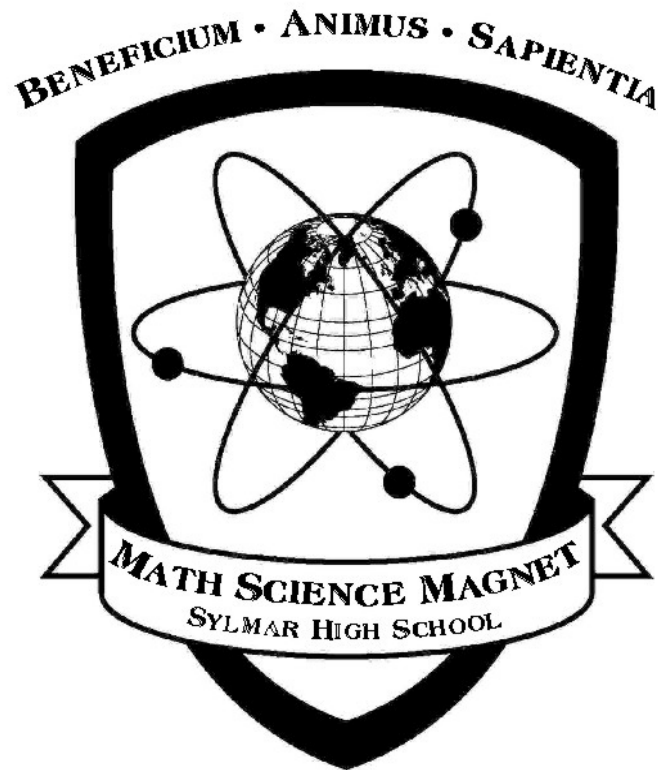


Program Description



*Sylmar High School
Math Science Technology Magnet*

I. OVERVIEW

The Sylmar High School Math Science Technology Magnet was founded in 1994. Our capacity is 397 students in grades 9 through 12. Our population is a mix of students from the Sylmar community and students who travel from as far away as South Central Los Angeles, Downtown L.A., Hollywood, and the Western San Fernando Valley. English is a second language for 79% of our students and 70% of Magnet students qualify for the Federal Lunch Program. Our educational program is built around the California Content Standards and systematically prepares our graduates personally, and academically, for a successful transition to undergraduate work at the university level. We have consistently maintained a college acceptance rate of 96%, with students attending such fine institutions as UCLA, USC, Brown, Caltech, Stanford, Berkeley, Yale, MIT, Cornell, Notre Dame and many of the California State Universities. Sylmar High Magnet graduates understand that they need to apply their talents in service to others.

VISION

The Sylmar High School Magnet is committed to providing a rigorous academic program that successfully prepares our students for selective universities. This is done in a close-knit, family environment that provides support for academic success and social responsibility. Math, Science and Technology will be integrated across the content areas.

MISSION

The Sylmar High School Math Science Technology Magnet will:

- develop students who are critical thinkers and who possess the necessary skills to be effective communicators.
- provide a variety of learning experiences to meet each student's needs.
- provide the academic, emotional, social, and multicultural environment needed to give students a positive image of themselves.
- encourage students to lead productive adult lives.
- encourage students to apply their talents in service to others.
- involve all stakeholders in the decision-making process.

BELIEFS

The Sylmar High School Magnet staff, students and parents believe that:

- all students have a right to receive a quality education.
- a quality education can only occur when there is support, commitment, and cooperative interaction among stakeholders.
- school must be a safe and pleasant place where values of trust, fairness, and mutual respect are part of the school.
- our students can master the California State Standards at the advanced or proficient level.
- students will employ systematic methods in written and oral communication, and in critical thinking and decision making strategies.
- students who complete the magnet curriculum will be competitive at ANY college or university.

EXPECTED SCHOOL-WIDE LEARNING RESULTS

The Sylmar High School Math Science Technology Magnet is committed to the expected school-wide learning results of graduating students who are:

- Effective Communicators
- Critical Thinkers
- Constructive Social Participants
- Multifaceted Individuals

II. EDUCATIONAL PHILOSOPHY

It has become increasingly clear that 95% of the career choices that will be available to our graduates will involve science and technology and require post-secondary education. The educational philosophy is geared to prepare our students for future success and to master the skills in all academic subjects at the advanced or proficient level. Students are systematically develop the skills necessary for success at the university level. We will provide students with the opportunity to meet with representatives of a variety of post-secondary institutions. Additionally, our graduates return to speak to our students about their college experiences. Individual support is given to students throughout the college application process.

We envision our magnet as one component of a community of learners which includes students, parents, community and all school staff. Students complete community-based projects with a focus on science, math and technology. Other subject areas within the magnet support this focus while serving as expert content guides. Whenever possible, the teachers work together to create interdisciplinary projects that require higher level thinking, synthesis and application of knowledge within the larger community. The Sylmar High Magnet continues to work with local scientists to provide our students with exposure to career possibilities in the science professions through guest speakers and field trips. Students actively engage in real-life tasks designed to integrate school and community in order to facilitate academic proficiency, life-long learning, university success, and school-to-work transition.

Because our incoming students are unscreened, they arrive with varying degrees of ability and prior academic success. Some have identified learning disabilities while others have limited English proficiency. A number of students come to us with difficult life situations such as being teen parents or wards of the foster care program. Our program is designed to meet the special needs of each student. Our staff is dedicated to taking each student from where they are, and helping them to reach their maximum potential. To that end, The Sylmar High Math Science Magnet frequently analyzes current, relevant data and then provides our students with appropriate interventions.

