be in charge of recruiting, interviewing, and recommending all new certificated and classified employees. HRC assists in the induction of new staff members. HRC continually reviews the effectiveness of personnel policies and makes recommendations to the Principal and Governing Board.

The HRC teacher representatives, will be elected by their fellow teachers, in a staggered fashion for two years terms. Classified and parent representatives will be elected once every two years. The classified representative will be elected by his/her peers and parent representatives will be elected by the parents of Academy of Science and Engineering. The parent involvement committee representative will facilitate the elections of parents. This committee will meet on an as needed basis.

The Human Resources Committee includes:
- The school’s principal;
- 2 teachers;
- School nurse; and,
- 1 classified representative.
13. Organizational Chart
ELEMENT FIVE: Employee Qualifications

Academy of Science and Engineering believes that all persons are entitled to equal employment opportunity. The school shall not discriminate against qualified applicants or employees on the basis of race, color, religion, sex, gender identity, sexual orientation, pregnancy, national origin, ancestry, citizenship, age, marital status, physical disability, mental disability, medical condition, or any other characteristic protected by California or federal law. Equal employment opportunity shall be extended to all aspects of the employer-employee relationship, including recruitment, hiring, upgrading, training, promotion, transfer, discipline, layoff, recall, and dismissal from employment.

1. Employee Recruiting and Hiring Process

The process for recruiting school employees shall include, but may not be limited to:
- Advertising in local newspapers, professional journals, internet, and on radio;
- Providing request for employment information at job fairs and on college and university campuses; and
- Via word-of-mouth.

The process for hiring teachers includes establishing an interview committee for each candidate. This committee will be comprised of the Human Resource committee or personal designated by this committee. The Human Resource Committee will develop a rubric scoring guide to be used by each hiring committee.

While the Principal will be accountable to the Governing Board, the teachers will participate in the ownership of the educational program and will be held accountable for the roles they play in supporting the success of the School’s programs. However, the responsibility for all school activities is that of the school’s Board of Directors with oversight provided by the District.

2. Job Descriptions, Qualifications, Roles and Responsibilities

The following are preliminary school employee job descriptions, including qualifications, roles and responsibilities:

All Staff
Qualifications for the school’s staff members will include:

a) Belief in the School’s mission;
b) Love of students, enthusiasm for teaching and learning, the belief that each student can and will succeed and the willingness to do what it takes to make that happen;
c) Collaboration with other staff members to define ongoing professional development strategies consistent with individual professional development plans;
d) Participation in 360° evaluation process using performance-based assessment systems; providing input on related employment decisions and the selection process for new staff and related decisions;
e) Participation in decision-making and related problem solving activities in all aspects of school operations including staffing, development of the school calendar, school budget and continuous school improvement; and,
f) Current certification in First Aid and CPR.
Principal
The Principal will be the school’s leader and will report directly to the school’s Board. He or she will be the liaison between the Board and the school’s staff and will work closely with the Board to implement the Charter, with responsibility and accountability for but not limited to:

a) Implementation of the school’s mission and educational program;
b) Monitoring enrollment and average daily attendance;
c) Student discipline and participate in the suspension and expulsion process as appropriate;
d) Participation in special education meetings;
e) Completion and submittal of required data/documents as requested or required by the Charter, the School’s Board, and/or the District;
f) Attendance at District administrative meetings as requested by the District and staying in direct contact with the District regarding all matters concerning the charter school;

Any of the above duties may be delegated or contracted as approved by the School’s Board to a business administrator of the School, another school staff member or to a contract service provider.

Minimum Qualifications:

a) Demonstrated ability to lead and delegate responsibilities;
b) Excellent written and verbal communication skills;
c) Commitment to the mission of the public charter school system focused on providing equitable opportunities and outcomes for all students; and,
d) Positive references from previous employers.

Preferred Qualifications:

a) Possesses demonstrated ability/experience in starting and operating a new charter school and is familiar with the EdVisions educational model;
b) Graduate degree (M.P.A., M.A., M.B.A, PhD or equivalent) from an accredited college or university, preferably in the fields of Public Policy, Public Administration, Communications, or a related discipline;
c) Visionary leader that can inspire and model effective collaboration that contributes to a vibrant democratic learning community;
d) Minimum five years of verifiable experience performing program administration and professional-level analytical work; and,
e) Recognition of the challenges facing public education and a working knowledge of its current issues.

Teacher (Advisor)
Teachers will be responsible for but not limited to:

a) Creating an effective advisory group system with appropriate community building, behavior management and conflict resolution strategies;
b) Working collaboratively with students and parents to develop PLPs with high expectations and challenging goals and related benchmarks;
c) Insuring each student in the Advisor’s advisory group stays on track according to his/her PLP;
d) Determining the appropriate complement of teaching and learning strategies, daily scheduling to meet student’s needs, and regular monitoring and reporting of progress of each student in the teacher’s advisory group and making necessary modifications to facilitate attainment of each student’s PLP goals;

e) Supporting students in developing and managing their projects utilizing a project management system to monitor how student time is spent, progress toward goals, documentation of achievement, and development of portfolios;

f) Providing subject area expertise communicating the appropriate content knowledge to each student through classes, workshops and other learning activities as needed;

g) Facilitating standards-based learning aligning content classes and various teaching and learning strategies with California Content Standards and course/graduation requirements;

h) Using multiple assessment strategies and resulting data to drive teaching/learning strategies and to ensure continuous improvement of student learning; and,

i) Organizing and maintaining classroom systems/procedures to further support all students being fully engaged in learning.

Minimum Requirements:
In addition to the below requirements, teachers of core, college preparatory subjects (i.e. English/language arts, math, science, and history/social science) will hold a Commission on Teacher Credentialing certificate and be considered Highly Qualified pursuant to No Child Left Behind. As specified in California Education Code § 47605(l), the charter school will have flexibility regarding the qualifications needed for teachers in non-core, non-college preparatory subject areas. In addition to an appropriate Teaching Credential other minimum requirements are:

g) Bachelors Degree (B.A., B.S. or equivalent) from an accredited college or university, or in the case of non-core subjects, relevant work experience within the professional field in which the candidate will be teaching;

h) Demonstrated ability to work with diverse youth in an educational, social and/or recreational setting;

i) Excellent written and verbal communication skills;

j) Positive references from most recent employment and/or college, university or graduate school; and

Preferred Requirements:

a) Masters Degree (M.A., M.S. or equivalent) from an accredited college or university;

b) Valid Single Subject CA Teaching Credential in a core subject area;

c) 2+ years working with students as a teacher, teacher intern, or teaching assistant;

d) Ability to analyze qualitative and quantitative student data; and,

e) Knowledge of child cognitive development and different learning styles.

Academy of Science and Engineering may also employ qualified adults to assist credentialed Teachers in student instruction. A teacher may supervise another teacher when mutually agreed to by the school’s Principal.

Within the provisions of the law, Academy of Science and Engineering’ Board of Directors
will allocate to the School’s hiring committee the duties of recruiting, interviewing and hiring anyone at anytime who has the best qualifications to fill any of its staff vacancies. However, the school’s board will have final hiring approval authority regarding any new potential school employee.

Para-Educator (teacher aide/student project manager)
Para-Educators will act in a similar manor as paralegals act within a law firm in that they will work under the direct supervision of Teachers/Advisors. They will be responsible and accountable for but not necessarily limited to:

a) Collaborating with teachers, students and parents to develop, monitor and modify PLPs;
b) Supporting students in developing and managing their student projects;
c) Providing additional support to teachers in aligning students with their projects and other learning activities concerning California content standards and course/graduation requirements;
d) Facilitating workshops (non-core or non-college preparatory learning activities);
e) Supporting teachers in organization of systems and procedures to further support all students; and,
f) Collaborating with teachers in evaluating students’ progress;

Minimum Requirements:

a) Associate Degree from an accredited college or university, or at least two years verified successful experience within a specific career field in which they will be involved at the School;
b) Experience working with students in an educational or social/recreational environment;
c) Demonstrated ability to work effectively with diverse groups of individuals;
d) Excellent written and verbal communication skills; and,
e) Positive references from previous employers.

Preferred Requirements:

a) BA degree or equivalent from a four-year college or university;
b) Ability to analyze qualitative and quantitative student data; and,
c) Knowledge of child cognitive development and different learning styles.

Specialist (SPED/Intervention)

Specialists, when needed, will be responsible and accountable for but not necessarily limited to:

a) Working collaboratively with Teachers, Para-Educators, students and parents to develop PLPs with high expectations, challenging goals and related benchmarks for special needs students;
b) Supporting special needs students in developing and managing their projects;
c) Meet with Advisors, Para-Educators, students and their parents as needed to discuss student progress;
d) Assisting Advisors, Para-Educators and students in facilitating standards-based activities;

e) Conducting seminars, workshops, remediation (intensive one-on-one or small group intervention in core academic subjects), enrichment, and technology as needed;

j) Supporting Advisors and Para-Educators in using multiple assessment strategies and resulting data to drive teaching/learning strategies and to ensure continuous improvement of student learning;

k) Collaborating with Advisors on developing and implementing I.E.P.s, 504 plans and related timelines, tracking systems, paperwork and data reporting for special needs students as mandated by LAUSD; and,

l) Participating in special education, Board and District meetings if applicable.

Minimum Requirements:
In addition to the below requirements, teachers of core, college preparatory subjects (i.e. English/language arts, math, science, and history/social science) will hold a Commission on Teacher Credentialing certificate and be considered Highly Qualified pursuant to No Child Left Behind. As specified in California Education Code § 47605(l), the charter school will have flexibility regarding the qualifications needed for teachers in non-core, non-college preparatory subject areas. In addition to an appropriate Teaching Credential other minimum requirements are:

k) Bachelors Degree (B.A., B.S. or equivalent) from an accredited college or university, or in the case of non-core subjects, relevant work experience within the professional field in which the candidate will be teaching;

l) Demonstrated ability to work with diverse youth in an educational, social and/or recreational setting;

m) Excellent written and verbal communication skills;

n) Positive references from most recent employment and/or college, university or graduate school; and

Preferred Requirements:

f) Masters Degree (M.A., M.S. or equivalent) from an accredited college or university;

g) Valid Single Subject CA Teaching Credential in a core subject area;

h) 2+ years working with students as a teacher, teacher intern, or teaching assistant;

i) Ability to analyze qualitative and quantitative student data; and,

j) Knowledge of child cognitive development and different learning styles.

Office Manager/Secretary

The Office Manager/Secretary will be responsible and accountable for but not necessarily limited to:

a) General office administration, clerical and receptionist duties;

b) Working closely with the Principal and/or business service provider on accounts payable/receivable, payroll, personnel, employee benefit and other administrative related issues;

c) Supporting documentation and reporting of daily attendance; and,
d) Serving as the health aide maintaining health logs, student medical/immunization records and inventory of first aid and emergency preparedness supplies.

**Minimum Qualifications:**
- a) Post high school education or training in office administration;
- b) At least two years’ demonstrated experience in office administration;
- c) Strong interpersonal and organizational skills;
- d) Computer literate and proficient with Microsoft Word and Excel; and,
- e) Positive references from previous employers

**Preferred Qualifications:**
- a) Associate Degree, or equivalent;
- b) Education or training in bookkeeping;
- c) At least two years demonstrated experience in office administration in a public school setting; and,
- d) Proficiency with Microsoft Office and other public school-specific software (e.g. to support attendance accounting).

3. **Credential Monitoring Process**
The School will maintain current copies of all teacher credentials by storing originals in locked file cabinets and converting them into digital format and storing them in a secured computer file so they will be readily available for inspection and monitoring. The School will also comply with NCLB requirements for all its teachers and paraprofessionals.

4. **Salaries, Benefits, Working Conditions, etc.**
The salaries, benefits, working conditions and other affairs concerning the school’s staff such as holidays, vacations, workday, and year schedule will be via a determined democratic process by the members of the school’s staff, which includes administrators, teachers, and paraprofessionals. However, it is the intent of the school’s Board of Directors that school staff salaries, benefits and other conditions will be equal to or exceed those of the staff of similar schools within the jurisdiction of LAUSD.

5. **Process for Performance Evaluations**
The Principal will evaluate all employees at the site using an evaluation system designed by the Human Resources Committee. All employees will participate in a 360° evaluation process using performance based assessment systems and matrixes that will be established by the Human Resource Committee. This data will be utilized by the Principal in the evaluation. The Principal of the school will be evaluated by the school’s Governing Board.

Teaching staff members will be evaluated concerning their performance in accordance with California Education Code § 44662 (d), which in part states: …evaluation and assessment of certificated employee performance pursuant to this section shall not include the use of publishers’ norms established by standardized tests. So, the School’s Advisors (teachers) will not be evaluated according to their students’ test scores. Instead, in addition to regular classroom evaluations conducted by the principal or another member of the evaluation committee, they will also be judged by how well they address the challenges and concerns of each of the students in their advisory class.
This means, for example, if a student is having difficulty in academics or other matters, it is the responsibility of his or her advisory group teacher (Advisor) to determine where the difficulty lies and devise methods to try to correct it. The Advisor must exhaust all reasonable means toward arriving at a plausible solution even if such means involve parents, community leaders, and/or others from either inside or outside of the school who may be able to supply interdiction measures. And, each “problem” and the Advisor’s solution to it will be evaluated by an evaluation committee consisting of parents, school board members, student representatives and other Advisors using an objective matrix that will be develop specifically for this purpose by members of the School’s staff before the school becomes operational. An additional part of the teacher evaluation process, mostly classroom performance, will follow LAUSD policy concerning classroom teacher evaluations.

Other than as described above, the process for performance evaluations will include but may not be limited to:

- Teachers working collaboratively to further define their respective roles, responsibilities, expectations, and accountabilities as such activities relate to individual roles and his/her role as a professional educator;
- Each teacher will develop an individual Professional Development Plan (PDP) based on his/her needs as such needs relate to the school’s governance and learning model;
- Teachers will develop a plan for evaluations and related timelines to provide a complete picture of their performance and the performance of the school as a whole.

Results from evaluations will help inform future professional development plans, both individual and school-wide – and development of a continuous improvement plans for the educational program and school operations.

6. **Procedure for Adequate Background Checks**

All persons working at Academy of Science and Engineering will be required to submit to a criminal background check and furnish a criminal record summary as required by Education Code § 44237 and § 45125.1. New workers not possessing a valid California Teaching Credential must submit two sets of fingerprints to the California Department of Justice for the purpose of obtaining a criminal record summary. The School’s Principal shall monitor compliance with this policy and report to the Board on a quarterly basis. The Board President shall monitor the fingerprinting and background clearance of the Principal. Additionally, volunteers shall be fingerprinted and receive background clearance prior to volunteering.
ELEMENT SIX: Health and Safety Procedures

1. Site Compliance

Academy of Science and Engineering will:

a) Comply with the Healthy Schools Act California Education Code § 17608, which details pest management requirements for schools.

b) Comply with all applicable safety laws and will require criminal background checks for all School employees, volunteers, and onsite vendors having unsupervised contact with students and will maintain on file and available for inspection documentation of such background checks;

c) Develop further health, safety and risk management policies in consultation with its insurance carriers and risk management experts;

d) Assess its school buildings for structural safety using the existing state, county and city construction safety standards for public charter schools;

e) Require each person employed at the school to provide proof of being inoculated against tuberculosis (TB).

f) Have a health, safety and emergency plan in place prior to beginning operation of the Charter School.

g) Require all school employees and officers to comply with the Family Educational Rights and Privacy Act at all times.

h) Require immunization of its students as a condition of school attendance to the same extent as would apply if pupils attended a non-charter public school.

i) Provide for the screening of its students for vision, hearing and scoliosis to the same extent as would be required if the students were attending a non-charter public school.

j) Provide annual training of employees on safety procedures outlined in its policies.

Also, Under the Federal Child Abuse Prevention and Treatment Act (CAPTA) passed in 1974, all 50 states have passed laws mandating the reporting of child abuse and neglect. All staff members at Academy of Science and Engineering will be instructed in this law and compelled to abide by it. Also, the school’s staff will be trained annually on all safety procedures.

The school will be located at 8825 South Vermont Avenue within the West Athens/Westmont area and will comply with all applicable building codes, federal ADA and the Healthy Schools Act California Education Code Section 17608, which details pest management requirements for schools. The School will also comply with the asbestos requirement as cited in the Asbestos Hazard Emergency Response Act (AHERA), 40CFR part 763, and will maintain on file readily accessible records documenting all facility health and safety compliances. The school will insure that any auxiliary services (food services, transportation, custodial services, hazardous materials) will be safe through compliance with all health and safety laws and regulations that apply to non-charter public schools, including those regarding auxiliary services (food services, transportation, custodial services, hazardous materials

The School site will be secured with an appropriate Certificate of Occupancy and a comprehensive school safety plan will be developed and kept on file at the school site for review. And, the School’s staff will be trained annually on the safety procedures outlined in the plan.
Academy of Science and Engineering will comply with Uniform Building Codes, access requirements, and fire, health and structural safety requirements. The Certificate of Occupancy and other pertinent records will be kept on file at the school site.

2. District Owned Facilities
If District facilities are used during the term of this charter, Academy of Science and Engineering shall abide by all LAUSD policies relating to Maintenance and Operations Services.

3. Safety of Auxiliary Services
School staff will conduct annual reviews to ensure all auxiliary services are safe (food services, transportation, custodial services, hazardous materials) by developing appropriate policies and awareness training. The School’s Principal and Assistant Principal will supervise this process.

4. Insurance Requirements
No coverage shall be provided to the Academy of Science and Engineering by the District under any of the District’s self-insured programs or commercial insurance policies. The Charter School shall secure and maintain, at a minimum, insurance as set forth below with insurance companies acceptable to the District [A.M. Best A-, VII or better] to protect the Charter School from claims which may arise from its operations. Each Charter School location shall meet the below insurance requirements individually.

It shall be the Charter School’s responsibility, not the District’s, to monitor its vendors, contractors, partners or sponsors for compliance with the insurance requirements.

The following insurance policies are required:

1. Commercial General Liability, including Fire Legal Liability, coverage of $5,000,000 per Occurrence and in the Aggregate. The policy shall be endorsed to name the Los Angeles Unified School District and the Board of Education of the City of Los Angeles as named additional insured and shall provide specifically that any insurance carried by the District which may be applicable to any claims or loss shall be deemed excess and the Charter School's insurance shall be primary despite any conflicting provisions in the Charter School's policy. Coverage shall be maintained with no Self-Insured Retention above $15,000 without the prior written approval of the Office of Risk Management for the LAUSD.

2. Workers' Compensation Insurance in accordance with provisions of the California Labor Code adequate to protect the Charter School from claims that may arise from its operations pursuant to the Workers' Compensation Act (Statutory Coverage). The Workers’ Compensation Insurance coverage must also include Employers Liability coverage with limits of $1,000,000/$1,000,000/$1,000,000.

3. Commercial Auto Liability, including Owned, Leased, Hired, and Non-owned, coverage with limits of $1,000,000 Combined Single Limit per Occurrence if the Charter School does not operate a student bus service. If the Charter School provides
student bus services, the required coverage limit is $5,000,000 Combined Single Limit
per Occurrence.

4. Fidelity Bond coverage shall be maintained by the Charter School to cover all Charter
School employees who handle, process or otherwise have responsibility for Charter
School funds, supplies, equipment or other assets. Minimum amount of coverage shall
be $50,000 per occurrence, with no self-insured retention.

5. Professional Educators Errors and Omissions liability coverage with minimum limits
of $3,000,000 per occurrence and $3,000,000 general aggregate.

6. Sexual Molestation and Abuse coverage with minimum limits of $3,000,000 per
occurrence and $3,000,000 general aggregate. Coverage may be held as a separate
policy or included by endorsement in the Commercial General Liability or the Errors
and Omissions Policy.

7. Employment Practices Legal Liability coverage with limits of $3,000,000 per
occurrence and $3,000,000 general aggregate.

8. Excess/umbrella insurance with limits of not less than $10,000,000 is required of all
high schools and any other school that participates in competitive interscholastic or
intramural sports programs.