The effectiveness of this philosophy is reflected in the redesignation of Limited English Proficient to Fluent English Proficient and the identification of Gifted Students. We frequently lead our local district in the redesignation of Limited English Proficient students. We are very proactive in identifying students who qualify for the Gifted Program.

III. DIFFERENTIATED OBJECTIVES OF THE PROGRAM

Sylmar's Math Science Technology Magnet provides students with a strong core curriculum in the ninth and tenth grades. A more specialized, higher level curriculum is incorporated in the eleventh and twelfth grades and focuses on math and science. This allows for increasing specialization and application of knowledge guiding students to post secondary education opportunities and the world of work. Technology is the tool by which students integrate the curricula and demonstrate their mastery and application of knowledge.

Core courses are thematically integrated, cross-curricular, and interdisciplinary whenever possible. The curriculum is driven by solving real problems through inquiry. Students work together and individually in gathering data to support their hypotheses and to formulate conclusions. Students effectively communicate their ideas to a real audience and participate in the evaluation of their own work as well as that of others.

All courses are rigorous in content and meet university entrance requirements. Technology will be an integrating medium in all classes through which students may realize and express mastery. We offer honors and AP classes in every subject area as well a stimulating variety of electives designed to enrich the core curriculum.

The Sylmar High Magnet employees Toulmin Method of Argument writing strategy for all written works in all disciplines. The goal of this program is to ensure that our students graduate with college level writing skills. Students are introduced to the foundations of the Toulmin Method in the ninth grade and refine their techniques as they progress through our program. In addition to providing comprehensive writing strategy, the Toulmin Method also helps our students to develop their critical thinking and decision making skills.

SCIENCE

Science courses are taught with an interdisciplinary approach that focuses on working in research teams, using both school-wide and community resources. Laboratory activities are stressed in the Science program at Sylmar Magnet, as well as using computers and technology to produce multimedia presentations.

The emphasis for each year are as follows:

- 9th Students take courses in the **Biological Sciences**, introducing the Scientific Method, development of laboratory skills and statistical analysis. Emphasis will be placed on biochemistry, microbiology, current technology and the classification and interrelationships of organisms. Students will explore ethical issues related to biology and biological ethics.
- 10th Students take courses in **Chemistry**, emphasizing current atomic theory, and the energy interrelationships among both elements and compounds. Laboratory activities are stressed, again using technology and computers in the classroom. Research is supported and reinforced via data base searches and examination of industrial applications of current processes. Students will explore the environmental impacts of chemistry.

- 11th Students take courses in **Physics**, emphasizing an extensive laboratory experience. In addition to covering classical physics, students explore modern advancements in technology related to physics. Additionally, they gain experience with computer based laboratory equipment and are taught the standard procedure for preparing college laboratory reports. Students will explore the societal impacts of technology.
- 12th Advanced Placement courses in Physics, Chemistry and Biology will be offered to students in the Magnet Program as a senior science elective. Students may enroll earlier if they have completed specific prerequisites. In addition, specialty courses are offered to students including Zoology, Marine Biology, Physiology and Environmental Science.

Zoology - Senior Science Elective

This introductory one semester course is designed to acquaint seniors with the science of zoology. The major concepts include the identification, taxonomy, life histories, evolutionary patterns, and ecology of invertebrate and vertebrate organisms. Emphasis is placed on the physiological and anatomical differentiation of the Phylum Chordata organisms which is taught through laboratory, dissections and observations of specimens. Field trips to the Los Angeles Zoo and the Long Beach Aquaria are also incorporated into the course for field study view.

Environmental Science - Senior Science Elective

The major emphases of this one semester course is to present a overview of basic principles of ecology and provide a survey of natural resources--air, water, land, plant life and wildlife. The curriculum evaluates efforts of citizen groups and government agencies to improve environmental quality; and stresses occupational opportunities with environment-related agencies. Instructional units include, Ecology, Energy, Air and Water, Land Use, Wildlife, Population. Conservation and Management of Natural Resources, and Occupations in Environment-Related Fields will be explored.

Marine Biology - Senior Science Elective

Marine Biology is a year long elective course and meets the university requirement for laboratory science. The emphasis of marine biology is to provide the basic experiences in the principles of marine science including; the requirements of plants and animals in the marine environment, the variety of life in the marine surroundings, cell theory, and environmental concerns about the oceanic life. Physiology and Anatomy of organisms in the marine Phyla are discussed along with detailed dissections of a variety of species.

MATHEMATICS

Mathematics courses will be taught in a technology-rich environment that encourages reasoning, communication, and problem solving. In addition, the curriculum will emphasize the connections between the various mathematical courses so that students can transition from solving problems based on algebraic or geometric relationships to using abstract deductive and inductive reasoning to explore mathematics in preparation for university work and beyond.

Communication is a very important part of the mathematics program at Sylmar Magnet. Students will use mathematical language and concepts to communicate problem solutions or project results in both verbal and written form. Cross curricular teaching teams will enable the student to use mathematics in real-world style applications and not in an isolated mathematics only environment. Communication of mathematics in the form of project papers allows the student to use mathematics in conjunction with other important disciplines.