*Coverage and limits of insurance may be accomplished through individual primary policies or
through a combination of primary and excess policies. The policy shall be endorsed to name
the Los Angeles Unified School District and the Board of Education of the City of Los Angeles
as named additional insureds and shall provide specifically that any insurance carried by the
District which may be applicable to any claims or loss shall be deemed excess and the Charter
School's insurance shall be primary despite any conflicting provisions in the Charter School's
policy.

5. Evidence of Insurance

The Charter School shall furnish to the District’s Office of Risk Management and Insurance
Services located at 333 S. Beaudry Ave, 28th Floor, Los Angeles CA 90017 within 30 days of
all new policies inceptions, renewals or changes, certificates or such insurance signed by
authorized representatives of the insurance carrier. Certificates shall be endorsed as follows:

“The insurance afforded by this policy shall not be suspended, cancelled, reduced in
coverage or limits or non-renewed except after thirty (30) days prior written notice by
certified mail, return receipt requested, has been given to the District

Facsimile or reproduced signatures may be acceptable upon review by the Office of Risk
Management and Insurance Services. However, the District reserves the right to require
certified copies of any required insurance policies.

Should the Charter School deem it prudent and/or desirable to have insurance coverage for
damage or theft to school, employee or student property, for student accident, or any other type
of insurance coverage not listed above, such insurance shall not be provided by the District and
its purchase shall be the responsibility of the Charter School.
Balance Reserve: The charter will at all times a fund balance (reserve) of its expenditures as required by section 15450, title 5 of the California Code of Regulations.

6. **Hold Harmless/Indemnification Provision**

To the fullest extent permitted by law, the Charter School does hereby agree, at its own expense, to indemnify, defend and hold harmless the LAUSD and the Board of Education and their members, officers, directors, agents, representatives, employees and volunteers from and against any and all claims, damages, losses and expenses including but not limited to attorney’s fees, brought by any person or entity whatsoever, arising out of, or relating to this Charter agreement. The Charter School further agrees to the fullest extent permitted by law, at its own expense, to indemnify, defend, and hold harmless the LAUSD and the Board of Education and their members, officers, directors, agents, representatives, employees and volunteers from and against any and all claims, damages, losses and expenses including but not limited to attorney’s fees, brought by any person or entity whatsoever for claims, damages, losses and expenses arising from or relating to acts or omission of acts committed by the Charter School, and their officers, directors, employees or volunteers. Moreover, the Charter School agrees to indemnify and hold harmless the District for any contractual liability resulting from third party contracts with its vendors, contractors, partners or sponsors.

Academy of Science and Engineering will have a Health, Safety and Emergency Plan in place prior to beginning the operation of Charter School. The Charter School will ensure that staff has been trained in health, safety, and emergency procedures and will maintain a calendar and conduct emergency response drills for students and staff.

Academy of Science and Engineering, its employees and officers will comply with the Family Educational Rights and Privacy Act (FERPA) at all times.

Academy of Science and Engineering shall require all employees of the Charter School, and all volunteers who will be performing services that are not under the direct supervision of a Charter School employee, and any onsite vendors having unsupervised contact with students to submit to criminal background checks and fingerprinting. The Charter School will maintain on file and available for inspection evidence that the Charter School has performed criminal background checks for all employees and documentation that vendors have conducted required criminal background checks for their employees prior to any unsupervised contact with students. The Charter School shall also ensure that it receives subsequent arrest notifications from the Department of Justice to ensure the ongoing safety of its students.

7. **Facility Health & Safety**

Academy of Science and Engineering will develop a safety and emergency preparedness plan per the guidelines set forth by LAUSD. This plan will include:

- Staff training on emergency procedures;
- Emergency preparedness exercises (fire drills and earthquake drills);
- Storage of water, food, and first aid supplies for three days, as outlined in sponsoring district emergency preparedness bulletin; and,
- Evacuation Plan
Academy of Science and Engineering will further develop policies and procedures for response to natural disasters and emergencies. The school will train, or contract trainers, all instructional and administrative staff in basic first aid. Such emergency preparedness activities will include, but may not be limited to:

- **Fire Drills:** Fire drills will be held at least once a semester. Administrative personnel will maintain a record of fire drills held and total required time for total evacuation. When the fire drill signal sounds, teachers will lead the students in their room along the route indicated on the evacuation map posted for that purpose. Before leaving the room, teachers will see that all windows and doors are closed and that they have their class attendance roster with them. Students who are not in a classroom at the time the fire drill signal is given will attach themselves to the nearest teacher exiting the building for purposes of getting to the designated evacuation site.

Once at the designated evacuation site, teachers and other staff will ensure that all students find their respective teachers.

Teachers will then take roll to ensure that all students are accounted for. The names of any missing students will be given to the office personnel and the administrative staff will attempt to locate missing students. Students will remain with their teachers at the designated evacuation site until the administrative staff gives the “all clear” signal.

- **Disaster Drills:** Disaster drills, including earthquake drills, will be conducted at least once every two months. Students will be taught the “duck and cover” routine. An announcement over the intercom will initiate all disaster drills commencing with the “duck and cover” routine. Staff and students will hear “This is an emergency drill. Duck and cover.” During the “duck and cover” routine in the classroom, teachers will turn off the lights and have students get under a desk or table or against the wall away from the windows.

Students must remain quiet and orderly so they will be able to hear additional instructions when given. All drills will be concluded with an “all clear” announcement on the intercom, or a visible signal from the administrative staff.

**8. Drug/Tobacco Use Policy**

Academy of Science and Engineering will have a “zero tolerance” policy regarding the use of drugs and tobacco by its students and staff on campus. Additionally, Academy of Science and Engineering will be a “drug free” and “tobacco free” zone, prohibiting the use of drugs and/or tobacco by parents, staff members, or visitors to the school while on campus.

**9. Health Screening and Administration of Medication**

Academy of Science and Engineering will abide by all current requirements for health screening of employees and incoming students. And, the school’s nurse, or another suitably trained staff member, will monitor all health files and administer all medications to students.
10. Immunizations and TB Testing
All enrolling students and staff will provide records documenting immunizations to the extent required by public schools.

Records of student immunizations shall be maintained to the extent for enrollment in public schools, and staff shall honor County requirements for periodic Tuberculosis (TB) tests. All enrolling students will have screening of vision, hearing, and scoliosis to the same extent as would be required if the pupils attended any other public school.

11. Medication in School
Students requiring prescription medications and other medicines during school hours will be accommodated. Parents must bring medication to the office in the original containers, with the name of the prescribing physician, the name of the student, and dispensing instructions. Parents will complete the appropriate form authorizing school staff to administer medication. Designated staff will put medications in a locked cabinet or refrigerate as needed for medications requiring refrigeration. Designated staff will log times for administering medications for each student and will establish a tickler system to ensure that medications are dispensed at the appropriate times. Designated staff will call students to receive medications at the appropriate times. In cases where medications are long-term prescriptions, designated staff will provide parents with one week’s notice to alert them that additional medication is needed.

Academy of Science and Engineering shall meet state and federal standards for dealing with blood borne pathogens and other potentially infectious materials in the work place. The Academy of Science and Engineering Board shall establish a written infectious control plan designed to protect employees and students from possible infection due to contact with blood borne viruses, including human immunodeficiency virus (“HIV”) and hepatitis B virus (“HBV”).

Whenever exposed to blood or other bodily fluids through injury or accident, staff and students shall follow the latest medical protocol for disinfecting procedures.

12. FERPA/Confidentiality of Pupil Records
Academy of Science and Engineering will comply with the Federal Educational Rights and Privacy Act (FERPA). We will not disclose the education records of students or personally identifiable information from education records without a parent or eligible student’s written consent. All student records will be in a locked file cabinet at the school site and accessible only to persons authorized by the school’s Board of Directors.

13. Reporting Child Abuse
Academy of Science and Engineering will adhere to the requirements of California Penal Code Section 11166 regarding child abuse reporting. All Academy of Science and Engineering employees will be mandated child abuse reporters. School staff members must report to the proper authorities any unusual activities they suspect are or have been occurring to a student that includes, but may not be limited to:

- Sexual assault;
Neglect;
- Willful cruelty or unjustifiable punishment;
- Cruel or inhuman corporal punishment or injury; and,
- Abuse in out-of-home care.

14. **Sexual Harassment Policies and Procedures**

Academy of Science and Engineering is committed to providing a school that is free from sexual harassment, as well as any harassment based upon such factors as race, religion, creed, color, national origin, ancestry, age, medical condition, marital status, sexual orientation, or disability. Academy of Science and Engineering will develop a comprehensive policy to prevent and immediately address any concerns about sexual discrimination or harassment at the school (including employee to employee, employee to student, and student to employee misconduct). Misconduct of this nature is very serious and will be addressed in a sexual misconduct policy that we will develop before the school opens.
ELEMENT SEVEN: Achieving Reflective Racial and Ethnic Balance

1. No Child Left Behind-Public School Choice (NCLB-PSC) Traveling Students
The District and Charter School are committed to providing all students with quality educational alternatives in compliance with all federal and state laws, including students who are enrolled in schools of the District identified by the California Department of Education as in need of Program Improvement. Public School Choice ("NCLB-PSC") placement with Charter Schools is an alternative strongly encouraged by the No Child Left Behind Act of 2001 ("NCLB"). The Academy of Science and Engineering agrees to discuss with the District the possibility of accepting for enrollment District students participating in the District’s NCLB-PSC program. The parties agree to separately memorialize in writing any agreed-to number of NCLB-PSC placements of District students at the school.

As required under NCLB, all NCLB-PSC students attending Academy of Science and Engineering shall have the right to continue attending Academy of Science and Engineering until the highest grade level of the charter. However, the obligation of the District to provide transportation for a NCLB-PSC student to Academy of Science and Engineering shall end in the event the NCLB-PSC student’s resident District school exits Program Improvement status.

Academy of Science and Engineering will ensure that all of its NCLB-PSC students are treated in the same manner as other students attending the school. NCLB-PSC students are and will be eligible for all applicable instructional and extra-curricular activities at the school. Academy of Science and Engineering will make reasonable efforts to invite and encourage the participation of the parents of NCLB-PSC students in the activities and meetings at the school.

Determination of student eligibility for this NCLB-PSC option, including the grade level of eligibility, will be made solely by the District, based on the District’s NCLB-PSC process, guidelines, policies and the requirements of NCLB. In the event demand for places at Academy of Science and Engineering under the NCLB-PSC program increases in subsequent years, Academy of Science and Engineering agrees to discuss with the District the possibility of increasing the number of NCLB-PSC places available at the school.

2. Federal Compliance
As a recipient of federal funds, including federal Title I, Part A funds, [charter school] has agreed to meet all of the programmatic, fiscal and other regulatory requirements of the No Child Left Behind Act of 2001 (NCLB) and other applicable federal grant programs. [Charter school] understands that it is a local educational agency [LEA] for purposes of federal compliance and reporting purposes. [charter school] agrees that it will keep and make available to the District any documentation necessary to demonstrate compliance with the requirements of NCLB and other applicable federal programs, including, but not limited to, documentation related to funding, required parental notifications, appropriate credentialing of teaching and paraprofessional staff, the implementation of Public School Choice and Supplemental Educational Services, where applicable, or any other mandated federal program requirement. The mandated requirements of NCLB, Title I, Part A include, but are not limited to, the following:

165
a) Notify parents at the beginning of each school year of their “right to know” the professional qualifications of their child’s classroom teacher including a timely notice to each individual parent that the parent’s child has been assigned, or taught for four or more consecutive weeks by, a teacher who is not highly qualified.
b) Develop jointly with, and distribute to, parents of participating children, a school-parent compact.
c) Hold an annual Title I meeting for parents of participating Title I students.
d) Develop jointly with, agree on with, and distribute to, parents of participating children a written parent involvement policy.
e) Submit biannual Consolidated Application to California Department of Education (CDE) requesting federal funds.
f) Complete and submit Local Education Agency (LEA) Plan to CDE.
g) Complete reform planning process with stakeholders and submit to CDE all appropriate documents for Title I schoolwide status, if applicable; otherwise, identify and maintain roster of eligible students for the Title I Targeted Assistance School Program.
h) Maintain inventory of equipment purchased with categorical funds, where applicable, and
i) Maintain appropriate time-reporting documentation, including semi-annual certification and personnel activity report, for staff funded with categorical resources, where applicable.

[Charter School] also understands that as part of its oversight of the Charter School, the District may conduct program review of federal and state compliance issues.

3. Court-ordered Integration
The Charter School shall comply with all requirements of the Crawford v. Board of Education, City of Los Angeles court order and the LAUSD Integration Policy adopted and maintained pursuant to the Crawford court order, by the Office of Student Integration Services (collectively the “Court-ordered Integration Program”). The Court-ordered Integration Program applies to all schools within or chartered through LAUSD. The School will provide a written plan in the charter petition and upon further request by the District outlining how it would achieve and maintain the LAUSD’s ethnic goal of 70:30 or 30:70 ratios.

The District receives neither average daily attendance allocations nor Court-ordered Integration Program cost reimbursements for charter school students. Instead, the District now receives the Targeted Instruction Improvement Grant (TIIG) for its Court-ordered Integration Program. The District retains sole discretion over the allocation of TIIG funding, where available, and cannot guarantee the availability of this Funding.

4. Outreach Program
To attain a racial and ethnic balance at the School that is reflective of the District, an outreach effort to recruit new students will be launched in March each year and will include, but may not be limited to the following methods: informational fairs, flyers, newspaper advertisements, and other appropriate means to inform the public of the school’s education programs.

Academy of Science and Engineering will implement an enrolment process based on a timeline that allows for a broad-base recruiting and application process. Each year, extensive
recruitment will start in February and extend through March, April and May. The recruitment strategies may include but not be limited to the following:

a) The development of promotional and informational material that appeals to all of the various racial and ethnic groups represented in the District;

b) The distribution of promotional and informational material (in English and Spanish) to a broad variety of community groups and agencies that serve the various racial, ethnic, and interest groups represented in the District. Distribution efforts may include:
   (i) Academy of Science and Engineering Website;
   (ii) School newsletters;
   (iii) Flyers/Posters – posted at local middle and high schools, houses of worship, businesses, libraries, sporting events/activities, etc.;
   (iv) Postcard/Mailers – mailed to residents in LAUSD informing them of upcoming events and Open Enrollment;
   (v) Press Releases in local newspapers and radio/TV stations;
   (vi) Outreach events – Academy of Science and Engineering Open Houses and School Tours; and,
   (vii) Information booths at local shopping malls, supermarkets, and community events.

c) Informational meetings and presentations may also be held in locations such as local churches, YMCA facilities, community recreation centers, public libraries, etc.

5. **Geographic Areas**
The geographic areas that will be targeted for our school’s outreach efforts will be Districts 3, 4, 5, 6, 7, and 8 as described on the LAUSD Boundary Map.

However, information will be available to any student who resides within the LAUSD and surrounding District boundaries.

6. **Languages**
The languages used for our outreach efforts will include, but may not be limited to English and Spanish.

7. **NCLB Requirements**
Academy of Science and Engineering will also comply with the Public School Choice and No Child Left Behind requirements.
ELEMENT EIGHT: Admission Requirements

1. **McKinney-Vento Homeless Assistance Act**

   Academy of Science and Engineering will adhere to the provisions of the McKinney-Vento Homeless Assistance Act and ensure that each child of a homeless individual and each homeless youth has equal access to the same free, appropriate public education as provided to other children and youths.

   The Charter School will include specific information in their outreach materials, websites, at community meetings, open forums, and regional center meetings notifying parents that the school is open to enroll and provide services for all students which shall include a District standard contact number to access additional information regarding enrollment. A student’s IEP will never be required prior to participation in any attendance lottery or as a condition for enrollment.

   Also, the school shall be nonsectarian in its programs, admission policies, employment practices, and all other operations, shall not charge tuition, and shall not discriminate against any student on the basis of disability, gender, nationality, race or ethnicity, religion, sexual orientation, or any other characteristic that is contained in the definition of hate crimes set forth in Section 422.55 of the Penal Code.

   Academy of Science and Engineering will actively recruit a socio-economically and ethnically diverse student population, including students that may be considered as being academically low achieving, in need of special services, and/or economically disadvantaged. Recruitment of these students will be ongoing and will be consistent with our regular student recruitment efforts in all respects except that there will be separate sections in our recruitment literature and on our website that will emphasize how our education model will be particularly suitable to socio-economically disadvantaged and special needs students because of our teachers’ attention to individual student needs.

2. **Admission Assurances Preferences**

   If the number of students who wish to attend the school exceeds the its capacity as determined by the School’s Board of Directors, then admission to the school will be determined by a public random drawing (lottery) for each grade level and a waiting list will be created listing, in order of application, students to be admitted whose name was not chosen in the lottery selection process when and if room for them becomes available. Also, the school will admit all pupils who wish to attend as outlined in Education Code section 47605(d)(2)(A). However, students residing within the jurisdiction of LAUSD will be extended admission preference.

   Academy of Science and Engineering will utilize the following approaches in recruiting students that reflect the diversity of students enrolled in non-charter LAUSD schools, including but not limited to socio-economically and academically disadvantaged students. These approaches will include, but not be limited to:

   a) Academy of Science and Engineering Website;
   b) School newsletters;
c) Flyers/Posters – posted at local middle schools, houses of worship, business, libraries, sporting events/activities, etc;
d) Postcard/Mailers – mailed to residents in LAUSD informing them of upcoming events and Open Enrollment;
e) Press Released in local newspapers and on radio and TV;
f) Outreach events – Academy of Science and Engineering Open Houses and School Tours; and,
g) Information booths at local community events, supermarkets and shopping malls.

In enrolling students, Admissions priority will be given as follows:
a) Students residing within LAUSD boundaries before any students who live within the boundaries of other school districts.
b) Siblings of enrolled students do receive preference, which means exemption of the lottery.

The lottery will take place at the school site location, which is 8825 S. Vermont Ave., Los Angeles, CA 9044 on Tuesday, June 5, 2012 at 6:30 PM and will occur in the first two weeks of June in the following years. Throughout the open enrollment period, parents will be informed of the lottery time, location, and rules of the lottery. All parents will be asked to turn in a lottery form at the same time they turn in their application. When parents turn in their child’s application and lottery form, they will be given a written flyer with the lottery time, location, and rules of the lottery. In addition to this all parents will be called, e-mailed, and mailed a written letter reminding them of the lottery time, location, and rules prior to May 29, 2012 and will occur in the month of May in the following years. The open enrollment period will be from April 2, 2012 through May 25, 2012. To ensure lottery is executed fairly, Academy of Science and Engineering will have a representative of BUILD (Brotherhood United Independent Leadership through Discipline) an uninterested community based foundation that has an office nearby, to observe what names are pulled out and in what order they are pulled. Applications will be divided by grade level and new students will be admitted in the order in which their names are drawn. Lottery forms will pulled out of an appropriately sized receptacle as a random public process. During the same public random drawing, as described above, once enrollment is reached, the remaining names will continue to be drawn and will be placed on a waiting list in the order drawn. If vacancies occur during the school year, the vacancies will be filled according to the waiting list.

Between 10:00 on Wednesday, June 6, 2012 through 2:00 on Friday, June 8, 2012 and will occur in the first two weeks of June in the following years. All parents will be called, e-mailed, and mailed a letter informing them of their child’s admission or alternatively their placement on the waitlist. When an opening becomes available, the next five individuals on the waitlist will be informed immediately through phone, e-mail, and mailed letter of the opening. They will be asked to contact the school within two weeks to accept the opening. Once a month on the 1st of each month, from July 1st through December 1st, all parents with a child on the waitlist will be sent an e-mail and mailed letter informing them on their current number on the waitlist. To ensure fair execution of lottery procedures, Academy of Science and Engineering will keep the originals of all lottery forms pulled in a secured location and
electronic copies of all lottery related e-mails and mailed letters sent will be kept on campus and through an off-site internet based file backup called Carbonite Online Back Up. These files will be kept for at least two years after the lottery occurs. These records will be open for inspection by LAUSD to ensure continued fair execution of all Academy of Science and Engineering enrolment lotteries.

All parents of prospective students will be strongly encouraged to attend an orientation meeting with the principal or designee in order to make sure they understand Academy of Science and Engineering philosophy, mission and instructional practices and agree to participate fully in the life of the school community. Parents of enrolled students will also be strongly encouraged to attend parent teacher conferences per year, one in the fall and the other in the spring. All meetings will be scheduled to allow all stakeholders to participate.

3. **Student Records**

Academy of Science and Engineering will utilize enrollment forms and cumulative records to accommodate a smoother transition for student records to other schools within and outside of the District. The District will ensure that all schools within its boundaries will provide Academy of Science and Engineering with the cumulative records of students who transfer to the school will also adhere to all procedures related to confidentiality and privacy records as per FERPA requirements.
4. **Student Open Enrollment Form & Lottery Form**

Application packets will be submitted to the LAUSD ICSD Office by December of 2011 for review.

Please **PRINT in INK** and fill out **completely**. Completed applications will be accepted from April 2 to May 25, 2012.

<table>
<thead>
<tr>
<th>Student’s Last Name</th>
<th>First Name</th>
<th>Middle Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE OF BIRTH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Month    Day    Year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Student’s Ethnicity (check one)**
- [ ] African American
- [ ] Hispanic/Latino
- [ ] White, non Hispanic/Latino
- [ ] Other     

**Student’s Grade**

**Next School Year**

[ ] Male
[ ] Female

**School Student is now attending:**


**Does the student have siblings attending West Athens Charter High School?**
- [ ] Yes
- [ ] No

**If yes, sibling’s Name**

**Grade**

**Is the student currently receiving Resource Specialist Program Services?**
- [ ] Yes
- [ ] No

**Is the student currently enrolled in a special day class?**
- [ ] Yes
- [ ] No

**Has your child ever had an IEP (individualized education program)?**
- [ ] Yes
- [ ] No

**If yes, what kind of service?**

**Parent/Guardian’s Last Name**

**First Name**

**Middle Initial**

**Address – Number & Street**

**City**

**State**

**Zip Code**

**NOTE:** Under current California Interscholastic Federation (CIF) rules, participation in athletics may be restricted. Parents or guardians should plan to provide their own transportation for their students. Matriculation as an open enrollment student to the next school year is not guaranteed. Failure to report requested information may lead to dismissal of your child from the school.

**Signature of Parent/Guardian**

**Date**

**Signature of Administrator (or designee) of school of attendance (for information purposes only)**

**Date**

**FOR OFFICE USE ONLY**

Application approved: __________ Application denied: __________ Waiting list number: __________
Student’s Last Name                        First Name                        Middle Initial

Father/Guardian Name ________________________________

Mother/Guardian Name ________________________________

Home Address ___________________________ Zip Code________

House #, Street, Apt. #, or Route # City State ________________________________

Home Phone_________________________ Cell Phone____________________________

Father’s Work Phone (ext)______________ Mother’s Work Phone (ext)______________

Email: ____________________________________________________

I understand that any incorrect information on this lottery form could jeopardize my child’s enrollment should he/she be selected to attend West Athens High Charter School.

Signature of Parent or Guardian__________________________ Date______________

The lottery will take place at the school site location, which is 8825 S. Vermont Ave., Los Angeles, CA 9044 on Tuesday, June 5, 2012 at 6:30 PM. and all are welcome to attend.
ELEMENT NINE: Annual Financial Audits

1. **District Oversight Costs**
The District may charge for the actual costs of supervisorial oversight of the Charter School not to exceed 1% of the Charter School’s revenue, or the District may charge for the actual costs of supervisorial oversight of the Charter School not to exceed 3% if the Charter School is able to obtain substantially rent free facilities from the District. Notwithstanding the foregoing, the district may charge the maximum supervisorial oversight fee allowed under the law as it may change from time to time. The supervisorial oversight fee provided herein is separate and distinct from the charges arising under the charter school/facilities use agreements.

2. **Balance Reserves**
Additionally, the charter will maintain at all times a fund balance (reserve) of its expenditures as required by section 15450, Title 5 of the California Code of Regulations.

3. **Special Education Revenue Adjustment/Payment for Services**
In the event that the Charter School owes funds to the District for the provision of agreed upon or fee for service or special education services or as a result of the State’s adjustment to allocation of special education revenues from the Charter School, the Charter School authorizes the District to deduct any and all of the in lieu property taxes that the Charter School otherwise would be eligible to receive under section 47635 of the Education Code to cover such owed amounts. The

Charter School further understands and agrees that the District shall make appropriate deductions from the in lieu property tax amounts otherwise owed to the Charter School. Should this revenue stream be insufficient in any fiscal year to cover any such costs, the Charter School agrees that it will reimburse the District for the additional costs within forty-five (45) business days of being notified of the amounts owed.

4. **Audit and Inspection of Records**
Academy of Science and Engineering agrees to observe and abide by the following terms and conditions as a requirement for receiving and maintaining their charter authorization:
- Charter School is subject to District oversight.
- The District’s statutory oversight responsibility continues throughout the life of the Charter and requires that it, among other things, monitors the fiscal condition of the Charter School.
- The District is authorized to revoke this Charter for, among other reasons, the failure of the Charter School to meet generally accepted accounting principles or if it engages in fiscal mismanagement.

Accordingly, the District hereby reserves the right, pursuant to its oversight responsibility, to audit Charter School books, records, data, processes and procedures through the District Office of the Inspector General or other means. The audit may include, but is not limited to, the following areas:
a) Compliance with terms and conditions prescribed in the Charter agreement,
b) Internal controls, both financial and operational in nature,
c) The accuracy, recording and/or reporting of the Charter School’s financial information,
d) The Charter School’s debt structure,
e) Governance policies, procedures and history,
f) The recording and reporting of attendance data,
g) The Charter School’s enrollment process,
h) Compliance with safety plans and procedures, and
i) Compliance with applicable grant requirements.

The Charter School shall cooperate fully with such audits and shall make available any and all records necessary for the performance of the audit upon 30 days notice to Charter School. When 30 days notice may defeat the purpose of the audit, the District may conduct the audit upon 24 hours notice.

Academy of Science and Engineering will develop and maintain internal fiscal control policies governing all financial activities.

An independent audit by a public accountant certified by the State of California will be performed annually for all accounts. The auditors will have extensive experience with education finance. Audited financial reports (for the fiscal year ending June 30th) prepared by an independent CPA at Academy of Science and Engineering’s expense will be submitted annually to the sponsoring district, Los Angeles County of Education (LACOE), and the California Department of Education (CDE) by December 15th or any date determined by LAUSD’s General Accounting. Academy of Science and Engineering’s financial statements will be audited in accordance with generally accepted accounting principles and standards. Any other audits will be at the requesting authority’s expense.

In the event that the auditor’s report finds discrepancies or exceptions, Academy of Science and Engineering, shall resolve audit exceptions and deficiencies to the satisfaction of the LAUSD.

Academy of Science and Engineering also acknowledges its responsibility to respond to requests for information by the authorizing agency in a timely manner. The Principal will be responsible for contracting and overseeing the independent audit. The final audit will be presented to the Governing Board of Directors.

Independent auditors generally request banking, accounting and systems information from the school which they will be auditing. As the request for this information is received at Academy of Science and Engineering, the school will prepare and submit all information to the auditors so that they may conduct their pre-audit inspection. Auditors then submit a list of items, checks, invoices, and accounting information that they will be inspecting while on their on site audit. All those documents will be prepared and ready for the auditors for when they arrive. Any questions or clarifications to the accounting procedures, revenues and expenditures will be made at the site visit.
5. Plans and Systems to Provide Independent Audit Information

a) Site-Based Budgeting:
Academy of Science and Engineering will utilize site-based budgeting procedures to provide information for independent audits by:

- Allowing the redirection of spending priorities to provide leverage for fundamental changes;
- Linking budget to student outcomes; and,
- Making budgeting program-driven instead of formula-driven;

Please refer to School Budget beginning on page 226.

b) Operational Funding Levels:
The charter school’s operational funding levels will be maintained at all times at or above a level that is sufficient to support all operations of the school normally. Additionally, the school will continually maintain an amount that is at least 5% of the school’s annual income from state and federal sources as a reserve.

c) Revenue Flow:
Academy of Science and Engineering will work cooperatively and collaboratively with the California Department of Education, LAUSD, and the Los Angeles County Office of Education (LACOE) personnel to ensure the continued flow of funds to Academy of Science and Engineering. Funds from CDE and LAUSD will be transferred electronically or by check to Academy of Science and Engineering’s accounts at the Los Angeles County Treasury through LACOE. All funds which flow through LAUSD will be transferred to Academy of Science and Engineering’s accounts in a timely manner.

d) Authorization to Deduct:
As part of this agreement the charter school authorizes the District to deduct any amount owed from their monthly revenue source allocation, including, but not limited to, the in-lieu property tax revenues it otherwise would be entitled to receive under section 47635 of the Education Code.

6. Depository/Accounting/Payroll
All revenue generated by Academy of Science and Engineering will be deposited in a FDIC insured bank in the school’s name. All payroll warrants will be drawn from the bank account so that all pertinent reports are filed by the school for the IRS and for accounting and audit purposes. Three revolving accounts will be held at a local financial institution (one for general purpose, one for student body, one for food services) for day to day expenditures. All expenditures over $5000.00 will require two signatures.

7. Budget Development/Fiscal Reports
Budget development will begin each year immediately following the January announcement of
the Governor’s K-12 budget proposals and continually refined through the May Revise and through the final State Budget Act. Budgeted resources will always be consistent with Charter School goals as identified by the Governing Board.

The following reports will be submitted to LAUSD, in the required format and within timelines to be specified by LAUSD each year:

   a) Provisional Budget – Spring prior to operating fiscal year;
   b) Final Budget – July of the budget fiscal year;
   c) First Interim Projections – November of operating fiscal year;
   d) Second Interim Projections – February of operating fiscal year;
   e) Unaudited Actuals – July following the end of the fiscal year;
   f) Audited Actuals – December following the end of the fiscal year;
   g) Classification Report – monthly the Monday after close of the last day of the school month;
   h) Statistical Report – monthly the Friday after the last day of the school month. In addition:
      1. P1, first week of January
      2. P2, first week of April
   i) Bell Schedule – annually by November; and,
   j) Other reports as requested by the District

8. **Contract Development**

Academy of Science and Engineering will always utilize effective business practices which will result in better quality at better prices. Contracts for service, equipment, alterations and improvements will be submitted to multiple bidders. All things being equal, preference will always be given to local bidders.

9. **Employee-Related Insurance/Benefits**

Academy of Science and Engineering will continue to provide the following for all its employees:

   a) Worker’s Compensation Insurance;
   b) Unemployment Insurance; and,
   c) Medicare

Academy of Science and Engineering will purchase health benefits though a competitive pricing bid. Therefore, all full-time qualified employees will be provided with the following:

   a) Health Insurance;
   b) Dental Insurance;
   c) Vision Insurance; and,
   d) Optional Life Insurance (Paid by the employee).

10. **Illness Leave**

**Certificated Employees:** All certificated teachers at Academy of Science and Engineering will
receive ten (10) illness days each school year. All certificated employees will be allowed to accumulate illness days from one year to the next.

**Classified Employees:** Full-time classified employees will receive ten (10) illness days a year and they will be allowed to accumulate illness days from one year to the next. Part-time classified employees including all TAs, do not qualify for any illness days.

11. **Vacation Days**
Qualified Certificated and Classified employees will receive 10 vacation days a year. All unused days may be accrued from one year to the next with a cap of 20 days accumulated.

12. **Attendance Accounting**
To insure the integrity of attendance accounting, an office clerk will monitor the daily accuracy of the school’s attendance accounting system. Existing attendance accounting procedures reported through LAUSD provide excellent checks and balances and will be utilized unless a more efficient system can be devised that will satisfy the requirements of CDE, and the LAUSD. Additionally, attendance accounting will be included in our annual independent audit to facilitate the transfer of students from and to our sponsoring district schools.

13. **ADA Accounting**
Academy of Science and Engineering will utilize the ADA reporting procedures of the LAUSD. Attendance accounting procedures will satisfy the requirements of the District, and the CDE. Classroom teachers will record daily attendance. State School registers will be completed on a monthly basis documenting the month’s attendance.

Attendance accounting reports will be completed and submitted to the requesting agencies in a timely manner.

14. **Purchasing**
Academy of Science and Engineering will always seek to maximize its use of resources through effective purchasing practices.

15. **Administrative Services**
Academy of Science and Engineering will continually strive to work collaboratively with the sponsoring district. All Charter School requested services from the LAUSD will be on a fee for service basis. All services provided by the LAUSD to Academy of Science and Engineering will be initiated by a written request from Academy of Science and Engineering to LAUSD.

16. **In Lieu Property Tax Deductions**
LAUSD’s is entitled to make deductions from in lieu property taxes that Academy of Science and Engineering would otherwise be eligible to receive to reimburse LAUSD for the provision of agreed upon or fee for service, or special education services, or as a result of the State’s adjustment to allocation of special education revenues from the school.
17. Mandated Costs
In order to meet the health, safety and public accountability requirements of all public school children at Academy of Science and Engineering, Academy of Science and Engineering will be required to comply with the following programs and activities.
   a) Annual Parent Notifications;
   b) Behavior Intervention Plans;
   c) California English Language Development Test;
   d) Comprehensive School Safety Plan;
   e) Criminal Background checks;
   f) Emergency Procedures;
   g) Earthquake and Disasters;
   h) Habitual Truant Conferences;
   i) Open Meetings Act/Brown Act (section 9);
   j) Pupil Classroom suspension by Teacher;
   k) Physical Fitness Tests;
   l) Pupil Exclusions;
   m) Pupil Health Screenings;
   n) Pupil Promotion and Retention;
   o) Suspensions and Expulsions;
   p) School Accountability Report Cards;
   q) School Bus Safety I and II;
   r) Standardized Testing and Reporting; and,
   s) STRS Creditable Compensation

It is the expressed intent of Academy of Science and Engineering to comply with all of the aforementioned mandates and file directly for reimbursements.

18. Facilities
Academy of Science and Engineering is an independent, directly funded public school. Lease negotiations are underway for the school to be located in a building at 8825 South Vermont Avenue in Los Angeles.
ELEMENT TEN: Suspension and Expulsion Procedures

1. Due Process
Academy of Science and Engineering shall provide due process for all students, including adequate notice to parents/guardians and students regarding the grounds for suspension and expulsion and their due process rights regarding suspension and expulsion, including rights to appeal.

Academy of Science and Engineering shall ensure that its policies and procedures regarding suspension and expulsion will be periodically reviewed, and modified as necessary, including, for example, any modification of the lists of offenses for which students are subject to suspension or expulsion.

Academy of Science and Engineering shall ensure the appropriate interim placement of students during and pending the completion of the Charter School’s student expulsion process. Charter Schools will implement operational and procedural guidelines ensuring federal and state laws and regulations regarding the discipline of students with disabilities are met. Charter Schools will also ensure staff is knowledgeable about and complies with the District’s Discipline Foundation Policy. If the student receives or is eligible for special education, the Charter School shall identify and provide special education programs and services at the appropriate interim educational placement, pending the completion of the expulsion process, to be coordinated with the LAUSD Support Unit, Division of Special Education.

Academy of Science and Engineering shall utilize alternatives to suspension and expulsion with students who are truant, tardy, or otherwise absent from compulsory school activities. If a student is expelled from the Charter School, the Charter School shall forward student records upon request of the receiving school district in a timely fashion. Charter School shall also submit an expulsion packet to the Innovation and Charter Schools Division immediately or as soon as practically possible, containing:
   a) pupil’s last known address
   b) a copy of the cumulative record
   c) transcript of grades or report card
   d) health information
   e) documentation of the expulsion proceeding, including specific facts supporting the expulsion
   f) student’s current educational placement
   g) copy of parental notice expulsion
   h) copy of documentation of expulsion provided to parent stating reason for expulsion, term of expulsion, rehabilitation plan, reinstatement notice with eligibility date and instructions for providing proof of student’s compliance for reinstatement, appeal process and options for enrollment; and
   i) if the Student is eligible for Special Education, the Charter School must provide documentation related to expulsion pursuant to IDEA including conducting a manifestation determination IEP prior to expulsion. If the student is eligible for Section 504 Accommodations, the Charter School must provide evidence that it convened a Link Determination meeting to address two questions: A) Was the misconduct caused
by, or directly and substantially related to the students disability: B) Was the misconduct a direct result of the Charter School’s failure to implement 504 Plan?

2. **Outcome Data**
   Charter School shall maintain all data involving placement, tracking, and monitoring of student suspensions, expulsions, and reinstatements, and make such outcome data readily available to the District upon request.

3. **Rehabilitation Plans**
   Pupils who are expelled from the Charter School shall be given a rehabilitation plan upon expulsion as developed by the Charter School’s governing board at the time of the expulsion order, which may include, but is not limited to, periodic review as well as assessment at the time of review for readmission. The rehabilitation plan should include a date not later than (1) one year from the date of expulsion when the pupil may reapply to the Charter School for readmission.

4. **Readmission**
   The Charter School’s governing board shall adopt rules establishing a procedure for the filing and processing of requests for readmission and the process for the required review of all expelled pupils for readmission. Upon completion of the readmission process, the Charter School’s governing board shall readmit the pupil, unless the Charter School’s governing board makes a finding that the pupil has not met the conditions of the rehabilitation plan or continues to pose a danger to campus safety. A description of the procedure shall be made available to the pupil and the pupil’s parent or guardian at the time the expulsion order is entered. The charter school is responsible for reinstating the student upon the conclusion of the expulsion period.

5. **Readmissions Due Process**
   In the event an expelled student is denied readmission to Academy of Science and Engineering, after the investigation and meetings by the Principal to determine that the student had made significant progress in their Rehabilitation Plan or he/she were deemed to possess no threat to the safety of other Academy of Science and Engineering students, the student will be notified by the Board in writing of the decision not to readmit. The notice to the parent or guardian will be mailed three (5) days after the Board determination and will include the following:
   a) Notice of the previous specific offense committed by the student;
   b) Notice of the student's or parent/guardian's obligation to inform any new district in which the student seeks to enroll of the student's status with the Academy of Science and Engineering;
   c) Findings by the Board on the Principal’s investigation and assessment of facts that determined unsuccessful completion of Rehabilitation Plan;
   d) Alternative area schools; and,
   e) New admissions eligibility date

6. **Readmissions Appeal Process**
   A request for appeal of decision not to readmit or admit after expulsion from another school
must be received within five (5) working days after the written notice received by the parent/guardian. The appeal itself will occur within ten (10) working days after the written notice received by the parent/guardian, and must be attended by parent(s)/guardian(s). In the case of expulsions, a fair and impartial panel of representatives appointed by Academy of Science and Engineering Governing Board will hear the readmissions denial appeal, and its decision will be final.

7. Special Education Students
In the case of a student who has an Individualized Education Plan (“IEP”), or a student who has a 504 Plan, the Charter will ensure that it follows the correct disciplinary procedures to comply with the mandates of state and federal laws, including IDEA and Section 504 of the Rehabilitation Plan of 1973. As set forth in the MOU regarding special education between the District and the Charter School, an IEP team, including a district representative, will meet to conduct a manifestation determination and to discuss alternative placement utilizing the District’s Policies and Procedures Manual. Prior to recommending expulsion for a student with a 504 Plan, the Charter School’s administrator will convene a Link Determination meeting to ask the following two questions: A) was the misconduct caused by, or directly and substantially related to the student’s disability? B) Was the misconduct a direct result of the Charter School’s failure to implement 504?

8. Gun Free Schools Act
The Charter School shall comply with the federal Gun Free Schools Act.

9. Progressive Discipline Plan
Students learn best in an environment where there are clear expectations about behavioral and Community norms that allow them to feel safe and cared for.

In order to maintain a positive learning community, prior to the opening of the school, Academy of Science and Engineering will develop and maintain a comprehensive set of student discipline policies through the work of the School Leadership Council that includes the administration, teachers, staff, and parents. The Progressive Discipline Plan will be developed in accordance with California Education Code Section 48900 and will also include reasons for suspension and expulsion.