Three fundamental themes are central to the Magnet's math program: functions, graphical sense, and modeling. Emphasis will be on:

- the connections among a problem situation, its model as a function in symbolic form, and the graph of that function
- function equations expressed in standardized form as checks on the reasonableness of graphs produced by graphing utilities
- functions that are constructed as models of real-world problems

The mathematics courses offered in the Magnet are Algebra 1, Geometry, Algebra 2, Math Analysis, and Advanced Placement Calculus. The following paragraphs delineate the mathematics content covered in one or more of these courses. For example, there are elements of discrete mathematics in Algebra 1, Algebra 2, Math Analysis and Calculus. Beginning elements of trigonometry are found in the Geometry course with the formal trigonometry curriculum in the Math Analysis course. Statistics and Probability are covered in the Algebra 2 course.

Algebra courses will emphasize:

- the use of real-world problems to motivate and apply theory
- the use of computer utilities to develop conceptual understanding
- computer-based methods such as successive approximations and graphing utilities for solving equations and inequalities
- the structure of number systems
- matrices and their applications

The emphasis in **geometry** will be on:

- coordinates and transformation approaches in two and three dimensions
- deductive arguments expressed orally and in sentence or paragraph form
- properties of Euclidean transformations and vectors
- deduction of properties of figures using vectors and transformations
- computer-based explorations of 2-D and 3-D figures
- real-world applications and modeling

In **trigonometry**, the focus will be on:

- the use of scientific calculators in the study of circular functions
- realistic applications and modeling of the phenomena of periodic data
- the use of graphing utilities for solving equations and inequalities

- the use of graphing utilities to investigate nonsinusoidal periodic functions
- the investigation of parametric equations, polar equations and curves, and their important connection with the center orientation of forces in physics

In **statistics**, the emphasis will be on:

- constructing and drawing inferences from charts, tables, and graphs that summarize real-world data sets
- using curve fitting to predict from data
- understanding and applying measures of central tendency, variability, and correlation
- transforming data to aid in data interpretation and prediction

Work in **probability** will emphasize:

- using experimental or theoretical probability in, problems involving uncertainty
- using simulations to estimate probabilities
- describing the normal curve and using its properties to answer questions about normally distributed data sets

In **discrete mathematics**, students will focus on:

- representing problem situations using discrete structures such as finite graphs, matrices, sequences, and recurrence relations
- developing and analyzing algorithms
- solving enumeration and finite probability problems
- representing and solving problems using linear programming and difference equations

For students who desire college-level courses in mathematics, **Advanced Placement Calculus AB and BC** are offered and follow the course outline as delineated by the College Board.

COMPUTER SCIENCE

Computers and their skilled use play a large and increasing role in the commercial and academic worlds of mathematics, science and technology. Therefore computer education at Sylmar Magnet is designed to provide an early and thorough introduction to computers for all incoming students, and to support their use for assignments in other subjects, specifically sciences and languages. Students are encouraged to continue with courses in computer programming through Advanced Placement Computer Science, as well as with optional courses such as New Media, and Robotics.

Introduction to Computers

- history of computers and their design.
- improving keyboarding skills.
- introduction to programming, using Logo.
- the main focus is to develop skill in using an open-source office application suite, which includes full-featured programs for word processing, spreadsheet, presentation,

mathematics, database, and drawing.

- using a computer as a research tool, searching data bases, both locally (CD-ROM, for instance) and globally (via the internet).
- introduction to website design, creating HTML pages with a text editor.

Computer Programming

Introduction to Computer Programming and Advanced Placement Computer Science are offered to Magnet Students. In the first semester of the Intro course, students write programs in Scheme; in the second semester, students write programs in Java, which is the programming language of the Advanced Placement Computer Science course.

New Media (Multimedia Publication)

In Multimedia Publication, students will learn to produce multimedia presentations including aspects from a variety of media while learning the foundations of appropriate artistic design. Students will be able to incorporate elements from video tape, laser disc, CD Rom, midi file, wave files, live action video, digital camera, graphs, charts, text documents, voice-over and student developed graphics. Students will also learn to develop web pages and do video editing using computers.

Robotics

The major emphasis of the course is an introduction to the fundamentals of robotics, including motion and power, control, sensors, vision systems, and programming languages. Mathematical models, robot training and the relationship to artificial intelligence will be considered. The application of robots and their integration into existing or proposed systems will be discussed. Reading selections will include the history of robots and robotics, and their role in literature, philosophy, scientific exploration and in the current and future workplace. Students will:

- assess individual interests and abilities in the field of robotics.
- develop basic technical skills and knowledge in robotics technology.
- explore career opportunities within the electronic sensor and control industry.
- work efficiently and cooperatively as a member of a small team to design, construct, evaluate, revise, and present publicly robot projects.
- write control programs in Logo, Java and C.
- discover individual interests and capabilities in professions related to robotics.

ENGLISH

Students in English classes will integrate reading, writing, speaking, and listening as they read and respond to great works of literature. They will look at ideas, values, and issues that are correlated with the other disciplines.

English classes will bring to students

- the understanding and use of writing as process;
- the use of writing for questioning, problem solving, exploring ideas and reaching

- conclusions;
- interaction through collaborative learning and peer response to writing;
- applications of the ideas in literature to the students' own lives and the world around them;
- connections between common themes in a variety of works of literature;
- understanding of the components of excellent writing and techniques for improving student writing;
- understanding how to analyze and synthesize important writings and informational text.

The major objective of **9th grade English** is to promote written and verbal communication skills by using a wide variety of literature, scaffolded teaching strategies, and whenever possible, interdisciplinary thematic team teaching with the Biology and Foreign Language Departments. The ninth grade English curriculum covers such themes as Social Darwinism and the freedom of thought and speech, personal growth and change, the Holocaust, the Industrial Revolution, and the nature of love. Students will use the literature read in class as the basis for cooperative group activities and discussions. The literature and informational text will also serve as the basis for analytical essays and original compositions. Additionally, students will use the literature and informational text to acquire and use new vocabulary by utilizing a variety of vocabulary building techniques.