The main features of the discipline plan will include, but not be limited to the following guidelines:

a) **Behavior Values**: mutual respect, responsibility, appreciation of differences, honesty, safety, participation in the learning process, and respect and care of the property and environment;

b) **Rules of Conduct and behavior**: attendance, computer Policy, Dress Code, electronics, homework policy and tardy policy;

c) **Consequences**: warning and reminder, a respectful related consequence, disciplinary referral to the office, loss of privileges, In-house suspension, suspension/parental supervision; and,
d) **Intervention Strategies:** alternative programming, behavior modification, Student Success Team, problem solving/contracting, alternatives to suspension

These policies will be distributed in the school’s *Student Handbook* which will be developed prior to the school’s opening with participation of the School Leadership Council that consists of administration, teachers, staff and parents/guardians. Each family will receive a copy of these policies and be required to verify that they have reviewed them with their children at the time of enrollment or at the beginning of the school year.

Additional, Academy of Science and Engineering’s policies and procedures regarding suspension and expulsion will be periodically reviewed by the School Leadership Council. Such reviews will include but may not be limited to modification of the lists of offenses for which students are subject to suspension or expulsion.

**10. Suspension and Expulsion Procedures:**
A student may be suspended or expelled for any of the acts enumerated in this section that are related to school activity or school attendance that occur at any time, including, but not limited to, the following:

a) While on school grounds;
b) While going to or coming from school;
c) During the lunch period whether on or off the campus; and,
d) During, or while going to or coming from, a school-sponsored activity

Academy of Science and Engineering Pupil Suspension and Expulsion Policy will be established in order to promote learning and protect the safety and well being of all students. When the Policy is violated, it may be necessary to suspend or expel a student.

School staff shall enforce disciplinary rules and procedures fairly and consistently among all students. This Policy and its Procedures will be printed and distributed as part of Academy of Science and Engineering Student Handbook and will clearly describe discipline expectations.

Corporal punishment shall not be used as a disciplinary measure against any student. Corporal punishment includes the willful infliction of or willfully causing the infliction of physical pain on a student. For purposes of the Policy, corporal punishment does not include an employee's use of force that is reasonable and necessary to protect the employee, students, staff or other persons or to prevent damage to school property.

Academy of Science and Engineering administration shall ensure that students and their parents/guardians are notified in writing upon enrollment of all discipline policies and procedures as described in the Student Handbook.

Suspended or expelled students shall be excluded from all school and school-related activities unless otherwise agreed during the period of suspension or expulsion. Students will be provided all classroom assignments and related materials with the expectation that these assignments will be completed while on an extended suspension.
11. Grounds for Suspension and Expulsion
A student may be recommended for suspension or expulsion for any of the following reasons, as specified in Education Code Sections 48900 et seq.:

a) Caused, attempted to cause, or threatened to cause physical injury to another person;

b) Willfully used force or violence upon the person of another, except in self-defense;

c) Possessed, sold, or otherwise furnished any firearm, knife, explosive, or other dangerous object, unless, in the case of possession of any object of this type, the pupil had obtained written permission to possess the item from a certificated school employee, which is concurred in by the Principal or the designee of the Principal;

d) Unlawfully possessed, used, sold, or otherwise furnished, or been under the influence of, any controlled substance listed in Chapter 2 (commencing with Section 11053) of Division 10 of the Health and Safety Code, an alcoholic beverage, or an intoxicant of any kind;

e) Unlawfully offered, arranged, or negotiated to sell any controlled substance listed in Chapter 2 (commencing with Section 11053) of Division 10 of the Health and Safety Code, an alcoholic beverage, or an intoxicant of any kind, and either sold, delivered, or otherwise furnished to any person another liquid, substance, or material and represented the liquid, substance, or material as a controlled substance, alcoholic beverage, or intoxicant;

f) Committed or attempted to commit robbery or extortion;

g) Caused or attempted to cause damage to school property or private property (includes, but is not limited to, electronic files and databases);

h) Stole or attempted to steal school property or private property (includes, but is not limited to, electronic files and databases);

i) Possessed or used tobacco, or any products containing tobacco or nicotine products, including, but not limited to, cigarettes, cigars, miniature cigars, clove cigarettes, smokeless tobacco, snuff, chew packets, and betel (exception made for use or possession by a pupil of his or her own prescription products);

j) Committed an obscene act or engaged in habitual profanity or vulgarity;

k) Unlawfully possessed or unlawfully offered, arranged, or negotiated to sell any drug paraphernalia, as defined in Section 11014.5 of the Health and Safety Code;

l) Disrupted school activities or otherwise willfully defied the valid authority of supervisors, teachers, administrators, school officials, or other school personnel engaged in the performance of their duties;

m) Knowingly received stolen school property or private property (includes, but is not limited to, electronic files and databases);

n) Possessed an imitation firearm;

o) Committed or attempted to commit a sexual assault as defined in Section 261, 266c, 286, 288, 288a, or 289 of the Penal Code or committed a sexual battery as defined in Section 243.4 of the Penal Code;

p) Harassed, threatened, or intimidated a pupil who is a complaining witness or a witness in a school disciplinary proceeding for the purpose of either preventing that pupil from being a witness or retaliating against that pupil for being a witness, or both;

q) Unlawfully offered, arranged to sell, negotiated to sell, or sold the prescription drug, Soma;

r) Engaged in, or attempted to engage in, hazing as defined in Section 32050;
s) Aided or abetted, as defined in Section 31 of the Penal Code, the infliction or attempted
infliction of physical injury to another person (suspension only);
t) Committed sexual harassment (Section 48900.2 (E.C. 48900et seq.);
u) Caused, attempted to cause, threatened to cause, or participated in the act of hate
violence (Section 48900.3);
v) Engaged in harassment, threats, or intimidation directed against school district
personnel or pupils, that is sufficiently severe or pervasive to have the actual and
reasonably expected effect of materially disrupting class work, creating substantial
disorder, and invading the rights of either school personnel or pupils by creating an
intimidating or hostile educational environment. Section 48900.4; and,
w) Made terroristic threats against school officials, school property or both. Section
48900.7.

It is the intent of the Legislature that alternatives to suspension or expulsion be imposed against
any pupil who is truant, tardy, or otherwise absent from school activities. The Principal may
use discretion to provide alternatives to suspension or expulsion including, but not limited to,
counseling and an anger management program.

Students shall be immediately suspended and recommended for expulsion for any of the
following reasons, as specified in Education Code Section 48915(c):
   a) Possessing, selling, or otherwise furnishing a firearm;
   b) Brandishing a knife at another person;
   c) Unlawfully selling a controlled substance listed in Chapter 2 (commencing with Section
      11053) of Division 10 of the Health and Safety Code;
   d) Committing or attempting to commit a sexual assault as defined in subdivision (n) of
      Section 48900 or committing a sexual battery as defined in subdivision (n) of Section
      48900; and,
   e) Possession of an explosive.

A student will not be suspended or expelled for truancy or tardiness.
Matrix for Student Expulsion Recommendations: E.C. Sections 48900 and 48915

<table>
<thead>
<tr>
<th>Category I</th>
<th>Category II</th>
<th>Category III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Offenses with No Principal Discretion</td>
<td>Student Offenses with Limited Principal Discretion</td>
<td>Student Offenses with Greatest Principal Discretion</td>
</tr>
</tbody>
</table>

**Principal must immediately suspend and recommend expulsion when any of the following occur at school or at a school activity off campus UNLESS he or she determines that expulsion is inappropriate.**

1. Possessing, selling, or furnishing a firearm. E.C. 48915 (c)(1); 48900 (b)
   - 1. Causing serious physical injury to another person, except in self defense. E.C. 48915 (a)(1); 48900 (a)(1), 48900 (a)(2)
   - 1. Caused, attempt to cause, or threatened to cause physical injury to another person. (Unless, in case of “caused,” injury is serious. [See II. 1.] E.C. 48915 (b); 48900 (a)(1)/(2)
2. Brandishing a knife at another person. E.C. 48915 (c)(2); 48900 (b)(1) and 48900 (b)
   - 2. Possession of any knife or other dangerous object of no reasonable use to the pupil. E.C. 48915 (a)(2); 48900 (b)
   - 4. Caused or attempted to cause damage to school or private property. E.C. 48915 (e); 48900 (f)
   - 5. Stole or attempted to steal school or private property. E.C. 48915 (e); 48900 (g)
   - 6. Possessed or used tobacco. E.C. 48915 (e); 48900 (h)
   - 7. Committed an obscene act or engaged in habitual profanity or vulgarity. E.C. 48915 (e); 48900 (i)
3. Unlawfully selling a controlled substance. E.C. 48915 (c)(3); 48900 (c)
   - 3. Unlawful possession of any controlled substance, except for the first offense of less than an ounce of marijuana. E.C. 48915 (a)(3); 48900 (c)
   - 8. Possess, offered, arranged, or negotiated to sell any drug paraphernalia. E.C. 48915 (e); 48900 (j)
   - 9. Disrupted school activities or willfully defined the valid authority of school personnel. E.C. 48915 (e); 48900 (k)
   - 10. Knowingly received stolen school or private property. E.C. 48915 (e); 48900 (l)
   - 11. Possessed an imitation firearm. E.C. 48915 (e); 48900 (m)
4. Committing or attempting to commit a sexual assault or committing a sexual battery (as defined by CA State Law). E.C. 48915 (c)(4); 48900 (n)
   - 4. Robbery or extortion. E.C. 48915 (a)(4); 48900 (e)
   - 12. Engaged in harassment, threats, or intimidation against a pupil or group of pupils or school district personnel. E.C. 48915 (e); 48900.4
   - 13. Committed sexual harassment. E.C. 48915 (e); 48900.2
   - 14. Caused, attempted to cause, threatened to cause, or participated in an act of hate violence. E.C. 48915 (e); 48900.3
   - 15. Made terroristic threats against school officials or school property, or both. E.C. 48915 (e); 48900.7
5. Possession of an explosive (as defined in section 921 of Title 18 of the U.S. Code). E.C. 48915 (c)(5); 48900 (b)
   - 5. Assault or battery (as defined in Penal Code sections 240 and 242) upon any school employee. E.C. 48915 (a)(5); 48900 (a)(1) and (2)
   - 16. Willfully used force or violence upon the person of another, except in self-defense. E.C. 48915 (b); 48900 (a)
   - 17. Harassed, threatened, or intimidated a pupil who is a complaining witness or a witness in a disciplinary action. E.C. 48915 (e); 48900 (a)
   - 18. Any behavior listed in Category I or II that is related to school activity or school attendance but that did not occur on campus or at a school activity off campus. E.C. 48915 (b)
   - 19. Unlawfully offered, arranged to sell, negotiated to sell, or sold the prescription drug Soma. E.C. 48915 (e); 48900 (p)
   - 20. Engaged in, or attempted to engage in, hazing, as defined by CA State Law. E.C. 48915 (e); 48900 (q)
13. Alternatives
No student shall be immediately suspended or expelled for a first time offense, except in extreme cases enumerated above. Interventions shall be first attempted and will include student study teams, family support team meetings, behavior modification plans and contracts. Additionally, alternatives to suspension or expulsion will first be attempted with pupils who are truant, tardy, or otherwise absent from assigned school activities. Tardies and truancies are dealt with through Academy of Science and Engineering attendance policy and are not in of themselves a student discipline issue.

14. Appeal Process
A teacher-generated suspension from class is for the day of the act and the following meeting of the class. The teacher shall immediately report the suspension to the Principal. The pupil will be sent to an administrator for appropriate action, which may include suspension from school or other disciplinary measures.

Suspensions from School shall be initiated according to the following procedures:

a) Conference
Suspension shall be preceded, if possible, by a conference conducted by the Principal or a designee with the student and his or her parent and, whenever practical, the teacher, supervisor or school employee who referred the student to the Principal. The conference may be omitted if the Principal or designee determines that an emergency situation exists. An "emergency situation" involves a clear and present danger to the lives, safety or health of students or school personnel. If a student is suspended without this conference, both the parent/guardian and student shall be notified of the student's right to return to school for the purpose of a conference.

At the conference, the pupil shall be informed of the reason for the disciplinary action and the evidence against him or her and shall be given the opportunity to present his or her version and evidence in his or her defense.

This conference shall be held within two school days, unless the pupil waives this right or is physically unable to attend for any reason including, but not limited to, incarceration or hospitalization.

No penalties may be imposed on a pupil for failure of the pupil's parent or guardian to attend a conference with school officials. Reinstatement of the suspended pupil shall not be contingent upon attendance by the pupil's parent or guardian at the conference.

b) Notice to Parents/Guardians
At the time of the suspension, an administrator or designee shall make a reasonable effort to contact the parent/guardian by telephone or in person. Whenever a student is suspended, the parent/guardian shall be notified in writing of the suspension and the date of return following suspension. This notice shall state the specific offense committed by the student. In addition, the notice may also state the date and time when
the student may return to school. If school officials wish to ask the parent/guardian to confer regarding matters pertinent to the suspension, the notice shall request that the parent/guardian respond to such requests without delay. The written notice shall request a meeting with the parent/guardian to discuss the causes and the duration of the suspension.

15. Length of Suspension
The length of suspension for students shall not exceed a period of five (5) consecutive school days unless an administrative recommendation has been made and agreed to by the student's parent/guardian. If a student is recommended for a period of suspension exceeding five (5) consecutive school days, a second conference will be scheduled between the parent/guardian to discuss the progress of the suspension upon the completion of the fifth (5th) day of suspension. All reasonable arrangements will be made to provide the student with classroom material and current assignments to be completed at home during the length of the suspension.

a) Suspension Time Limits/Recommendation for Placement/Expulsion
Suspensions, when not including a recommendation for expulsion, shall not exceed five (5) consecutive school days per suspension. A student will be considered for expulsion after receiving suspensions totaling 20 days in a single school year.

Upon a recommendation of Placement/Expulsion by the Principal or designee, the pupil and the pupil's guardian or representative will be invited to a conference to determine if the suspension for the pupil should be extended pending an expulsion hearing. This determination will be made by the Principal or designee upon either of the following determinations: 1) the pupil's presence will be disruptive to the education process; or 2) the pupil poses a threat or danger to others. Upon either determination, the pupil's suspension will be extended pending the results of an expulsion hearing.

b) Suspension Appeal Process
The parent or guardian of a suspended student or the suspended student himself or herself may appeal the suspension decision within 5 working days directly to the Governing Board. The Governing Board will expeditiously review the case with the parent and/or student in question within 5 working days of receipt of the appeal. If the Board determines that the student has not violated one of the rules in the Student Handbook (to be submitted for review to the LAUSD ICSD office by February 2012) as agreed to by the student and parent or believes that extenuating circumstances should mitigate the consequences of such an action, then the suspension decision may be reversed. During the required parent conference, information is provided to the student and parent or guardian about their right to appeal a suspension, along with information about the appeal process.

Academy of Science and Engineering’s Governing Board will gather information from the Principal, student, parent or guardian to determine whether or not the Principal suspended the student properly and followed all applicable procedures. The Governing Board will consider the reasons the family feels the suspension was incorrect or inappropriate, and may contact the family and/or school staff to clarify information.
Based on the information submitted or requested, Academy of Science and Engineering’s Governing Board may make one of the following decisions regarding the suspension:

- Uphold the suspension;
- Determine that the suspension was not within the school’s guidelines; or,
- Overturn the suspension, and order that all records and documents regarding the disciplinary proceeding are destroyed.

No information regarding the suspension will be placed in the student’s permanent record, or shared with anyone not directly involved in the proceedings.

Academy of Science and Engineering Governing Board will mail a copy of the decision to the student and/or parent or guardian within five days of the issuing the decision. A copy of the decision is also mailed or delivered to the school Principal.

16. Authority to Expel
A student may be expelled either by the Academy of Science and Engineering Board following a hearing before it or by Academy of Science and Engineering Board upon the recommendation of an Administrative Panel to be assigned by Academy of Science and Engineering Board as needed. The Administrative Panel should consist of at least three members who are certificated and neither a teacher of the pupil or a Board member. The Administrative Panel may recommend expulsion of any student found to have committed an expellable offense.

17. Expulsion Procedures
Students recommended for expulsion are entitled to a hearing to determine whether the student should be expelled. Unless postponed for good cause, the hearing shall be held within thirty (30) school days after the Principal or designee determines that the Pupil has committed an expellable offense.

All expulsions cases will be heard by an independent Administrative Panel pursuant to E.C Section 48918 (d). And as such, the panel will make a recommendation to the Board for a final decision whether to expel. The administrative hearing shall be held in closed session unless the pupil makes a written request for a public hearing three (3) days prior to the hearing. The Administrative Panel shall consist of three (3) independent certificated designees appointed by the Board that do not include paid staff of the school.

Written notice of the hearing shall be forwarded to the student and the student's parent/guardian at least ten (10) calendar days before the date of the hearing. Upon mailing the notice, it shall be deemed served upon the pupil. The notice shall include:

a) The date and place of the expulsion hearing;
b) A statement of the specific facts, charges and offenses upon which the proposed expulsion is based;
c) A copy of the School's disciplinary rules which relate to the alleged violation;
d) Notification of the student's or parent/guardian's obligation to provide information about the student's status at the school to any other school district or school to which the student seeks enrollment;

e) The opportunity for the student or the student's parent/guardian to appear in person or to employ and be represented by counsel or a non-attorney advisor;

f) The right to inspect and obtain copies of all documents to be used at the hearing;

g) The opportunity to confront and question all witnesses who testify at the hearing; and,

h) The opportunity to question all evidence presented and to present oral and documentary evidence on the student's behalf including witnesses.

19. Record of Hearing

A record of the hearing shall be made and may be maintained by any means, including electronic recording, as long as a reasonably accurate and complete written transcription of the proceedings can be made.

20. Presentation of Evidence

While technical rules of evidence do not apply to expulsion hearings, evidence may be admitted and used as proof only if it is the kind of evidence on which reasonable persons can rely in the conduct of serious affairs. A recommendation by the Administrative Panel to expel must be supported by substantial evidence that the student committed an expellable offense.

Findings of fact shall be based solely on the evidence at the hearing. While hearsay evidence is admissible, no decision to expel shall be based solely on hearsay and sworn declarations may be admitted as testimony from witnesses of whom the Board, Panel or designee determines that disclosure of their identity or testimony at the hearing may subject them to an unreasonable risk of physical or psychological harm.

If, due to a written request by the expelled pupil, the hearing is held at a public meeting, and the charge is committing or attempting to commit a sexual assault or committing a sexual battery as defined in Education Code Section 48900, a complaining witness shall have the right to have his or her testimony heard in a session closed to the public.

The decision of the Administrative Panel shall be in the form of written findings of fact and a written recommendation to the Board of Academy of Science and Engineering who will make a final determination regarding the expulsion. The final decision by the Board shall be made within ten (10) school days following the conclusion of the hearing.

If the expulsion hearing panel decides not to recommend expulsion, the pupil shall immediately be returned to his/her educational program.

21. Written Notice to Expel

The Principal or designee following a decision of the Board to expel shall send written notice of the decision to expel, including the Board's adopted findings of fact, to the student’s parent/guardian the same day of the Board’s decision to expel. This notice shall include the following:

a) Notice of the specific offense committed by the student;
b) Notice of the student's or parent/guardian's obligation to inform any new district in which the student seeks to enroll of the student's status with the Academy of Science and Engineering;
c) The reinstatement eligibility review date;
d) A copy of the rehabilitation plan;
e) The type of educational placement during the period of expulsion; and,
f) Appeal procedures

The Principal or designee shall send a copy of the written notice of the decision to expel to the District. This notice shall include the following:
   a) The student's name
   b) The specific expellable offense committed by the student

Additionally, in accordance with Education Code Section 47605(d)(3), upon expulsion of any student, Academy of Science and Engineering shall notify the superintendent of the school district of the pupil’s last known address within 30 days, and shall, upon request, provide that school district with a copy of the cumulative record of the pupil, including a transcript of grades or report card and health information.

22. Disciplinary Records
Academy of Science and Engineering shall maintain the confidentiality of Pupil Records of all student suspensions and expulsions in locked files at the school. These files will only be accessible to Academy of Science and Engineering principal, and designated staff members providing services to the students. Signatures will be required of those utilizing the confidential files. Such records shall be made available to the District upon request.

23. Procedures for Expulsion hearings Involving Sexual Assault/Battery Offenses
Academy of Science and Engineering may, upon a finding of good cause, determine that the disclosure of either the identity of the witness or the testimony of that witness at the hearing, or both, would subject the witness to an unreasonable risk of psychological or physical harm. Upon this determination, the testimony of the witness may be presented at the hearing in the form of sworn declarations, which shall be examined only by Academy of Science and Engineering or a hearing officer. Copies of these sworn declarations, edited to delete the name and identity of the witness, shall be made available to the pupil.

   a) The complaining witness in any sexual assault or battery case must be provided with a copy of the applicable disciplinary rules and advised of his/her right to (a) receive five days notice of his/her scheduled testimony, (b) have up to two (2) adult support persons of his/her choosing present in the hearing at the time he/she testifies, which may include a parent, guardian, or legal counsel, and (c) elect to have the hearing closed while testifying.

   b) Academy of Science and Engineering must also provide the victim a room separate from the hearing room for the complaining witness' use prior to and during breaks in testimony.
c) At the discretion of the person or panel conducting the hearing, the complaining witness shall be allowed periods of relief from examination and cross-examination during which he or she may leave the hearing room.
d) The person or group conducting the expulsion hearing may also arrange the seating within the hearing room to facilitate a less intimidating environment for the complaining witness.
e) The person or group conducting the expulsion hearing may also limit time for taking the testimony of the complaining witness to the hours he/she is normally in school, if there is no good cause to take the testimony during other hours.
f) Prior to a complaining witness testifying, the support persons must be admonished that the hearing is confidential. Nothing in the law precludes the person presiding over the hearing from removing a support person whom the presiding person finds is disrupting the hearing. The person conducting the hearing may permit any one of the support persons for the complaining witness to accompany him or her to the witness stand.
g) If one or both of the support persons is also a witness, Academy of Science and Engineering must present evidence that the witness' presence is both desired by the witness and will be helpful to Academy of Science and Engineering. The person presiding over the hearing shall permit the witness to stay unless it is established that there is a substantial risk that the testimony of the complaining witness would be influenced by the support person, in which case the presiding official shall admonish the support person or persons not to prompt, sway, or influence the witness in any way. Nothing shall preclude the presiding officer from exercising his or her discretion to remove a person from the hearing whom he or she believes is prompting, swaying, or influencing the witness.
h) The testimony of the support person shall be presented before the testimony of the complaining witness and the complaining witness shall be excluded from the courtroom during that testimony.
i) Especially for charges involving sexual assault or battery, if the hearing is to be conducted in the public at the request of the pupil being expelled, the complaining witness shall have the right to have his/her testimony heard in a closed session when testifying at a public meeting would threaten serious psychological harm to the complaining witness and there are no alternative procedures to avoid the threatened harm. The alternative procedures may include videotaped depositions or contemporaneous examination in another place communicated to the hearing room by means of closed-circuit television.
j) Evidence of specific instances of a complaining witness' prior sexual conduct is presumed inadmissible and shall not be heard absent a determination by the person conducting the hearing that extraordinary circumstances exist requiring the evidence be heard. Before such a determination regarding extraordinary circumstance can be made, the witness shall be provided notice and an opportunity to present opposition to the introduction of the evidence. In the hearing on the admissibility of the evidence, the complaining witness shall be entitled to be represented by a parent, legal counsel, or other support person. Reputation or opinion evidence regarding the sexual behavior of the complaining witness is not admissible for any purpose.

24. Expelled Pupils/Alternative Education
In the event of a decision to expel a student from Academy of Science and Engineering, the school administration will work cooperatively with the district of residence, county, and/or private schools to assist with the appropriate educational placement of the student who has been expelled.

25. Expelled Transfer Student Admission
If a student is under an expulsion order from another school district (LEA), all information must be provided to Academy of Science and Engineering Board of Directors for review. Academy of Science and Engineering Governing Board will determine if enrollment will be granted. The decision to admit an expelled pupil from another school district or charter school shall be in the sole discretion of the Board. To determine if student is “rehabilitated,” the Principal will hold a meeting with the pupil and guardian or representative to determine progress and challenges. The Principal will make the determination whether the pupil has successfully completed the rehabilitation plan, from Academy of Science and Engineering or from the sending school, and will determine whether the pupil poses a threat to others or will be disruptive to the school environment.

The Principal shall make a recommendation to the Board following an investigation as to the student’s progress in his/her Rehabilitation Plan and causes for expulsion. The pupil's readmission is also contingent upon Academy of Science and Engineering's capacity at the time the student seeks admission. All expelled students from other schools will begin their time at Academy of Science and Engineering by taking an after school Progressive Discipline class where they will be instructed on our Guiding Principles and Behavior and Consequences continuum. The parent, the student and the school will sign a copy of the Progressive Discipline reports and ongoing weekly monitoring will determine the student’s success at Academy of Science and Engineering.

26. Expulsion Appeal Process
A request for appeal of expulsion must be received within five (5) working days after the written notice has been received by the parent/guardian. The student will be considered suspended until a meeting is convened. The appeal itself will occur within ten (10) working days after the written notice has been received by the parent/guardian, and must be attended by parent(s)/guardian(s). In the case of expulsion, a fair and impartial panel of representatives appointed by Academy of Science and Engineering Governing Board will hear the appeal, and its decision will be final.

27. Students with Special Needs
Academy of Science and Engineering recognizes that disciplinary procedures are different for special education students. Disciplinary action will be taken according to federal, state, and District policies addressing the appropriate treatment special education students. Academy of Science and Engineering will adhere to all laws and/or consent decrees affecting individuals with exceptional needs, including all provisions of Special Education Modified Consent Decree, PL 94-142, the Individual with Disabilities Education Improved Act (IDEIA), its amendments, Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, Office for Civil Rights mandates, and AB 602. The IEP team and the Principal or designated administrator will be responsible for managing continued application of school policies.
A manifestation determination will be deemed necessary when a change of placement occurs, such that a special education student is removed for more than ten consecutive days or is subjected to a series of removals that appear as a pattern because they accumulate to more than ten school days in a school year. Consideration in this decision will be given to such factors as the length of each removal, the total amount of time the student is removed and the proximity of the removals to each other.
ELEMENT ELEVEN: STRS, PERS, and Social Security Coverage

1. Process by which Salaries, Benefits and Working Conditions will be determined
Academy of Science and Engineering shall be deemed the exclusive public school employer of the employees of Academy of Science and Engineering for collective bargaining purposes, and will comply with all provisions of the Educational Employment Relations Act (EERA). Academy of Science and Engineering Certificated and Classified employees are encouraged to join a local collective bargaining unit, such as the United Teachers of Los Angeles (UTLA) and California School Employees Association (CSEA).

All decisions regarding employee salaries and health and welfare benefits will receive recommendations from the School Leadership Council and Human Resources Committee. These committees include representatives of administrative, teaching and clerical staff. With respect to salaries and benefits, the principal will take the recommendations to the Governing Board who will make the final decision. Similarly, with respect to working conditions, calendar, holidays, vacations, and work year, the principal will take the recommendations of the Leadership Council and the Human Resources Committee to the Governing Board for approval as necessary.

2. Retirement
It will be the responsibility of the School’s Principal to ensure that Academy of Science and Engineering will make all contributions that are legally required of employers. Academy of Science and Engineering shall forward, under the direction of the School’s Principal, any required payroll deduction and related data to the Los Angeles County Office of Education (LACOE) as required by Education Code 47611.3 and 41365. Any reports submitted to LACOE will be in a format acceptable to LACOE. Academy of Science and Engineering may conduct its own employee payroll and accounting duties or it may contract with a reputable outside accounting service to conduct such duties.

The Treasurer of the Governing Board for the Academy of Science and Engineering will be responsible for ensuring that appropriate arrangements for retirement system coverage for employees has been made, and will be responsible for oversight and insuring that all retirement and other employee related payments are sent to the appropriate agency in a timely manner.

a) STRS (State Teachers’ Retirement System):

All full-time certificated employees will participate in the State Teachers Retirement System (STRS). Employees will contribute the required percentage and Academy of Science and Engineering will contribute the employer’s portion required by STRS. All withholding from certificated employees and Academy of Science and Engineering will be forwarded to the STRS fund as required.

The school’s employees will accumulate service credit years in the same manner as all other members of STRS or other similar retirement system.

b) PERS (Public Employees’ Retirement System):
Academy of Science and Engineering will participate in the Public Agency Retirement System for non-PERS/STRS eligible part-time employees.

**Process for Resolving Complaints/Grievances**

Persons working at Academy of Science and Engineering, who believe they have been wrongfully accused of committing any wrong act and want to file a formal complaint about a violation of their contractual or other legal rights, may present such complaint or grievance to the School’s Board of Directors at the culmination of the following (4) four steps:

a) Informal Conference – Step One: Before filing a formal grievance, the employee is encouraged to make a reasonable attempt to resolve the dispute by means of an informal conference with the immediate administrator.

b) Grievance – Step Two: A formal grievance must be filed within fifteen (15) days after the grievant knew or reasonably should have known of the occurrence of the facts upon which the grievance is based. Said grievance must be provided in writing, to the immediate supervisor.

c) Grievance – Step Three: Within three (3) days after the filing of the grievance complaint, the employee and immediate supervisor will meet to discuss the matter and attempt in good faith to resolve it. The grievant is allowed to bring a union chapter chair to this meeting.

d) Grievance – Step Four: Grievant may present complaint to the school’s governing board of directors.
ELEMENT TWELVE: Attendance Alternatives

Pupils who choose not to attend Academy of Science and Engineering may choose to attend other public schools in their district of residence or pursue an interdistrict-transfer in accordance with existing enrollment and transfer policies of the district.

Academy of Science and Engineering will be a school of choice. The District will not require any child to attend Academy of Science and Engineering, nor will the school require any District employee to work at the school.
ELEMENT THIRTEEN: Employee Rights

1. Leave and Return Rights
Leave and return rights for union-represented employees who accept employment with the Charter School will be administered in accordance with applicable collective bargaining agreements between the employee’s union and the District and also in accordance with any applicable judicial rulings.
ELEMENT FOURTEEN: Mandatory Dispute Resolution

The staff and governing board members of [Charter School] agree to resolve any claim, controversy or dispute arising out of or relating to the Charter agreement between the District and [Charter School], except any controversy or claim that is in any way related to revocation of this Charter, (“Dispute”) pursuant to the terms of this Element 14.

Any Dispute between the District and [Charter School] shall be resolved in accordance with the procedures set forth below:

1) Any Dispute shall be made in writing (“Written Notification”). The Written Notification must identify the nature of the Dispute and any supporting facts. The Written Notification shall be tendered to the other party by personal delivery, by facsimile, or by certified mail. The Written Notification shall be deemed received (a) if personally delivered, upon date of delivery to the address of the person to receive such notice if delivered by 5:00 PM or otherwise on the business day following personal delivery; (b) if by facsimile, upon electronic confirmation of receipt; or (c) if by mail, two (2) business days after deposit in the U.S. Mail. All Written Notifications shall be addressed as follows:

   To Charter School: Academy of Science and Engineering
   c/o School Director  8825 South Vermont Avenue
                      Los Angeles, California 90044

   To Director of Charter Schools: Director of Charter Schools
                                Los Angeles Unified School District
                                333 South Beaudry Avenue, 25th Floor
                                Los Angeles, California 90017

2) A written response (“Written Response”) shall be tendered to the other party within twenty (20) business days from the date of receipt of the Written Notification. The parties agree to schedule a conference to discuss the Dispute identified in the Written Notice (“Issue Conference”). The Issue Conference shall take place within fifteen (15) business days from the date the Written Response is received by the other party. The Written Response may be tendered by personal delivery, by facsimile, or by certified mail. The Written Response shall be deemed received (a) if personally delivered, upon date of delivery to the address of the person to receive such notice if delivered by 5:00 p.m., or otherwise on the business day following personal delivery; (b) if by facsimile, upon electronic confirmation of receipt; or (c) if by mail, two (2) business days after deposit in the U.S. Mail.

3) If the Dispute cannot be resolved by mutual agreement at the Issue Conference, either party may then request that the Dispute be resolved by mediation. Each party shall bear its own attorney’s fees, costs and expenses associated with the mediation. The mediator’s fees and the administrative fees of the mediation shall be shared equally among the parties. Mediation proceedings shall commence within 120 days from the date of either party’s request for mediation following the Issue Conference. The parties shall mutually agree upon the selection of a mediator to resolve the Dispute. The mediator may be selected from the approved list of mediators prepared by the American Arbitration Association. Unless the parties mutually agree otherwise,
mediation proceedings shall be administered in accordance with the commercial mediation procedures of the American Arbitration Association.

4) If the mediation is not successful, then the parties agree to resolve the Dispute by binding arbitration conducted by a single arbitrator. Unless the parties mutually agree otherwise, arbitration proceedings shall be administered in accordance with the commercial arbitration rules of the American Arbitration Association. The arbitrator must be an active member of the State Bar of California or a retired judge of the state or federal judiciary of California. Each party shall bear its own attorney’s fees, costs and expenses associated with the arbitration. The arbitrator’s fees and the administrative fees of the arbitration shall be shared equally among the parties. However, any party who fails or refuses to submit to arbitration as set forth herein shall bear all attorney’s fees, costs and expenses incurred by such other party in compelling arbitration of any controversy or claim.

**District Inquiries**

District inquires shall be submitted to Academy of Science and Engineering’s administration both formally and informally. The school will make every effort to respond to District inquires within a reasonable timeframe.
ELEMENT FIFTEEN: Exclusive Public School Employer

Academy of Science and Engineering will be deemed the exclusive public school employer of the employees of the School for purposes of the Education Employment Relations Act (EERA). Any Academy of Science and Engineering employee may participate in the activities of employee organizations of their own choosing for the purpose of representation on all matters of employer-employee relations.
ELEMENT SIXTEEN: Charter School Closure

1. Revocation
The District may revoke the charter if [Charter School] commits a breach of any provision set forth in a policy related to Charter Schools adopted by the District Board of Education and/or any provisions set forth in the Charter School Act of 1992. The District may revoke the charter of the [Charter School] if the District finds, through a showing of substantial evidence, that the Charter School did any of the following:

   a) [Charter School] committed a material violation of any of the conditions, standards, or procedures set forth in the charter.
   b) [Charter School] failed to meet or pursue any of the pupil outcomes identified in the charter.
   c) [Charter School] failed to meet generally accepted accounting principles, or engaged in fiscal mismanagement.
   d) [Charter School] violated any provision of law.

Prior to revocation, and in accordance with Cal. Educ. Code section 47607(d) and State regulations, the LAUSD Board of Education will notify the [Charter School] in writing of the specific violation, and give the [Charter School] a reasonable opportunity to cure the violation, unless the LAUSD Board of Education determines, in writing, that the violation constitutes a severe and imminent threat to the health or safety of the pupils. Revocation proceedings are not subject to the dispute resolution clause set forth in this charter.

2. Charter Renewal
For renewal, the School must submit its renewal petition to the District’s Innovation and Charter Schools Division no earlier than September of the year before the charter expires.

*Closure Action

The decision to close (Charter School) either by the Charter School governing Board or by the LAUSD Board of Education, will be documented in a Closure Action. The Closure Action shall be deemed to have been automatically made when any of the following occur: the charter is revoked, or non-renewed by the LAUSD Board of Education; the Charter School board votes to close the Charter School; or the Charter lapses.

3. Closure Procedures
The procedures for charter school closure are guided by California Education Code sections 47604.32, 47605, 47605.6, and 47607 as well as California Code of Regulations, Title 5 (5 CCR), sections 11962 and 11962.1. A closed charter school must designate a responsible entity to conduct closure activities and identify how these activities will be funded. The procedures outlined below are based on “Charter School Closure Requirements and Recommendations (Revised 08/2009)” as posted on the California Department of Education website. References to “Charter School” applies to the charter school’s nonprofit corporation and/or governing board.

Documentation of Closure Action
The revocation or non-renewal of a charter school must be documented by an official action of the authorizing entity. Notice of a charter school’s closure for any reason must be provided by the authorizing entity to the California Department of Education (CDE). In addition, the charter school must send notice of its closure to:

1. Parents or guardians of students. Written notification to parents/guardians/caregivers of the enrolled students of the [Charter School] will be issued by [Charter School] within 72 hours after the determination of a Closure Action and the effective date of closure. A copy of the written notifications to parents is also to be sent to LAUSD within the same time frames.
2. The authorizing entity
3. The county office of education. Written notification to the Los Angeles County Office of Education of the Closure Action shall be made by the [Charter School] by registered mail within 72 hours of the decision to Closure Action. Charter School shall provide a copy of this correspondence to the ICSD.
4. The special education local plan area in which the school participates. Written notification to the Special Education Local Planning Area (SELPA) in which the Charter School participates of the Closure Action shall be made by the [Charter School] by registered mail within 72 hours of the decision to Closure Action. Charter School shall provide a copy of this correspondence to the ICSD.
5. The retirement systems in which the school’s employees participate. The Charter School will within fourteen (14) calendar days of closure action contact the State Teachers Retirement System (STRS), Public Employees Retirement System (PERS), and the Los Angeles County office of Education and follow their procedures for dissolving contracts and reporting. Charter School shall provide a copy of this correspondence to the ICSD. The CDE. Written notification to the California Department of Education of the Closure.
6. Action shall be made by the [Charter School] by registered mail within 72 hours of the decision to Closure Action. Charter School shall provide a copy of this correspondence to the ICSD.

Notice must be received by the CDE within ten calendar days of any official action taken by the chartering authority. Notification of all the parties above must include at least the following:

1. The effective date of the closure.
2. The name(s) of and contact information for the person(s) handling inquiries regarding the closure.
3. The students’ school districts of residence.
4. How parents or guardians may obtain copies of student records, including specific information on completed courses and credits that meet graduation requirements.

In addition to the four required items above, notification to the CDE must also include:

1. A description of the circumstances of the closure.
2. The location of student and personnel records.

In addition to the four required items above, notification to parents, guardians, and students
should also include:

1. Information on how to transfer the student to an appropriate school.
2. A certified packet of student information that includes closure notice, a copy of their child’s cumulative record which will include grade reports, discipline records, immunization records, completed coursework, credits that meet graduation requirements, a transcript, and State testing results.
3. Information on student completion of college entrance requirements for all high school students affected by the closure.

The charter school shall announce the closure to any school districts that may be responsible for providing education services to the former students of the charter school within 72 hours of the decision to Closure Action. This notice will include a list of returning students and their home schools. Charter school closures should occur at the end of an academic year if it is feasible maintain a legally compliant program until then. If a conversion charter school is reverting to non-charter status, notification of this change should be made to all parties listed in this section.

**School and Student Records Retention and Transfer**

Academy of Science and Engineering shall observe the following in the transfer and maintenance of school and student records:

1. The Charter School will provide the District with original cumulative files pursuant to District policy and applicable handbook(s) regarding cumulative records for secondary and elementary schools for all students both active and inactive at the Charter School. Transfer of the complete and organized original student records to the District will occur within seven calendar days of the effective date of closure.
2. The process for transferring student records to the receiving schools shall be in accordance with LAUSD procedures for students moving from one school to another.
3. The Charter School will prepare an electronic master list of all students to the Innovation and Charter Schools Division. This list will include the student’s identification number, Statewide Student Identifier (SSID), birthdate, grade, full name, address, home school, enrollment date, exit code, exit date, parent/guardian name(s), and phone number(s). If the Charter School closure occurs before the end of the school year, the list should also indicate the name of the school that each student is transferring to, if known. This electronic master list will be delivered in the form of a CD.
4. The original cumulative files should be organized for delivery to the District in two categories: active students and inactive students. The ICSD will coordinate with the Charter School for the delivery and/or pickup of the student records.
5. The Charter School must update all student records in the California Longitudinal Pupil Achievement Data System (CALPADS) prior to closing.
6. The Charter School will provide to the ICSD a copy of student attendance records, teacher grade-books, school payroll records, and Title I records (if applicable). Submission of personnel records must include any employee records the charter school has. These include, but are not limited to, records related to performance and grievance.
7. All records are to be boxed and labeled by classification of documents and the required duration of storage.
**Financial Close-Out**

After receiving notification of closure, the CDE will notify the charter school and the authorizing entity if it is aware of any liabilities the charter school owes the state. These may include overpayment of apportionments, unpaid revolving fund loans or grants, or other liabilities. The CDE may ask the county office of education to conduct an audit of the charter school if it has reason to believe that the school received state funding for which it was not eligible.