In **10th grade English**, literature, reading, writing, speaking, and listening modes, students read, discuss, reflect on, and respond to a variety of literary genres: the novel, short story, poetry, plays, stage and non-fiction essays. Students use writing as a means to respond, analyze, and explore literary genres, films, lectures, discussions, observations, and personal thoughts and reflections encountered in the course. Students examine a variety of writing modes and styles - short story, poetry, drama, non-fiction essay including persuasive, expository, and autobiographical incidents. In addition to reading and writing, students explore the tenth grade curriculum through cooperative learning experiences, project-based problem-solving, individual and group speeches and presentations, and debates.

The **Honors American Literature and Composition** course is designed around four nine-week thematic units which draw from works from the major periods of American literary history. Although this course emphasizes the close reading of fiction from a variety of genres, it also contains a significant non-fiction component, comprised primarily of readings from several essay anthologies. Regardless of the kind of material they read, students will be expected to respond to those readings through argument-based writings using a well-known model of argumentation. Students will learn the importance of responsible research and master the basic skills needed when using high-quality, legitimate sources which they are likely to encounter in college.

AP English Language & Composition is a college-level course which emphasizes analysis of non-fiction to shape the student's appreciation of how writers communicate with effectiveness and precision. Students will practice close reading of a variety of materials, including, among

others, biography, journalism, personal narrative, speeches, editorials, letters, short stories and longer works of fiction, and visual texts. Students will spend a significant amount of time writing for a variety of rhetorical purposes, sharpening primarily their skills in argumentative writing. Although successful completion of this class prepares students for success on the AP English Language and Composition Exam in the Spring, students will benefit in the long term from the rigor that constant practice in key reading and writing skills entails.

Both 11th grade English classes in the Magnet are designed to train students: to construct effective arguments and evaluate those of others; to develop the quality of written and oral communication through an ever-richer vocabulary and facility with varied syntax; to perform well on college entrance exams; to prepare for success in college; and to foster their own experience as life-long learners.

English Literature and Advanced Composition classes will use the textbook, Elements of Literature, as a basis for exploring themes which have been the value of knowledge and self-examination, inherent in British literature: themes such as the quest of the hero, the individual and the society, and the nature of evil. Students will connect these themes to issues in their government class. They will also gain an historical perspective of literature and language evolution as they read works that span twelve centuries. They will be working both in groups and individually as they present their own ideas and conclusions about issues explored during the year.

In **Advance Placement Literature** students will read, discuss, and analyze a variety of challenging works of literature. They will write extensively, defending interpretive positions with specific evidence. They will analyze prose and poetry styles. Literature will include short stories, novels, drama, poetry, and non-fiction, both American and British, written in different time periods. The class will be geared for success on the A.P. Literature and Composition test to be taken in May.

SOCIAL SCIENCE

Social Science courses are taught to transmit the knowledge necessary to make students competent in History and Geography. As the courses are project based, they also teach and provide practice in all communication skills. Students will practice research skills, essay writing, oral presentation, and multimedia production. They will deal with facts, concepts and ideas that relate history to the present day. Students will work in cooperative learning groups and individually.

World History (Honors) is based on the California State Standards. The course traces the development of western political ideas and the rule of law. It covers the major events of the various era's to the present. Students work in groups on written and oral projects and individually on term projects and simulations. Student will explore how values affect a country's policies as part in the interdisciplinary theme for the tenth grade.

The **Advanced Placement World History** course is designed to prepare students for the A.P. World History exam given in May. Students will learn to make connections between different societies over different periods of time; to examine what changed and what remained the same; to analyze social orders, gender roles, and other manifestations of power; and to synthesize the various sources of change; trade, conquests, culture diffusion, innovation and adaptation. Document analysis and cogent argumentation are emphasized.

U.S. History (Honors) is a survey course on our nation's origins, formative years and its emergence as a world power. Major historical units will be examined with an overarching question in mind (e.g.; "Did the Industrial Revolution cause more harm than good?") which the students must ultimately address in a well-reasoned written argument. Reasoning skills are emphasized, and the student's participate in a number of debates, seminars, and mock trials to sharpen those skills.

The **Advanced Placement U.S. History** course is designed to prepare the students for the A.P. U.S. History exam. It covers events from the early European explorations to the present. The students will examine history in all its aspects; political, economic, social, diplomatic, and cultural. Document analysis, statistical analysis, and cogent argumentation are emphasized.

Principles of American Democracy (Honors): Designed to address the California State Standards, this course combines a study of the institutions and principles of our political system with projects which apply those institutions to real world activities. Students are required to perform ten hours of volunteer political activity; in cooperative groups, create, conduct, analyze and present a public opinion poll; and perform and present a case study in public policy formation. The latter project also serves to prepare the students for their culminating project in the next semester.

The **Advanced Placement United States Government and Politics** course is keyed to the Advanced Placement test. The curriculum addresses the content of the test and develops the test taking skills required for success. Students practice taking multiple choice tests written in the manner of the AP test and practice writing the several essay forms used in the test. The classroom text is supplemented with college level political science readings. Students are required to perform ten hours of volunteer political activity; create, conduct, analyze and present a public opinion poll; and to perform and present a case study in public policy formation. The latter project also serves to prepare the students for their culminating project in the second semester.