The Charter school shall ensure completion of an independent final audit within six months after the closure of the school that includes:

1. An accounting of all financial assets. These may include cash and accounts receivable and an inventory of property, equipment, and other items of material value.
2. An accounting of all liabilities. These may include accounts payable or reduction in apportionments due to loans, unpaid staff compensation, audit findings, or other investigations.
3. An assessment of the disposition of any restricted funds received by or due to the charter school.

This audit may serve as the school’s annual audit.

The financial closeout audit of the Charter School will be paid for by the Charter School. This audit will be conducted by a neutral, independent licensed CPA who will employ generally accepted accounting principles. Any liability or debt incurred by Academy of Science and Engineering will be the responsibility of the Charter School and not LAUSD. The Charter School understands and acknowledges that [Charter School] will cover the outstanding debts or liabilities of [Charter School]. Any unused monies at the time of the audit will be returned to the appropriate funding source. Academy of Science and Engineering understands and acknowledges that only unrestricted funds will be used to pay creditors. Any unused AB 602 funds will be returned to the District SELPA or the SELPA in which the [Charter School] participates, and other categorical funds will be returned to the source of funds.

Academy of Science and Engineering shall ensure the completion and filing of any annual reports required. This includes:

1. Preliminary budgets
2. Interim financial reports
3. Second interim financial reports
4. Final unaudited reports

These reports must be submitted to the CDE and the authorizing entity in the form required. If the charter school chooses to submit this information before the forms and software are available for the fiscal year, alternative forms can be used if they are approved in advance by the CDE.

These reports should be submitted as soon as possible after the closure action, but no later than the required deadline for reporting for the fiscal year.
For apportionment of categorical programs, the CDE will count the prior year average daily attendance (ADA) or enrollment data of the closed charter school with the data of the authorizing entity. This practice will occur in the first year after the closure and will continue until CDE data collection processes reflect ADA or enrollment adjustments for all affected LEAs due to the charter closure.

Disposition of Liabilities and Assets

The closeout audit must determine the disposition of all liabilities of the charter school. Charter school closure procedures must also ensure disposal of any net assets remaining after all liabilities of the charter school have been paid or otherwise addressed. Such disposal includes, but is not limited to:

1. The return of any donated materials and property according to any conditions set when the donations were accepted.
2. The return of any grant and restricted categorical funds to their source according to the terms of the grant or state and federal law.
3. The submission of final expenditure reports for any entitlement grants and the filing of Final Expenditure Reports and Final Performance Reports, as appropriate.

Net assets of the charter school may be transferred to the authorizing entity. If the Charter School is operated by a nonprofit corporation, and if the corporation does not have any other functions than operation of the Charter School, the corporation will be dissolved according to its bylaws.

a) The corporation’s bylaws will address how assets are to be distributed at the closure of the corporation.

b) A copy of the corporations bylaws containing the information on how assets are to be distributed at the closure of the corporation, are to be provided to LAUSD prior to approval of this Charter.

For six (6) calendar months from the Closure Action or until budget allows, whichever comes first, sufficient staff as deemed appropriate by the [Charter School] Board, will maintain employment to take care of all necessary tasks and procedures required for a smooth closing of the school and student transfers.

The [Charter School] Board shall adopt a plan for wind-up of the school and, if necessary, the corporation, in accordance with the requirements of the Corporations Code.

The Charter School shall provide LAUSD within fourteen (14) calendar days of closure action prior written notice of any outstanding payments to staff and the method by which the school will make the payments.

Prior to final closure, the Charter School shall do all of the following on behalf of the school's employees, and anything else required by applicable law:

a) File all final federal, state, and local employer payroll tax returns and issue final W-2s and Form 1099s by the statutory deadlines.

b) File the Federal Notice of Discontinuance with the Department of Treasury (Treasury Form 63).

c) Make final federal tax payments (employee taxes, etc.)

e) File the final withholding tax return (Treasury Form 165).

f) File the final return with the IRS (Form 990 and Schedule).
This Element 16 shall survive the revocation, expiration, termination, cancellation of this charter or any other act or event that would end [Charter School’s] right to operate as a Charter School or cause [Charter School] to cease operation. [Charter School] and District agree that, due to the nature of the property and activities that are the subject of this petition, the District and public shall suffer irreparable harm should Charter School breach any obligation under this Element 16. The District, therefore, shall have the right to seek equitable relief to enforce any right arising under this Element 16 or any provision of this Element 16 or to prevent or cure any breach of any obligation undertaken, without in any way prejudicing any other legal remedy available to the District. Such legal relief shall include, without limitation, the seeking of a temporary or permanent injunction, restraining order, or order for specific performance, and may be sought in any appropriate court.

4. **Facilities**

   Proposed Charter School Location:
   8825 South Vermont Avenue, Los Angeles

Names of District school sites near proposed location:
1. Washington High School
2. Manual Arts High School
3. Henry Clay Middle School

The Charter School will be located within the boundaries of LAUSD.

5. **District-Owned Facilities**

   If Charter School is using LAUSD facilities as of the date of the submittal of this charter petition or takes occupancy of LAUSD facilities prior to the approval of this charter petition, Charter School shall execute an agreement provided by LAUSD for the use of the LAUSD facilities as a condition of the approval of the charter petition. If at any time after the approval of this charter petition Charter School will occupy and use any LAUSD facilities, Charter School shall execute an agreement provided by LAUSD for the use of LAUSD facilities prior to occupancy and commencing use.

Charter School agrees that occupancy and use of LAUSD facilities shall be in compliance with applicable laws and LAUSD policies for the operation and maintenance of LAUSD facilities and furnishings and equipment. All LAUSD facilities (i.e., schools) will remain subject to those laws applicable to public schools which LAUSD observes.

In the event of an emergency, all LAUSD facilities (i.e., schools) are available for use by the American Red Cross and public agencies as emergency locations which may disrupt or prevent Charter School from conducting its educational programs. If Charter School will share the use of LAUSD facilities with other LAUSD user groups, Charter School agrees it will participate in and observe all LAUSD safety policies (e.g., emergency chain of information, participate in safety drills).
The use agreements provided by LAUSD for LAUSD facilities shall contain terms and conditions addressing issues such as, but not limited to, the following:

- **Use.** Charter School will be restricted to using the LAUSD facilities for the operation of a public school providing educational instruction to public school students consistent with the terms of the charter petition and incidental related uses. LAUSD shall have the right to inspect LAUSD facilities upon reasonable notice to Charter School.

- **Furnishings and Equipment.** LAUSD shall retain ownership of any furnishings and equipment, including technology, (“F&E”) that it provides to Charter School for use. Charter School, at its sole cost and expense, shall provide maintenance and other services for the good and safe operation of the F&E.

- **Leasing; Licensing.** Use of the LAUSD facilities by any person or entity other than Charter School shall be administered by LAUSD. The parties may agree to an alternative arrangement in the use agreement.

- **Minimum Payments or Charges to be Paid to LAUSD Arising From the Facilities.**
  - **(i) Pro Rata Share.** LAUSD shall collect and Charter School shall pay a Pro Rata Share for facilities costs as provided in the Charter School Act of 1992 and its regulations. The parties may agree to an alternative arrangement regarding facilities costs in the use agreement; and
  - **(ii) Taxes; Assessments.** Generally, Charter School shall pay any assessment or fee imposed upon or levied on the LAUSD facilities that it is occupying or Charter School’s legal or equitable interest created by the use agreement.

- **Maintenance & Operations Services.** In the event LAUSD agrees to allow Charter School to perform any of the operation and maintenance services, LAUSD shall have the right to inspect the LAUSD facilities and the costs incurred in such inspection shall be paid by Charter School.
  - **(i) Co-Location.** If Charter School is co-locating or sharing the LAUSD facilities with another user, LAUSD shall provide the operations and maintenance services for the LAUSD facilities and Charter School shall pay the Pro Rata Share. The parties may agree to an alternative arrangement regarding performance of the operations and maintenance services and payment for such in the use agreement.
  - **(ii) Sole Occupant.** If Charter School is a sole occupant of LAUSD facilities, LAUSD shall allow the Charter School, at its sole cost and expense, to provide some operations and maintenance services for the LAUSD facilities in accordance with applicable laws and LAUSD’s policies on operations and maintenance services for facilities and F&E. NOTWITHSTANDING THE FOREGOING, LAUSD shall provide all services for regulatory inspections, which as the owner of the real property is required to submit, and deferred maintenance and Charter School shall pay LAUSD for the cost and expense of
providing those services. The parties may agree to an alternative arrangement regarding performance of the operations and maintenance services and payment for such services in the use agreement.

- **Real Property Insurance.** Prior to occupancy, Charter School shall satisfy those requirements to participate in LAUSD’s property insurance or, if Charter School is the sole occupant of LAUSD facilities, obtain and maintain separate property insurance for the LAUSD facilities. Charter School shall **not** have the option of obtaining and maintaining separate property insurance for the LAUSD facility IF Charter School is co-locating or sharing the LAUSD facility with another user.

**Facility status:** The charter petitioner must demonstrate control of a facility such as a commitment from the landlord, to ensure that the property is actually available to the charter developer, and that the facility is usable with or without conditions (such as a conditional code permit.) The charter school facility shall comply with all applicable building codes, standards and regulations adopted by the city and/or county agencies responsible for building and safety standards for the city in which the charter school is to be located, and the Americans with Disabilities Act (ADA). Applicable codes and ADA requirements shall also apply to the construction, reconstruction, alteration of or addition to the proposed charter school facility. The Charter School cannot exempt itself from applicable building and zoning codes, ordinances, and ADA requirements. Charter schools are required to adhere to the program accessibility requirements of Federal law (Americans with Disabilities Act and Section 504)

**Occupancy of the Site:** The charter petitioner or developer shall provide the District with a final Certificate of issued by the applicable permitting agency, allowing the petitioner to use and occupy the site. The Charter School may not open without providing a copy of the Certificate of Occupancy for the designated use of the facility. If the Charter School moves or expands to another facility during the term of this charter, the Charter School shall provide a Certificate of Occupancy to the District for each facility before the school is scheduled to open or operate in the facility or facilities. Notwithstanding any language to the contrary in this charter, the interpretation, application, and enforcement of this provision are not subject to the Dispute Resolution Process outlined in Element 14.

**Health & Safety:** The school will comply with the Healthy Schools Act, California Education Code Section 17608, which details pest management requirements for schools. Developers may find additional information at: [www.laschools.org/employee/mo/ipm](http://www.laschools.org/employee/mo/ipm)

**Asbestos Management:** The charter school will comply with the asbestos requirement as cited in the Asbestos Hazard Emergency Response Act (AHERA), 40CFR part 763. AHERA requires that any building leased or acquired that is to be used as a school or administrative building shall maintain an asbestos management plan.
## Appendix A: Assessment Strategy Table

<table>
<thead>
<tr>
<th>OUTCOMES</th>
<th>TEACHING &amp; LEARNING STRATEGIES</th>
<th>Portfolios</th>
<th>Advisor-Generated</th>
<th>PLPs</th>
<th>State Tests</th>
<th>ADDITIONAL ASSESSMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Become competent, self-motivated, lifelong learners</td>
<td>Self-directed real-world projects</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>• Performance Tasks&lt;br&gt;• Project Presentations&lt;br&gt;• ‘Applied Skills’ rubric</td>
</tr>
<tr>
<td>Proficiency in mathematics</td>
<td>• Content seminars&lt;br&gt;• Skill-specific 1:1 and/or small group instruction/remediation&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>• Diagnostic assessments&lt;br&gt;• Curriculum-embedded tests&lt;br&gt;• Benchmark standards tests&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>Proficiency in English/language arts</td>
<td>• Content seminars&lt;br&gt;• Skill-specific 1:1 and/or small group instruction/remediation&lt;br&gt;• Creative &amp; expository writing&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>• Diagnostic assessments&lt;br&gt;• Curriculum-embedded tests&lt;br&gt;• Benchmark standards tests&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>Proficiency in science</td>
<td>• Content seminars/science labs&lt;br&gt;• Research papers&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>• Performance tasks&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>Proficiency in history/social sciences</td>
<td>• Content seminars&lt;br&gt;• Research papers&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>• Performance tasks&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>World languages</td>
<td>• Content seminars&lt;br&gt;• Technology-based learning&lt;br&gt;• Self-paced programs</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>• Benchmark assessments&lt;br&gt;• Performance tasks&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>(For EL students): Progress toward fluency in English</td>
<td>• Sheltered Instruction&lt;br&gt;• Supplemental English Language&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>• Diagnostic assessments&lt;br&gt;• Benchmark assessments&lt;br&gt;• Performance tasks&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>Proficiency with technology</td>
<td>• Workshops (skill-based)&lt;br&gt;• Technology-based learning&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>• Performance tasks&lt;br&gt;• Project presentations</td>
</tr>
<tr>
<td>Proficiency in arts and demonstration of physical fitness</td>
<td>• Enrichment activities focused on the arts and health and fitness&lt;br&gt;• Performance-based activities&lt;br&gt;• Real-World Projects</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>• Student self-evaluations&lt;br&gt;• Advisor observations/narratives&lt;br&gt;• School-developed rubrics&lt;br&gt;• Project presentations&lt;br&gt;• Performances</td>
</tr>
<tr>
<td>Applied Skills</td>
<td>• Socratic content seminars&lt;br&gt;• Workshops (process-oriented)&lt;br&gt;• Real-world projects</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>• Performance tasks&lt;br&gt;• Project presentations&lt;br&gt;• ‘Applied Skills’ rubric</td>
</tr>
<tr>
<td>Develop a positive, substance-free, crime-free lifestyle</td>
<td>• Employment skills&lt;br&gt;• Advisory-based activities&lt;br&gt;• Student journal writing &amp; reflection&lt;br&gt;• Mentor interaction</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>• Student survey&lt;br&gt;• Parent observations&lt;br&gt;• Advisor observations/narratives&lt;br&gt;• Project presentations&lt;br&gt;• ‘Applied Skills’ rubric</td>
</tr>
</tbody>
</table>
Appendix B: Articles of Incorporation

State of California
Secretary of State

I, DEBRA BOWEN, Secretary of State of the State of California, hereby certify:

That the attached transcript of 2 page(s) is a full, true and correct copy of the original record in the custody of this office.

IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of

JUN 3 2010

[Signature]
DEBRA BOWEN
Secretary of State
ARTICLES OF INCORPORATION

I
The name of the corporation is ACADEMY OF SCIENCE AND ENGINEERING

II
A. This corporation is a nonprofit PUBLIC BENEFIT CORPORATION and is not organized for the private gain of any person. It is organized under the Nonprofit Public Benefit Corporation Law for public purposes

B. The specific purpose of this corporation is to ESTABLISH AND MAINTAIN ACADEMY OF SCIENCE AND ENGINEERING, a California public school.

III
The name and address in the State of California of this corporation’s initial agent for service of process is:
Edward Robillard
C/O A Better LA
1150 S. Olive Street, Suite 340
Los Angeles, CA 90015

IV
A. This corporation is organized and operated exclusively for charitable purposes within the meaning of Section 501 (c)(3), Internal Revenue Code.

B. No substantial part of the activities of this corporation shall consist of carrying on propaganda, or otherwise attempting to influence legislation, and the corporation shall not participate or intervene in any political campaign (including the publishing or distribution of statements) on behalf of any candidate for public office.

V
The property of this corporation is irrevocably dedicated to charitable purposes and no part of the net income or assets of this corporation shall ever inure to the benefit of any director, officer or member thereof or to the benefit of any private person. Upon the dissolution or winding up of the corporation, its assets remaining after payment, or provision for payment, of all debts and liabilities of this corporation shall be distributed to a nonprofit fund, foundation or corporation that is organized and operated exclusively for charitable purposes and which has established its tax exempt status under Section 501 (c)(3), Internal Revenue Code.

___________________________
Edward Robillard, Incorporator
Appendix C: Bylaws of Academy of Science and Engineering

BYLAWS
OF
Academy of Science and Engineering
(A California Nonprofit Public Benefit Corporation)

ARTICLE I
NAME

Section 1. NAME. The name of this corporation is Academy of Science and Engineering.

ARTICLE II
PRINCIPAL OFFICE OF THE CORPORATION

Section 1. PRINCIPAL OFFICE OF THE CORPORATION. The principal office for the transaction of the activities and affairs of this corporation is 8825 S, Vermont Avenue, Los Angeles, State of California. The Board of Directors may change the location of the principal office. Any such change of location must be noted by the Secretary on these bylaws opposite this Section; alternatively, this Section may be amended to state the new location.

Section 2. OTHER OFFICES OF THE CORPORATION. The Board of Directors may at any time establish branch or subordinate offices at any place or places where this corporation is qualified to conduct its activities.

ARTICLE III
GENERAL AND SPECIFIC PURPOSES; LIMITATIONS

Section 1. GENERAL AND SPECIFIC PURPOSES. The Corporation’s purpose shall include, but not be limited to, the raising of the quality of public education for traditionally “underserved” seventh through twelfth grade students in the area of South Los Angeles known as Westmont/West Athens/Gardena by establishing and maintaining Academy of Science and Engineering (or “Charter School”). Such activities include, but shall not be limited to:

- Raising funds for the Corporation for purposes associated with the operation of Academy of Science and Engineering;
- Facility planning and construction of, and site acquisition for, the Charter School;
- Disseminating information about and gaining support for Academy of Science and Engineering; and
- Acting as fiscal manager for the Corporation.

Also in the context of these purposes, the Corporation shall not, except to an insubstantial degree, engage in any other activities or exercise of power that do not further the purposes of the Corporation.
The Corporation shall not carry on any other activities not permitted to be carried on by: (a) a corporation exempt from federal income tax under section 501(c)(3) of the Internal Revenue Code, or the corresponding section of any future federal tax code; or (b) a corporation, contributions to which are deductible under section 170(c)(2) of the Internal Revenue Code, or the corresponding section of any future federal tax code. No substantial part of the activities of the Corporation shall consist of the carrying on of propaganda, or otherwise attempting to influence legislation, and the Corporation shall not participate in, or intervene in (including the publishing or distributing of statements) any political campaign on behalf of or in opposition to any candidate for public office.

ARTICLE IV
CONSTRUCTION AND DEFINITIONS

Section 1. CONSTRUCTION AND DEFINITIONS. Unless the context indicates otherwise, the general provisions, rules of construction, and definitions in the California Nonprofit Corporation Law shall govern the construction of these bylaws. Without limiting the generality of the preceding sentence, the masculine gender includes the feminine and neuter, the singular includes the plural, and the plural includes the singular, and the term “person” includes both a legal entity and a natural person.

ARTICLE V
DEDICATION OF ASSETS

Section 1. DEDICATION OF ASSETS. This corporation’s assets are irrevocably dedicated to public benefit purposes as set forth in the Charter School’s Charter. No part of the net earnings, properties, or assets of the corporation, on dissolution or otherwise, shall inure to the benefit of any private person or individual, or to any director or officer of the corporation. On liquidation or dissolution, all properties and assets remaining after payment, or provision for payment, of all debts and liabilities of the corporation shall be distributed to a nonprofit fund, foundation, or corporation that is organized and operated exclusively for charitable purposes and that has established its exempt status under Internal Revenue Code section 501(c)(3).

ARTICLE VI
CORPORATIONS WITHOUT MEMBERS

Section 1. CORPORATIONS WITHOUT MEMBERS. This corporation shall have no voting members within the meaning of the Nonprofit Corporation Law. The corporation’s Board of Directors may, in its discretion, admit individuals to one or more classes of nonvoting members; the class or classes shall have such rights and obligations as the Board of Directors finds appropriate.

ARTICLE VII
BOARD OF DIRECTORS
Section 1. GENERAL POWERS. Subject to the provisions and limitations of the California Nonprofit Public Benefit Corporation Law and any other applicable laws, and subject to any limitations of the articles of incorporation or bylaws, the corporation’s activities and affairs shall be managed, and all corporate powers shall be exercised, by or under the direction of the Board of Directors (“Board”). The Board may delegate the management of the corporation’s activities to any person(s), management company or committees, however composed, provided that the activities and affairs of the corporation shall be managed and all corporate powers shall be exercised under the ultimate direction of the Board.