Economics (Honors) is designed to address the California State Standards, this course includes the study of basic macroeconomic concepts with their application to the business world and to consumer activity. Among activities performed, the students engage in a simulation of stock market trading through a role playing simulation. The second half of the course is a study of

macroeconomics applied to current economic issues and to the problem of global scarcity. The skills and knowledge gained in these two semesters are applied to the thematic culminating project performed in conjunction with the student's senior English class. Ultimately, the students, working cooperatively, will identify an issue, study it, and put forward a policy recommendation to solve the imbedded problem.

The **Advanced Placement Macroeconomics** course is keyed to the Advanced Placement test. The curriculum addresses the content of the test and develops the test taking skills required for success. Students practice taking multiple choice tests written in the manner of the A.P. test and practice graphing skills and written response forms used in the test. The classroom text is supplemented with college level economics readings and articles related to current events in economics. Students are required to complete ten hours of volunteer political activity. Additionally, students perform analyses of current economic conditions in groups and individually. This serves to prepare students for their culminating project in the second semester.

WORLD LANGUAGES

All university bound students need to increase their knowledge of world language. Presently, the Magnet School offers courses in Spanish, but the study of French may also be pursued through classes in the resident school. Students may continue with one language for four years or combine the study of two world languages during their high school program. Two years of a single world language are required and three are highly recommended. Advanced Placement courses in both Spanish Language and Literature are available to advanced students. These courses focus on preparing the students for the Advanced Placement exam that is offered in May. The four components language learning- listening, speaking, reading, and writing- will be promoted with specific emphasis on developing oral communication skills for the non-native, speaker.

To enrich the curriculum in the world language classes, the following will be provided:

- Development of vocabulary appropriate to the course level.
- Use as much of the target language in the classroom as possible to develop listening skills.
- Presentation of literature in the target language to improve reading skills.
- Refinement in writing skills.
- Assessments to coordinate with special projects and themes studied in the other disciplines in the Magnet School where appropriate.

The objectives of the Spanish classes are as follows:

Spanish level 1, non-native: This course is designed to attain an acceptable level of proficiency in four basic skills: listening, speaking, reading, and writing. The course curriculum concentrates

in the acquisition of vocabulary to produce formulaic language (phrases, sentences and short paragraphs) and in the correct grammar usage. Students are able to understand and talk about daily life topics such as greetings, family terms, school, likes and dislikes, foods, weather, time, numbers, colors, personalities, etc. Students are also introduced to a variety of aspects of the Hispanic culture: history, traditional customs, celebrations, festivals, food, music, dance, art, etc.

Honors Spanish level 2, non-native: Spanish 2 students review vocabulary, structure and verbs learned in level 1. Students will also further develop their ability to interact with other classmates in the Spanish language either in pairs or in groups. Students will also become acquainted with Spanish culture in areas such as art, science, films, literature, sports, politics, etc. The class is designed to attain an acceptable level of proficiency in four basic skills: listening, speaking, reading, and writing. Students must cooperate by completing homework and class work assignments, participating in oral reviews and games, and studying the text and notes. The course is aligned to the State Foreign Language Standards.

Honors Spanish level 3, non-native: Spanish students will be introduced to different aspects of the cultures of Hispanic countries. The class is designed to attain an acceptable level of proficiency on four basic skills: listening, speaking, reading and writing. Students participate in cooperative groups to complete homework and classwork assignments, they participate in oral reviews, games and study the text and notes. The course is aligned to the state standards and prepares students to enter the Advanced Placement Spanish Language class if they choose.

Spanish 1, native: The purpose of this course is to further the developing of speaking, reading, listening, and writing. The program emphasizes reading and analyzing Latin American and Spanish literature, writing essays, and giving oral presentations. Students explore a variety of literary genres: short story, fables, legends, autobiographical episodes, and drama. They also analyze the literary elements pertaining to each genre, among them: Exposition, Setting, Conflict, Characterization, Message, Themes, Dialogue, etc. Another important element of this course is the grammar component. Students study Sentence Structure, Direct and Indirect Articles, Adverbs, Verbs, Conjunctions, Adjectives, Prefixes and Suffixes and the uses of The Present, Preterit, Imperfect, Subjunctive, Conditional and Future Tenses. The course also covers Spanish Orthography, Syllable Separation, Rules for Written Accents, Punctuation Marks, letters and its sounds. Special emphasis is placed in the exploration of the Hispanic Culture. Students read about history, geography, architecture, education, festivals, population, government, foods, sports, idiomatic expressions and regionalisms of Latin American countries and Spain.

Spanish 2, native: This course is designed for students who have successfully completed Spanish Speakers 1. Practice and further development of essential listening, speaking, reading, and writing skills will be covered. In Spanish Speakers 2 students focus on analyzing literature and the writing process. The course covers such themes as The Mexican Revolution, Immigration, Environmental issues, and Social Justice. The grammar component concentrates on the study of Pronouns, Adjectives, Adverbs, The Comparative, Diminutives, Augmentatives,

Clauses, and the uses of the Preterit and Imperfect Progressive. Students are also introduced to the Hispanic Culture through the use of film, music, art, and current news media.

A.P. Spanish Language: The AP Spanish Language and Culture course is designed for students to demonstrate a level of proficiency of the Spanish language through reading comprehension, listening exercises, oral participation, and written communication. The class is conducted entirely in Spanish. The AP Spanish Language is comparable to an advanced level college course. It's objectives are to acquire the ability to comprehend formal and informal spoken Spanish, acquire vocabulary to allow easy and accurate reading of newspaper and magazine articles, as well as modern literature in Spanish. It also emphasizes on the ability to compose expository passages and to express ideas orally with accuracy and fluency.