Section 2. SPECIFIC POWERS. Without prejudice to the general powers set forth in Section 1 of these bylaws, but subject to the same limitations, the Board of Directors shall have the power to:

a. Appoint and remove, at the pleasure of the Board of Directors, all corporate officers, agents, and employees; prescribe powers and duties for them as are consistent with the law, the articles of incorporation, and these bylaws; fix their compensation; and require from them security for faithful service.

b. Change the principal office or the principal business office in California from one location to another; cause the corporation to be qualified to conduct its activities in any other state, territory, dependency, or country; conduct its activities in or outside California.

c. Borrow money and incur indebtedness on the corporation’s behalf and cause to be executed and delivered for the corporation’s purposes, in the corporate name, promissory notes, bonds, debentures, deeds of trust, mortgages, pledges, hypothecations, and other evidences of debt and securities.

d. Adopt and use a corporate seal.

Section 3. DESIGNATED DIRECTORS AND TERMS. The number of directors shall be no fewer than five (5) and no more than nine (9), unless changed by amendments to these bylaws and to the Academy of Science and Engineering charter. All directors shall have full voting rights, including any representative appointed by the charter authorizer as consistent with Education Code Section 47604(b). All other directors shall be designated by the existing Board of Directors.

It is the intent of the Corporation that the composition of the Board of Directors shall represent a diversity of knowledge, skills, and experience, to enable the Board to make informed, well-balanced decisions on the economic viability and social impact of its activities. Each director shall be at least twenty-one years of age, and a resident of the State of California. The Board shall include at least one parent/guardian of a currently enrolled student, and community members. The Board shall seek community members with expertise in areas critical to school success including, but not limited to: education, school finance, fundraising, facilities, government, and business and legal practices.
Section 4. RESTRICTION ON INTERESTED PERSONS AS DIRECTORS. No persons serving on the Board of Directors may be interested persons. An interested person is (a) any person compensated by the corporation for services rendered to it within the previous 12 months, whether as a full-time or part-time employee, independent contractor, or otherwise, excluding any reasonable compensation paid to a director as director; and (b) any brother, sister, ancestor, descendant, spouse, brother-in-law, sister-in-law, son-in-law, daughter-in-law, mother-in-law, or father-in-law of such person.

Section 5. DIRECTORS’ TERM. The initial Board members shall serve staggered terms of service, as follows: At the end of third (3rd) year, for staggering purposes and by lottery, no fewer than two (2) or more than three (3) of the Board members’ terms will end. At the end of the fourth (4th) year, a different two (2) to three (3) members’ terms will end. At the end of the fifth (5th) year, the remaining original members’ terms will end. This way, at any given time approximately 2/3 of the Governing Board members will continue to serve on the Board. However, upon expiration of their term, the Academy of Science and Engineering Governing Board members may be reselected to serve additional terms of service, but not to exceed two consecutive terms.

Each director appointed thereafter shall serve for three (3) years and until a successor director has been designated and qualified.

Section 6. NOMINATIONS BY COMMITTEE. The selection process of members of the Board shall be conducted through nomination by a Nominating Committee. The Nominating Committee could include members from the Academy of Science and Engineering Governing Board, the Advisory Board, Parents & Community representatives. The Nominating Committee will recruit and interview prospective candidates and recommend qualified candidates to the Board, which will make the final selection.

Section 7. USE OF CORPORATE FUNDS TO SUPPORT NOMINEE. If more people have been nominated for director than can be elected, no corporation funds may be expended to support a nominee without the Board’s authorization.

Section 8. EVENTS CAUSING VACANCIES ON BOARD. A vacancy or vacancies on the Board of Directors shall occur in the event of (a) the death, resignation, or removal of any director; (b) the declaration by resolution of the Board of Directors of a vacancy in the office of a director who has been convicted of a felony, declared of unsound mind by a court order, or found by final order or judgment of any court to have breached a duty under California Nonprofit Public Benefit Corporation Law, Chapter 2, Article 3; or (c) the increase of the authorized number of directors.

Section 9. RESIGNATION OF DIRECTORS. Except as provided below, any director may resign by giving written notice to the Chairman of the Board, if any, or to the President, or the Secretary, or to the Board. The resignation shall be effective when the notice is given unless the notice specifies a later time for the resignation to become effective. If a director’s resignation is effective at a later time, the Board of Directors may elect a successor to take office as of the date when the resignation becomes effective.
Section 10. DIRECTOR MAY NOT RESIGN IF NO DIRECTOR REMAINS. Except on notice to the California Attorney General, no director may resign if the corporation would be left without a duly elected director or directors.

Section 11. REMOVAL OF DIRECTORS. A Board member may be removed by a sixty-six percent (66%) majority vote of Board members at a duly noticed meeting with a quorum established for conduct that is detrimental to the best interests of the Corporation.

A director’s absence from a duly noticed Board meeting is considered unexcused if no communication, either written or verbal, is provided to the Board regarding the necessity of the director’s absence from the noticed Board meeting. A Director may be removed by a simple majority vote of Board members at a duly noticed meeting with a quorum established after he or she has been absent three (3) consecutive times from duly noticed Board meetings.

Any vacancy caused by the removal of a director shall be filled as provided in Section 12.

Section 12. VACANCIES FILLED BY BOARD. Board vacancies caused by resignation, removal, death, or any other cause may be filled by vote of a majority of the remaining directors. Upon a Board seat being vacated, the Board shall establish a clear procedure for selecting and recruiting that will result in an appointee selection for invitation to fill the remaining term of the vacant seat. If the Board seat becomes vacant after December, then nomination for the seat will be part of the regular annual appointment process.

Section 13. NO VACANCY ON REDUCTION OF NUMBER OF DIRECTORS. Any reduction of the authorized number of directors shall not result in any directors being removed before his or her term of office expires.

Section 14. PLACE OF BOARD OF DIRECTORS MEETINGS. Meetings shall be held at the principal office of the Corporation, located within the jurisdictional boundaries of the granting agency. The Board of Directors may also designate that a meeting be held at any other place within the granting agency’s boundaries designated in the notice of the meeting. All meetings of the Board of Directors shall be called, held and conducted in accordance with the terms and provisions of the Ralph M. Brown Act (“Brown Act”), California Government Code Sections 54950, et seq., as said chapter may be modified by subsequent legislation.

Section 15. MEETINGS; ANNUAL MEETINGS. All meetings of the Board of Directors and its committees shall be called, noticed, and held in compliance with the provisions of the Brown Act. The Board of Directors shall meet annually for the purpose of organization, appointment of officers, and the transaction of such other business as may properly be brought before the meeting. This meeting shall be held at a time, date, and place as noticed by the Board of Directors in accordance with the Brown Act.

Section 16. REGULAR MEETINGS. The Board shall meet regularly, at least monthly. Regular meetings of the Board of Directors, including annual meetings, shall be held at such times and places as may from time to time be fixed by the Board of Directors. At least 72 hours before a regular meeting, the Board of Directors, or its designee shall post an agenda containing a brief general description of each item of business to be transacted or discussed at
Section 17. SPECIAL MEETINGS. Special meetings of the Board of Directors may be called at any time by the Chairman of the Board of Directors, or by a majority of the Board of Directors. The party calling a special meeting shall determine the place, date, and time thereof.

Section 18. NOTICE OF SPECIAL MEETINGS. In accordance with the Brown Act, special meetings of the Board of Directors may be held only after twenty-four (24) hours notice is given to the public through the posting of an agenda. Directors shall also receive at least twenty-four (24) hours notice of the special meeting, in the following manner:

a. Any such notice shall be addressed or delivered to each director at the director’s address as it is shown on the records of the Corporation, or as may have been given to the Corporation by the director for purposes of notice, or, if an address is not shown on the Corporation’s records or is not readily ascertainable, at the place at which the meetings of the Board of Directors are regularly held.

b. Notice by mail shall be deemed received at the time a properly addressed written notice is deposited in the United States mail, postage prepaid. Any other written notice shall be deemed received at the time it is personally delivered to the recipient or is delivered to a common carrier for transmission, or is actually transmitted by the person giving the notice by electronic means to the recipient. Oral notice shall be deemed received at the time it is communicated, in person or by telephone or wireless, to the recipient or to a person at the office of the recipient whom the person giving the notice has reason to believe will promptly communicate it to the receiver.

c. The notice of special meeting shall state the time of the meeting, and the place if the place is other than the principal office of the Corporation, and the general nature of the business proposed to be transacted at the meeting. No business, other than the business the general nature of which was set forth in the notice of the meeting, may be transacted at a special meeting.

Section 19. QUORUM. A majority of the directors then in office shall constitute a quorum. All acts or decisions of the Board of Directors will be by majority vote of the directors in attendance, based upon the presence of a quorum. Should there be less than a majority of the directors present at any meeting, the meeting shall be adjourned. Directors may not vote by proxy.

Section 20. TELECONFERENCE MEETINGS. Members of the Board of Directors may participate in teleconference meetings so long as all of the following requirements in the Brown Act are complied with:

a. At a minimum, a quorum of the members of the Board of Directors shall participate in the teleconference meeting from locations within the boundaries of the school district in which the Charter School operates;
b. All votes taken during a teleconference meeting shall be by roll call;

c. If the Board of Directors elects to use teleconferencing, it shall post agendas at all teleconference locations with each teleconference location being identified in the notice and agenda of the meeting;

d. All locations where a member of the Board of Directors participates in a meeting via teleconference must be fully accessible to members of the public and shall be listed on the agenda;

e. Members of the public must be able to hear what is said during the meeting and shall be provided with an opportunity to address the Board of Directors directly at each teleconference location; and

f. The agenda shall indicate that members of the public attending a meeting conducted via teleconference need not give their name when entering the conference call.

Section 21. ADJOURNMENT. A majority of the directors present, whether or not a quorum is present, may adjourn any Board of Directors meeting to another time or place. Notice of such adjournment to another time or place shall be given, prior to the time schedule for the continuation of the meeting, to the directors who were not present at the time of the adjournment, and to the public in the manner prescribed by any applicable public open meeting law.

Section 22. COMPENSATION AND REIMBURSEMENT. Directors may not receive compensation for their services as directors or officers, only such reimbursement of expenses as the Board of Directors may establish by resolution to be just and reasonable as to the corporation at the time that the resolution is adopted.

Section 23. CREATION AND POWERS OF COMMITTEES. The Board, by resolution adopted by a majority of the directors then in office, may create one or more committees of the Board, each consisting of two or more directors and no one who is not a director, to serve at the pleasure of the Board. Appointments to committees of the Board of Directors shall be by majority vote of the authorized number of directors. The Board of Directors may appoint one or more directors as alternate members of any such committee, who may replace any absent member at any meeting. Any such committee shall have all the authority of the Board, to the extent provided in the Board of Directors’ resolution, except that no committee may:

a. Take any final action on any matter that, under the California Nonprofit Public Benefit Corporation Law, also requires approval of the members or approval of a majority of all members;

---

¹ This means that members of the Board of Directors who choose to utilize their homes or offices as teleconference locations must open these locations to the public and accommodate any members of the public who wish to attend the meeting at that location.

² The Brown Act prohibits requiring members of the public to provide their names as a condition of attendance at the meeting.
b. Fill vacancies on the Board of Directors or any committee of the Board;

c. Fix compensation of the directors for serving on the Board of Directors or on any committee;

d. Amend or repeal bylaws or adopt new bylaws;

e. Amend or repeal any resolution of the Board of Directors that by its express terms is not so amendable or subject to repeal;

f. Create any other committees of the Board of Directors or appoint the members of committees of the Board;

g. Expend corporate funds to support a nominee for director if more people have been nominated for director than can be elected; or

h. Approve any contract or transaction to which the corporation is a party and in which one or more of its directors has a material financial interest.

The Board may also create one or more advisory committees composed of directors and non-directors. It is the intent of the Board to encourage the participation and involvement of faculty, staff, parents, students and administrators through attending and participating in open committee meetings. The Board may establish, by resolution adopted by a majority of the directors then in office, advisory committees to serve at the pleasure of the Board.

Section 24. MEETINGS AND ACTION OF COMMITTEES. Meetings and actions of committees of the Board of Directors shall be governed by, held, and taken under the provisions of these bylaws concerning meetings, other Board of Directors’ actions, and the Brown Act, if applicable, except that the time for general meetings of such committees and the calling of special meetings of such committees may be set either by Board of Directors’ resolution or, if none, by resolution of the committee. Minutes of each meeting shall be kept and shall be filed with the corporate records. The Board of Directors may adopt rules for the governance of any committee as long as the rules are consistent with these bylaws. If the Board of Directors has not adopted rules, the committee may do so.

Section 25. NON-LIABILITY OF DIRECTORS. No director shall be personally liable for the debts, liabilities, or other obligations of this corporation.

Section 26. COMPLIANCE WITH LAWS GOVERNING STUDENT RECORDS. The Charter School and the Board of Directors shall comply with all applicable provisions of the Family Education Rights Privacy Act (“FERPA”) as set forth in Title 20 of the United States Code Section 1232g and attendant regulations as they may be amended from time to time.
ARTICLE VIII
OFFICERS OF THE CORPORATION

Section 1. OFFICES HELD. The officers of this Corporation shall be a Chair, a Vice-Chair, a Secretary, and a Treasurer.

Section 2. ELECTION OF OFFICERS. The officers of this Corporation shall be chosen by the Board of Directors and shall serve at the pleasure of the Board. However, it is the Board’s intent to build a ladder of succession in its officer positions through annually stepping through the following sequences at the annual Board meeting:

- The Chairperson will be succeeded by the Vice-Chairperson;
- The Vice-Chairperson will be succeeded by the Secretary;
- If circumstances preclude the succession, the next lower position will move forward to the vacant position;
- A new Board Secretary appointment at each annual meeting will begin the Board officer succession ladder.
- The Board Treasurer position will not be part of the succession ladder, but will be appointed, or reappointed, annually by the Board.

Section 3. REMOVAL OF OFFICERS. The Board of Directors may remove any officer with or without cause.

Section 4. RESIGNATION OF OFFICERS. Any officer may resign at any time by giving written notice to the Board. The resignation shall take effect on the date the notice is received or at any later time specified in the notice. Unless otherwise specified in the notice, the resignation need not be accepted to be effective. Any resignation shall be without prejudice to any rights of the corporation under any contract to which the officer is a party.

Section 5. VACANCIES IN OFFICE. A vacancy in any office because of death, resignation, removal, disqualification, or any other cause shall be filled in the manner prescribed in these bylaws for normal appointment to that office, provided, however, that vacancies need not be filled on an annual basis.

Section 6. BOARD CHAIR. The Board Chair shall manage and preside over Board meeting using generally accepted parliamentary rules of order. The Chair shall:

- Set and publish all meeting agendas and meeting schedules;
- Be an ex officio member of all corporate committees and perform other duties as assigned by the Board;
- Use his or her discretion in managing the affairs of the Board including binding the Corporation to contracts and debts appropriate to, and consistent with, implementing the Board’s policies, which shall be consistent with Board approved policies and reasonable business practices; and
- Not hold other Board offices.
Section 7. VICE-CHAIR. In the absence of the Chair, the Vice-Chair shall preside over Board meetings and have the same discretion and responsibility in managing the affairs of the Board. The Vice-Chair shall be responsible for overseeing the annual Board member selection process and logistics for the annual meeting, and perform other duties as assigned by the Board. The Vice-chair shall succeed into the Board Chair position at the annual meeting and may not hold another Board officer position.

Section 8. SECRETARY. The Secretary shall be responsible for giving notice and keeping minutes of directors’ meetings, and receiving and sending corporate correspondence; be responsible for filing reports and statements as required by local and state law, certifying corporate documents, and performing other duties as assigned by the Board of Directors. The Secretary shall not hold another office of the Board and shall succeed into the Vice-Chairperson position at the annual meeting.

Section 9. TREASURER. The Treasurer shall be responsible for accounting of corporate funds and other corporate valuables; Assure that the corporation keeps accounts of receipts, expenditures and deposits, and renders accounts on request of the Board or Board Chairperson; Not make disbursements, but will be a second signature on corporate checks; Provide corporate financial status reports at each meeting of the Board, and an annual financial report and projections at the annual Board meeting; Be responsible for performing other duties as assigned by the Board; and Not hold another office of the Board.

Section 10. CHIEF EXECUTIVE OFFICER (CEO). The CEO acts as the Executive Director of the Corporation. The CEO is responsible for overseeing and reporting on the implementation of Board plans, policies, procedures, and other Corporate Board decisions. He or she is the Board’s agent for assuring efficient and effective organizational operations, administration and funding source development. In coordination with Board Officers and Committee Chairpersons, the CEO shall be responsible for the preparation of Board meeting materials, reports, statements and other necessary documents for Board meetings.

ARTICLE IX
CONTRACTS WITH DIRECTORS

Section 1. CONTRACTS WITH DIRECTORS. The Corporation shall not enter into a contract or transaction in which a director directly or indirectly has a material financial interest (nor any other corporation, firm, association, or other entity in which one or more of this Corporation’s directors are directors have a material financial interest).

ARTICLE X
CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES

Section 1. CONTRACTS WITH NON-DIRECTOR DESIGNATED EMPLOYEES. The Corporation shall not enter into a contract or transaction in which a non-director designated employee (e.g., officers and other key decision-making employees) directly or indirectly has a material financial interest.
ARTICLE XI
LOANS TO DIRECTORS AND OFFICERS

Section 1. LOANS TO DIRECTORS AND OFFICERS. This corporation shall not lend any money or property to or guarantee the obligation of any director or officer without the approval of the California Attorney General; provided, however, that the corporation may advance money to a director or officer of the corporation for expenses reasonably anticipated to be incurred in the performance of his or her duties if that director or officer would be entitled to reimbursement for such expenses of the corporation.

ARTICLE XII
INDEMNIFICATION

Section 1. INDEMNIFICATION. To the fullest extent permitted by law, this corporation shall indemnify its directors, officers, employees, and other persons described in Corporations Code Section 5238(a), including persons formerly occupying any such positions, against all expenses, judgments, fines, settlements, and other amounts actually and reasonably incurred by them in connection with any “proceeding,” as that term is used in that section, and including an action by or in the right of the corporation by reason of the fact that the person is or was a person described in that section. “Expenses,” as used in this bylaw, shall have the same meaning as in that section of the Corporations Code.

On written request to the Board of Directors by any person seeking indemnification under Corporations Code Section 5238 (b) or Section 5238 (c) the Board of Directors shall promptly decide under Corporations Code Section 5238 (e) whether the applicable standard of conduct set forth in Corporations Code Section 5238 (b) or Section 5238 (c) has been met and, if so, the Board of Directors shall authorize indemnification.

ARTICLE XIII
INSURANCE

Section 1. INSURANCE. This corporation shall have the right to purchase and maintain insurance to the full extent permitted by law on behalf of its directors, officers, employees, and other agents, to cover any liability asserted against or incurred by any director, officer, employee, or agent in such capacity or arising from the director’s, officer’s, employee’s, or agent’s status as such.

ARTICLE XIV
MAINTENANCE OF CORPORATE RECORDS

Section 1. MAINTENANCE OF CORPORATE RECORDS. This corporation shall keep:

a. Adequate and correct books and records of account;
b. Written minutes of the proceedings of the Board and committees of the Board; and
c. Such reports and records as required by law.

**ARTICLE XV**

**INSPECTION RIGHTS**

Section 1. **DIRECTORS’ RIGHT TO INSPECT.** Every director shall have the right at any reasonable time to inspect the corporation’s books, records, documents of every kind, physical properties, and the records of each subsidiary as permitted by California and federal law. The inspection may be made in person or by the director’s agent or attorney. The right of inspection includes the right to copy and make extracts of documents as permitted by California and federal law. This right to inspect may be circumscribed in instances where the right to inspect conflicts with California or federal law (e.g., restrictions on the release of educational records under FERPA) pertaining to access to books, records, and documents.

Section 2. **ACCOUNTING RECORDS AND MINUTES.** On written demand on the corporation, any director may inspect, copy, and make extracts of the accounting books and records and the minutes of the proceedings of the Board of Directors and committees of the Board of Directors at any reasonable time for a purpose reasonably related to the director’s interest as a director. Any such inspection and copying may be made in person or by the director’s agent or attorney. This right of inspection extends to the records of any subsidiary of the corporation.