A.P. Spanish Literature: The AP Spanish Literature course is intended to be the equivalent of a third-year college class to Latin America or Peninsular Literature course conducted exclusively in Spanish, covering selected works from the literatures of Spain and Latin America. Because students read and analyze literature orally and in writing in Spanish for this purpose, the language proficiency reached by the end of the AP course is generally equivalent to that of college students who have completed a fifth or sixth semester of Spanish in composition, conversation and grammar. The function of the AP Spanish Literature course is to prepare students to: 1) Understand a lecture in Spanish and to participate actively in discussion on literacy topics in Spanish. 2) Do close reading of literary texts of all genres in Spanish. 3) Analyze critically the form and content of literary works (including poetry) orally and in writing using appropriate terminology.

LIFE SKILLS

The major emphasis of this course is to prepare students for the Scholastic Aptitude Tests, selection of college majors and career planning. Students will also learn to internalize value assessments and refine their interpersonal relationship skills. Students will be exposed to a variety of types of assignments including research projects, cooperative groups, oral presentations, college vocabulary development, guest speakers and test prep strategies.

HEALTH

Health Education is a semester course designed to help students make informed life decisions, act responsibly, avoid destructive behavior and develop positive relationships with many types of people. The Magnet Health course exposes students to the many career opportunities within the health care field. Additionally, students examine recent scientific advancements related to health care and the use of technology in a hospital setting. The following topics are included:

- Overview - nutrition, vision, teeth, medical specialists, and medical procedures.

- Mental Health - mental illness, self-esteem, values, emotional growth, understanding adolescence, prejudice, suicide, violence, child abuse, delinquency, gangs, nonsocial and destructive behavior, eating disorders, prevention and treatment.
- Sex Education - endocrine system, sexual anatomy, puberty, reproduction, pregnancy, birth, birth defects, contraception, child development and parenting.
- Infectious Diseases - common diseases, symptoms, sexually transmitted diseases and prevention.
- Drugs - popular street drugs, drug classification, alcohol abuse, smoking, drug abuse, prevention and alternatives.
- First Aid - home, water, mountain and desert safety, C.P.R., emergency care and prevention.
- Environmental and Consumer Health - air and water pollution and food safety.

IV. EXPECTATIONS OF STUDENT PERFORMANCE

We expect our magnet students to be geared toward attending college, to be independent learners who are self-motivated and able to work outside of the classroom with ease. Upon exiting our program, our students will be proficient in the use of technology as a tool to effectively communicate their learning. We expect that all students will be successful in our curriculum driven by core concepts. They will demonstrate their curricular understanding in performance roles and in authentic life contexts.

The Sylmar High School Math Science Technology Magnet is a college preparatory program. All students are required to take the University of California A-G requirements along with additional course work in Science and Math. The counselor meets with every student to discuss and Individualized Graduation Plan. This plan includes a discussion of high school, college and career goals. The Individualized Graduation Plan is also shared with the parents.

The Magnet School requires its students to apply to at least four colleges. Students are prepared for this through Senior Meetings, College workshops, college visits, meetings with college representatives and SAT preparation workshops. All juniors and seniors work on their college personal statements as assignments in our English classes. Our graduates return and visit classrooms to share their experiences with our students. This provides an exposure to a wide variety of universities. Students are able to see that others, who are just like them, have been able to be successful at the university level. The Magnet School Counselor meets with every senior and guides them through the college selection and application process. Many Magnet Students serve as College Peer Counselors. These students are available to help with the college and financial aid application process. Our success is evidenced by high percentage of students accepted to four-year universities.

Magnet students are held to high academic standards. Support for student success is provided in a variety of ways. Our teachers are always willing to meet students at lunch and after school to provide assistance. The Magnet School operates a formal tutoring program after school every day except for professional development Tuesdays. All Magnet Students are encouraged to attend tutoring whenever they feel a need. The voluntary tutoring room also provides a supervised venue for students to work in study groups or on group projects. Intervention is more structured for Ninth and tenth grades students. Those who are failing two or more classes, or who have three or more “D’s”, are required to attend tutoring until their grades improve beyond that benchmark. Tutoring is staffed by a teacher and an aid who is also a graduate of the Magnet Program.

A cooperative partnership with the parents is essential to student success. Communication with parents through letters, phone conversations and conferencing allows them to take an active role in maximizing their student's educational experience. Parents are contacted by the Magnet Counselor or Coordinator any time a student is earning less than a "C" in any class on each progress report. Each Monday, Teachers provide the Magnet Office with a list of students who have missed work the previous week. The Magnet Coordinator then sends a letter home to the parents of those students who are missing assignments.

Magnet students are expected to maintain excellent attendance and behavior. Student success in education depends greatly on their attendance. Our in-seat attendance averages above 96% and our apportionment claimed is above 99%. Our rigorous behavioral standards, dress code and attendance policy are in effect school wide. Magnet Students follow the same standards as the main school students, and are reminded that a higher standard of behavior is expected within the Magnet School. These standards are available upon request.

Accountability - Testing data has shown that the Magnet Program is successful. 99% of our students pass the CHSEE in Language Arts and 94 % in math on the first attempt. We have NEVER had a student that has not passed both portions by their second attempt. When calculated separately from the main school, the Magnet School’s API was 754 in 2007. 84% of our students take Advanced Placement classes. Our graduation rate has averaged 98% over the past eleven years. 96% of our students attend college after graduation. 71% are accepted to four year universities. 2% enter the military and 2% attend technical institutions. We have been recognized by the College Board as a school that is successful in getting large numbers of under-represented minorities into selective universities. These statistics are even more encouraging given that most of our students are low income and English was not their first language.

V. MULTICULTURAL ACTIVITIES/CURRICULUM

Students are exposed to many cultures, beliefs and points of view through course work in all of the disciplines. We strongly feel that an occasional assembly or field trip is not enough to help to promote interracial harmony and tolerance, or foster a sense of community with all cultures. We feel that concern and understanding for all cultures need to be an integral part of every course, every day. This is accomplished through a variety of teaching methods including community based learning, guest speakers, panel discussions and group projects where students learn to work with a broad range of people from other backgrounds and enhance self-esteem. Since our students have little chance to travel, an extensive magnet library of CD- ROM software and video tapes brings the larger world to the classroom. Magnet students are further involved in numerous activities and field trips which promote cultural awareness, understanding and compassion for all people.

There are many opportunities for Magnet Students to learn about other cultures throughout the year. Among them are the AIDS quilt project in health classes. Students participate in EULA (Estudiantes Unidos por la Literatura y el Arte) Our Magnet Student Committee has organized projects to support domestic abuse shelters, book drives for children who would have no books and toy and clothing drives for underprivileged students. Our students have organized a Latin and Greek club where they study classic languages and their influence on modern language.

VI. SPECIAL CURRICULUM

The Sylmar High School Math Science Technology Magnet School offers a rigorous, college preparatory program focusing on Math and Science. All academic courses are at the Honors or Advanced Placement level. Technology is an integral part of the curriculum throughout each of the academic courses. Multimedia computers are available in every academic class for student use in research, simulation projects, word processing, multimedia presentations, graphic development and curriculum reinforcement.

Critical thinking and the ability to write well are of primary importance in our Magnet Program. The heart of good writing is good thinking. Writing is not only an end in itself but a means to an end as students learn effective argumentation and the type of analytical reasoning necessary for college success. To achieve our goals, we have adopted the Toulmin Method of Argumentation to help students develop writing and critical thinking skills. The Toulmin Method, based on the work of philosopher Stephen Toulmin, is one way of analyzing a text. Students are taught to respond to a particular argument and, ultimately, to analyze and improve the arguments they make. Furthermore, it helps students understand how to better evaluate the claims made by others, whether they be in the political arena or advertizing.

Our approach to teaching the Toulmin Method of Argument is systemic. The structure is introduced in the ninth grade and continues to be more finely tuned in subsequent grade levels. The Toulmin Method is used as the structure for writing assignments, analysis of sources and debates in all courses. The Toulmin Method has parallels between the Scientific Method and the

logic that is used in mathematical proofs.

Each grade level curriculum is designed around a scientific-ethical theme. Through an interdisciplinary approach, students explore concepts aligned with the state standards while dealing with real-life problem solving skills. Our interdisciplinary approach extends across all magnet academic and elective courses to develop connections between all disciplines. Students are often required to create group projects demonstrating mastery of content as well as simulation of real-life situations. Culminating projects are expected in all grade levels.

The thematic units in each grade level address ethical concerns regarding the quality of life for all cultures and the environment. Students evaluate technological progress in a wide variety of areas and its impact on our own community and the larger world. Through all disciplines, outside projects and literature, students are exposed to many cultures, beliefs and points of view. Students are able to evaluate progress from many points of view and develop possible solutions to local and global issues. Our students gain a sense of responsibility for their actions and the world around them.

All of our thematic units were developed with collaboration between the teaching staff, administrators and students. The ethical component of our thematic units was at the request of our students. Staff development days were used to facilitate development of the units. Ongoing evaluation and refinement will occur during future staff development days, during Magnet School Faculty Meetings, professional development Tuesdays and curriculum development sessions.

Magnet students are exposed to a wide variety of special Math, Science and Technology enrichment activities within their courses. Students visit Caltech to learn about developments in the Space Program, Earth Science and other technological fields. Guest speakers are arranged to discuss careers in the science fields. Field trips to Catalina Marine Science Institute, the Los Angeles Zoo, Long Beach Aquarium and the California Science Center further enhance student understanding of the scientific world.

Ethics

Subject	Guiding Question(s)	Related topics, Potential Projects or Connections among Disciplines
English	How should people be treated? Is everyone entitled to a quality life? What is “ethical” and who sets the standard? Relationships	Holocaust unit using the novel <u>Night</u> . Ethical Choices made in <u>Of Mice & Men</u> and <u>The Scarlet Ibis</u> . Personal Responsibility in <u>Romeo & Juliet</u>
Computers Health	Computers: Ethics are not limited to people. What are the ethics of technology? ----- Health: What is a quality life, and who gets to live it?	Limits of privacy; credibility and worth of information; plagiarism; treatment of equipment. Copy rights & theft of digital media. Open Software ----- Define health; prenatal health care; drugs; STD’s; nutrition
Biology	How do we decide what is right and best for an individual versus the global society? And at what costs?	DNA; genetics; evolution driven by environmental pressures; ecology; genetic engineering and biotechnology. <u>Race for the Double Helix</u>
Math (mostly Algebra 1)	To support and persuade an individual, data is used (graphs, percentages, etc.). How can this data be manipulated? Is this ethical?	Proofs; logic percentages; graphing (both bar and line)
Spanish	Are you viewing a new culture through the “ethical lens” of your own society?	Just because “Latin Americans” (Central and South America) speak the same language, they do not share the same culture. Investigate their similarities and differences.