Section 3. **MAINTENANCE AND INSPECTION OF ARTICLES AND BYLAWS.** This corporation shall keep at its principal California office the original or a copy of the articles of incorporation and bylaws, as amended to the current date, which shall be open to inspection by the directors at all reasonable times during office hours.

**ARTICLE XVI**

**REQUIRED REPORTS**

Section 1. **ANNUAL REPORTS.** The Board of Directors shall cause an annual report to be sent to itself (the members of the Board of Directors) within 120 days after the end of the corporation’s fiscal year. That report shall contain the following information, in appropriate detail:

a. The assets and liabilities, including the trust funds, or the corporation as of the end of the fiscal year;

b. The principal changes in assets and liabilities, including trust funds;

c. The corporation’s revenue or receipts, both unrestricted and restricted to particular purposes;

d. The corporation’s expenses or disbursement for both general and restricted purposes;

e. Any information required under these bylaws; and
f. An independent accountant’s report or, if none, the certificate of an authorized officer of the corporation that such statements were prepared without audit from the corporation’s books and records.

Section 2. ANNUAL STATEMENT OF CERTAIN TRANSACTIONS AND INDEMNIFICATIONS. As part of the annual report to all directors, or as a separate document if no annual report is issued, the corporation shall, within 120 days after the end of the corporation’s fiscal year, annually prepare and mail or deliver to each director and furnish to each director a statement of any transaction or indemnification of the following kind:

a. Any transaction (i) in which the corporation, or its parent or subsidiary, was a party, (ii) in which an “interested person” had a direct or indirect material financial interest, and (iii) which involved more than $50,000 or was one of several transactions with the same interested person involving, in the aggregate, more than $50,000. For this purpose, an “interested person” is either:

(1) Any director or officer of the corporation, its parent, or subsidiary (but mere common directorship shall not be considered such an interest); or

(2) Any holder of more than 10 percent of the voting power of the corporation, its parent, or its subsidiary. The statement shall include a brief description of the transaction, the names of interested persons involved, their relationship to the corporation, the nature of their interest, provided that if the transaction was with a partnership in which the interested person is a partner, only the interest of the partnership need be stated.

ARTICLE XVII
BYLAW AMENDMENTS

Section 1. BYLAW AMENDMENTS. The Board of Directors may adopt, amend or repeal any of these Bylaws by a majority of the directors present at a meeting duly held at which a quorum is present, except that no amendment shall change any provisions of the Charter that created Academy of Science and Engineering or make any provisions of these Bylaws inconsistent with that Charter, the corporation’s Articles of Incorporation, or any laws.

ARTICLE XVIII
FISCAL YEAR

Section 1. FISCAL YEAR OF THE CORPORATION. The fiscal year of the Corporation shall begin on July 1st and end on June 30th of each year.
CERTIFICATE OF SECRETARY

I certify that I am the duly elected and acting Secretary of Academy of Science and Engineering, a California nonprofit public benefit corporation; that these bylaws, consisting of 14 pages, are the bylaws of this corporation as adopted by the Board of Directors on November 22, 2011; and that these bylaws have not been amended or modified since that date.

Executed on November 22, 2011 at Los Angeles, California.

[Signature]
Lynne Macer Rhodes, Secretary
Appendix D: Budget

1. Financial Plan

The Academy of Science and Engineering financial plan contains a budget and forecast for three years of operation. Revenue entitlements were calculated based on published information on the state direct funding model and by identifying any additional federal, state, and local funding for students in grades nine through twelve typically available to a district-sponsored charter school based on characteristics of the school’s programs and student’s demographics. Academy of Science and Engineering will apply for funds not included in the charter school categorical block grant, but for which charter schools can apply directly. We will also apply for other funds such as grants, revolving loan, facility improvement, early apportionment funding, etc., which are normally available to new charter schools. However, we have taken a loan for $250,000 from an individual that will ensure that Academy of Science and Engineering has sufficient funds to prepare and operate until we receive our 1st state apportionment (see proof of funds credit union letter on page 229). Estimated expenditures are reflective of LAUSD benchmarks for personnel, published school financial information on general operational costs, and research for outsourcing (vendors, insurance, maintenance, etc.). Academy of Science and Engineering elects to receive direct funding from the State Fund to be deposited into its own account at the County Treasury.

2. Budget Narrative

a) Start Up Budget and Detailed Budget FY11-12

- Revenues: Our startup school budget includes $250,000 as startup capital, which was taken as a loan to the school. Under operating expenses this loan is paid back over the course of the 1st three years of operation. Documentation of the $250,000 startup capital is document below under number 3 – Proof of Funds Credit Union Letter.
- Salaries: Only part time work is necessary from April 1, 2012 through June 30, 2012.
- Benefits: Numbers shown here are proportional and consistent with the Budget Summary and Employee Benefit sheets in the three year budget.
- Books and Supplies: May seem low, as most cost for this area is in three year budget.
- Operating: Sufficient funds are placed in Staff Training and Development to cover two Saturdays a month from April through June.
- Utilities: Funding represents limited use of utilities during this period.
- Facility: Rent/lease may seem low, as from April 1, 2012 through June 30, 2012 Academy of Science and Engineering will only be requiring minimal office space to execute the enrolment process.

b) Three Year Annual Budget

- Detailed Budget
  As noted, the student enrollment is different from student attendance. We are using a 95% attendance rate because this is an attendance rate consistent with other schools in LAUSD. And, also as noted, all figures in lines 8-12 were calculated using the 95%
attendance rate figures.

Also, in the Expenditures section, Books, Supplies & Technology is listed as lease-purchase prices, which averages out over a five year period as full payment plus interest for such items.

- **Student Data Assumptions – Schedule A, Revenue**
  The Daily Attendance Rate reflects ADA figures, which are the estimated charter school funding rates for the fiscal year 2011-12, which are based on the current enacted State Budget 2011

Also, Free/Reduced Price Lunch estimated participation is listed on the revenue. These figures are based on the number of students that qualify for these programs in schools that are presently located within the area in which Academy of Science and Engineering will be located (refer to DataQuest on the CA Dept. of Ed’s Website at [http://dq.cde.ca.gov/dataquest](http://dq.cde.ca.gov/dataquest)). The percent and number of ELL students were calculated using this same source.

- **Staffing and Personnel Data – Schedule C - Salary**
  In this section the reader will notice that the school will not have a large office staff. The office team is comprised of 2.5 FTE admin staff: Office Manager, Tech Coordinator and Office Clerk.

  Include reference to teachers and instructional aides.

- **Schedule A - Revenue**
  The revenue assumptions were published by School Services of California (SSC).

- **Schedule C- Salary**
  Provides 5-year Staffing Plan and salaries increase by 3% each year. Schedule D Provides supporting detail for all 4000 Accounts – Supplies and 5000 Accounts – Operating Services.

- **Employee Benefit Expense Details –**
  Detailed Budget Tab – 3000 Accounts – Employee Benefits
  The school will participate in CalSTRS and provide a 403b to eligible Classified staff. Health and Welfare increases by 8% each year. The following employee benefits rates are used:

<table>
<thead>
<tr>
<th>Fringe Benefits Rates</th>
<th>11-12</th>
<th>12-13</th>
<th>13-14</th>
<th>14-15</th>
<th>15-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRS</td>
<td>8.25%</td>
<td>8.25%</td>
<td>8.25%</td>
<td>8.25%</td>
<td>8.25%</td>
</tr>
<tr>
<td>PERS</td>
<td>11.60%</td>
<td>13.70%</td>
<td>14%</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>OASDI</td>
<td>6.20%</td>
<td>6.20%</td>
<td>6.20%</td>
<td>6.20%</td>
<td>6.20%</td>
</tr>
<tr>
<td>Medicare</td>
<td>1.45%</td>
<td>1.45%</td>
<td>1.45%</td>
<td>1.45%</td>
<td>1.45%</td>
</tr>
<tr>
<td>SUI</td>
<td>1.61%</td>
<td>1.61%</td>
<td>1.61%</td>
<td>1.61%</td>
<td>1.61%</td>
</tr>
</tbody>
</table>
c) Five Year Monthly Budget

- **School Year 2011-2012**
  As a result of the $250,000 startup capital shown in the Startup Budget, the first year in our Three Year Monthly Budget also includes the startup budget carryover of $193,500 beginning cash. The other funding amounts are the 1\textsuperscript{st}, 2\textsuperscript{nd}, and 3\textsuperscript{rd} apportionments.

- **School Year 2012-2013**
  No funding other than the three apportionments will be necessary in this school year.

- **School Year 2013-2014**
  No funding other than the three apportionments will be necessary in this school year.
3. Proof of Funds Credit Union Letter

November 10, 2011

To Whom It May Concern:

RE: West Athens Charter High School

Gentlemen,

This is to confirm that West Athens Charter High School has opened a Business Checking account with the Beaudry Branch of California Credit Union, effective today, November 10, 2011. The account # 808539508 was opened with an initial deposit of $250,000.00, and the current balance is $250,000.00.

Please contact me if you have any questions regarding this transaction.

Best regards,

Teresa Harvey
AVP-Branch Manager
Beaudry Branch
Direct telephone (818) 291-6715
Appendix E: Conflict of Interest

ACADEMY OF SCIENCE AND ENGINEERING
CONFLICT OF INTEREST POLICY

SECTION 1:
Governing Board members of Academy of Science and Engineering (“Charter School”), its officers, administrators, managers or employees, and all committee members shall comply with federal and state laws, nonprofit integrity standards, and the Los Angeles Unified School District’s (“LAUSD”) Charter School policies and regulations regarding ethics and conflicts of interest.

SECTION 2:
No Governing Board members, officers, administrators, managers or employees, or committee members shall make, participate in making, or try to use their official position to influence any Charter School decision which they know or have reason to know will have a reasonably foreseeable material financial effect on the decision-maker or a family member.

When an individual determines that s/he should not make a decision because of a disqualifying interest, s/he must submit a written disclosure of the disqualifying interest to her/his immediate supervisor. The supervisor shall immediately reassign the matter to another employee and shall forward the disclosure notice to the Principal, who shall record the individual’s disqualification. In the case of an employee who is head of an agency, this determination and disclosure shall be made in writing to her/his appointing authority (e.g. the Governing Board).

SECTION 3:
Where a public official of the Charter School has a personal, material financial interest in a contract, the financial interest will be reviewed in accordance with applicable conflicts of interest laws, including Government Code Section 1090 and the California Political Reform Act.

SECTION 4:
The Charter School will comply with the provisions of the LAUSD Conflict of Interest Code, including the filing of annual Statements of Economic Interest by the Charter School’s Governing Board members and designated employees.

SECTION 5:
A copy of this Policy shall be given to all Governing Board members, officers, administrators, managers and employees, and all committee members upon commencement of such person’s relationship with the Charter School. Each above-listed individual shall sign and date the Policy at the beginning of her/his term of service or employment and each year thereafter. Failure to sign does not nullify the Policy.
Signed: [Signature]
Name Printed: Lynne Macer Rhodes
Date: 11/22/11
Appendix F: Financial Procedures

1. Investment Procedure
Since the School will be small, we plan to not invest any reserved capital the School may accumulate toward any outside investment opportunity. Instead, we will invest our cash reserve at the end of each school year back into the School to purchase better equipment/supplies or hire additional staff to help our students become more productive and successful.

2. Deposit of Funds Procedure
Because the School will be small, it will not be participating in outside investment opportunities. Therefore, no funds earned from such investments will be available for deposit into any account. However, all funds received by the School will be deposited into the school’s business account at a local bank (to be determined). Such deposit activities will be administered by the School’s Finance Officer who will either deposit the funds him/herself or have the School’s office manager/secretary perform the task.

3. Ensuring Adequate Cash Flow Procedure
Academy of Science and Engineering’s procedure for ensuring adequate cash flow will be to place aside, in a separate bank account, 5% of all revenues to be used only in case of emergencies and only with the approval of the School’s Board of Directors.
Appendix G: Graduation Requirements

ACADEMY OF SCIENCE AND ENGINEERING GRADUATION REQUIREMENTS

A diploma of graduation from high school shall be awarded to each student who has taken and passed the California High School Exit Exam and who has satisfactorily met the course work requirements required for graduation. These requirements are:

<table>
<thead>
<tr>
<th>REQUIRED SUBJECTS</th>
<th>SEMESTER CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGLISH</strong></td>
<td>40 Credits Total</td>
</tr>
<tr>
<td>English I, 9&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td>English II, 10&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td>English III, 11&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td>English IV, 12&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td><strong>SOCIAL SCIENCE</strong></td>
<td>30 Credits Total</td>
</tr>
<tr>
<td>World History, 10&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td>U.S. History, 11&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>10</td>
</tr>
<tr>
<td>Economics, 12&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>5</td>
</tr>
<tr>
<td>U.S. Government, 12&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>5</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td>20 Credits Total</td>
</tr>
<tr>
<td>Must complete 20 units of math during 9&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grades and must complete a course or courses that cover standards of Algebra I during 7&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grades. Algebra portion of the requirement may be met either partially or fully by conclusion of 8&lt;sup&gt;th&lt;/sup&gt; grade. Any algebra course(s) taken during 9&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grades may be included in the 20 units of math required for graduation.</td>
<td></td>
</tr>
<tr>
<td><strong>SCIENCE</strong></td>
<td>20 Credits Total</td>
</tr>
<tr>
<td>9&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grades (one course in Physical Science and one course in Life Science)</td>
<td></td>
</tr>
<tr>
<td><strong>FINE ARTS/FOREIGN LANGUAGE</strong></td>
<td>10 Credits Total</td>
</tr>
<tr>
<td>9&lt;sup&gt;th&lt;/sup&gt;-12&lt;sup&gt;th&lt;/sup&gt; grades</td>
<td></td>
</tr>
<tr>
<td><strong>PHYSICAL EDUCATION (P.E.) 9&lt;sup&gt;TH&lt;/sup&gt;-12&lt;sup&gt;TH&lt;/sup&gt; grades</strong></td>
<td>20 Credits Total</td>
</tr>
<tr>
<td>9&lt;sup&gt;th&lt;/sup&gt; grade: P.E. I / Athletics I* / Band P.E.**</td>
<td></td>
</tr>
<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt; grade: P.E. II / Athletics I* / Band P.E.**</td>
<td></td>
</tr>
<tr>
<td>*Athletics I may be repeated for credit</td>
<td></td>
</tr>
<tr>
<td><strong>Band P.E. may be used for P.E. credit and may be repeated for credit</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ELECTIVES</strong></td>
<td>80 Credits Total</td>
</tr>
<tr>
<td>Some elective units may include mandatory remediation courses assigned by Advisors to students who have not yet passed the California High School Exit Exam or who are failing to make adequate progress in academics.</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL CREDITS REQUIRED FOR GRADUATION: 220
Appendix H: Petitioners/Governing Team Resolution
RESOLUTION
ACADEMY OF SCIENCE AND ENGINEERING
BOARD OF DIRECTORS/PETITIONER TEAM

The Academy of Science and Engineering hereby designates the following individuals as the school’s principal petitioners and governing team:

- Lead Petitioners: Dr. Edward Robillard, Brian Center
- Director/Principal: Lomas Hamraj
- Financial Manager: Dr. Nick Nichols

Submitted by:

Lynne Macer Rhodes

Date 4/1/11
Appendix I: Letters of Support
February 12, 2010

To LAUSD Board of Directors:

As Executive Director of A Better LA, I am pleased to announce our endorsement the West Athens Charter School.

It is our belief that the creation of this new public charter school will increase educational opportunities that are desperately needed for the children and families we serve. We believe the team in charge will also demonstrate that schools can create an atmosphere in which there is personal responsibility for student outcomes, a condition that we believe is key to the success of our children.

A Better LA has made a serious investment of time and resources in West Athens, with a goal of making it into a safe, healthy and thriving community. We plan to raise millions of dollars to provide services for the community. It is clear to us that education is a crucial element of success. We believe the effort to establish West Athens Charter School has great potential to help the students we serve every day stay in school and out of trouble and receive an excellent education. We also believe that the school will fit in perfectly with our community-based, collaborative and comprehensive approach to community transformation.

We strongly urge LAUSD board members to sponsor West Athens Charter School and approve its charter in a timely manner so the school can open this fall.

Thank you for your consideration, and please do not hesitate to contact me if you have any questions.

Sincerely,

Brian Center
Executive Director
February 22, 2010

To the LAUSD Board of Directors:

Unity One would like to express our support for the West Athens Charter School. The staff and volunteers of our organization grew up in West Athens and have worked diligently for the past five years to provide our youth with a sense of purpose and a positive outlook on their future. We help provide safe passages at local schools, sports programs, community events, mental health services, tutoring, job opportunities and other services to our kids. We see great potential for our community to thrive.

The creation of the West Athens Charter School will fit perfectly our plan to transform our community. We believe that the Charter School would benefit the other public schools in the area by relieving some of the burden of children who need new and unique options to meet their educational needs. We are excited about the opportunity to have a school that is created from the beginning in close partnership with our community.

We request that the LAUSD board members provide their support to the West Athens Charter School and facilitate the creation of the school for this coming year.

Respectfully,

[Signature]

Cornell Ward
Executive Director
February 22, 2010

To the LAUSD Board of Directors:

I am writing to express my support for the West Athens Charter School project. I work with, train and coordinate a number of community groups that provide services to the West Athens area. We work collaboratively to engage the entire community to bring about positive change. Many of the at-risk youth in the area need additional options to address a key risk factor – their educational success. A charter school created in close partnership with the community, that provides individual attention to the children, would provide an excellent environment in which those youth could thrive.

I respectfully urge the LAUSD board members to give the West Athens Charter School its full consideration and support, provide their support to the West Athens Charter School and facilitate the creation of the school for this coming year.

Sincerely,

[Signature]

Aquil Basheer
Chief Executive Officer
February 22, 2010

To the LAUSD Board of Directors:

People for Community Improvement (PCI) would like to express our support for the West Athens Charter School.

The staff and volunteers of our organization grew up in the West Athens area and have worked diligently to provide our youth with hope. We provide a wide range of services to keep at-risk youth safe and engaged.

The proposed West Athens Charter School will support our efforts to help our children and families. The Charter School would create an additional option for children who need more individual attention and accountability. The school would also provide an opportunity for the community to help shape how the school and parents can work together to create the best educational experience possible.

We request that the LAUSD board members provide their support to the West Athens Charter School and facilitate the creation of the school for this coming year.

Respectfully,

Kenneth Jones
Executive Director
February 22, 2010

To the LAUSD Board of Directors:

Common Unity Reaching Everyone (CURE) would like to express our support for the West Athens Charter School project.

The staff and volunteers of our organization grew up in West Athens and have worked diligently for the past five years to provide our youth with a sense of purpose and a positive outlook on their future. We help provide safe passages at local schools, sports programs, community events, mental health services, tutoring, job opportunities and other services to our kids. We see great potential for our community to thrive.

The creation of the West Athens Charter School will fit perfectly our plan to transform our community. We believe that the Charter School would benefit the other public schools in the area by relieving some of the burden of children who need new and unique options to meet their educational needs. We are excited about the opportunity to have a school that is created from the beginning in close partnership with our community.

We request that the LAUSD board members provide their support to the West Athens Charter School and facilitate the creation of the school for this coming year.

Respectfully,

Gary Robinson
Chief Executive Officer

Reynaldo Reaser
Director of Operations
February 22, 2010

Dear Members of the LAUSD Board of Directors:

As Executive Director of Advocates for Peace and Urban Unity, I would like to support and endorse the West Athens Charter School.

The creation of this new public charter school will increase public education choices where few now exist, and allow for children, who currently are left behind, to experience a system in which they are empowered, connected to community resources, and in which staff have personal responsibility for student outcomes.

We feel that this school has great potential to create a footprint of change in a traditionally underserved community. We believe that the creation of the West Athens Charter School will enhance our efforts to influence our youth to stay in school, and work hand in hand with the programs that we already support to stop violence and create a safe, healthy community.

We respectfully request that the LAUSD board members sponsor West Athens Charter School and approve its charter as soon as practicable.

Sincerely,

Robert Rubin
Executive Director