Morals, Values & Ethics

Subject	Guiding Question(s)	Related topics, Potential Projects or Connections among Disciplines
English	<p>How might the advancement of technology affect one's personal freedom?</p> <p>Who is responsible for allowing freedom?</p>	<ul style="list-style-type: none"> • Short story, "The Pedestrian" Technology in the future • Novel – <u>To Kill A Mockingbird</u> Lack of civil rights, Prejudice, racist attitudes
World History	<p>How do morals, values and ethics come into play with country's policies affecting others in regards to wars, use of technological weapons, environmental Policies, etc.</p>	<ul style="list-style-type: none"> • Integrating discussions in class • Case studies in various units
Chemistry	<p>With new technology, what are the responsibilities of society to monitor ethical applications in our world Today.</p>	<p>Research Project on broad range of technological advancements</p>
Geometry	<p>How is data used to support personal opinions?</p>	<p>Logic thought through the process of doing proofs</p>
Spanish	<p>Viewing cultures through a new lens.</p>	<p>Research various cultures in sections of Mexico and South America.</p>

POWER

Subject	Guiding Question(s)	Related topics, Potential Projects or Connections among Disciplines
American Literature & Composition	<p>Who has the power in a given book?</p> <p>What gives the different characters their power and how do they influence other characters/how are they influenced by other forces themselves?</p> <p>What is the power of plot structure and other elements of fiction to guide an author's purpose?</p>	<ul style="list-style-type: none"> • Analytical composition deeply analyzing the balance of power, shift in power or other related aspect of power in a piece of literature • Deep character analysis of individual with power or influenced by power in a piece of literature • Oral discussion and written response in making connections between power in literature and the same kind of power in contemporary society
United States History	<p>What motivates people? How is society transformed? (ex. Is it the Media? Rock music? Political rhetoric? Scientific invention? Individualism? God/religion? Government? An idea?)</p>	<ul style="list-style-type: none"> • Study reform movements: What inspires people, drives people to reform? What determines the success of a reform movement? • Connections to English: Transcendentalism, the Harlem Renaissance, <i>Babbit</i> and the Modernists.
Physics	<p>What is the scientific definition of power?</p> <p>How do machines relate to power?</p> <p>How do machines change society?</p>	<ul style="list-style-type: none"> • Experiments measuring power used in a physical task • Calculate mechanical advantage and efficiency of various machines
Math (Mostly Algebra 2)	<p>How can power be represented graphically?</p>	<ul style="list-style-type: none"> • Best Fit Lines • Prediction equations
Spanish	<p>Who has the power in a given book and how do they influence other characters?</p> <p>What is the power of plot structure and other elements of fiction to guide an author's purpose?</p>	<ul style="list-style-type: none"> • Analyze power in a work of Spanish literature • Power of culture, especially in diverse Latino culture of the Los Angeles area.

Access to Resources

Subject	Guiding Question(s)	Related topics, Potential Projects or Connections among Disciplines
English Lit. & Composition	Research on a variety of topics drawn from literature: How can those “Have” best help those that do not.	<ul style="list-style-type: none"> • Research methods • Academic writing techniques
Government Economics	Does wealth monopolize resources? (If one group gains access to resources does it exclude another group.)	Governmental policies, Political access, Government sanctions, Economics, Stock Market, Supply and Demand
Calculus	How is the exponential decay of a physical quantity (resources) effected by it’s half-life? How is the growth of an animal population related to available resources?	<ul style="list-style-type: none"> • Modeling the discreet applications of Economics with Continuous Functions. • Finding profit, marginal cost, etc. using the methods of Calculus.
Science Elective or Computers	Who has access to scientific Technology?	Environmental Science, Biotechnology, Genetic Engineering, Governmental policies on the environment.
Project		Select a social problem discussed in English Literature. Research governmental policy on that problem. Propose new a governmental policy to address the problem.

VII. SPECIAL ENRICHMENT ACTIVITIES

Sylmar's Math Science Technology Magnet encourages its students to participate in a variety of enrichment activities. The Academic Decathlon team has a large group of magnet students. Magnet students participate in every sport and performing arts group on campus. Field trips and camps are enrichment activities that extend the classroom to the real world. Some examples are a three-day marine biology camp in Catalina Island, the Long Beach Aquarium and JPL.

Our students are the driving force behind many of the clubs on campus. Magnet Students have initiated and coordinated a number of school wide community service projects including the toy and clothing drives for homeless children. They have organized a book drive for National Book Week. During the presidential elections, Magnet Students coordinated a "Convention" where the platforms of the four largest political parties were presented to all social studies students at Sylmar High. They then staged a mock election and shared the results with the rest of the school. The convention and election were entirely the students' idea and every facet, from organization to clean up, was handled by the students. Our students volunteer as the pole workers in our community and serve in campaign offices during each election.

The magnet faculty provides students with role models of involvement. Many Magnet Teachers sponsors a club or activity. Our students become so involved in enrichment activities partly because the sponsors are teachers they know, trust and enjoy. Additionally, the magnet school sponsors activities for our students outside of school. There is a picnic in the spring for all magnet students, staff members and families. This picnic is a pot luck affair where families are invited to share food and games from their culture as well as working on a campus beautification project. For each graduating class, a party is held the day after graduation at the home of the Magnet Coordinator.

VIII. PARENT AND COMMUNITY INVOLVEMENT

We believe that our first responsibility to parents is to help them be appropriately involved in their child's academic endeavors at home. We have developed a Parent Handbook which covers such topics as getting involved in school, the nature of high school work, handling pressure, our expectations, building better study habits, managing time, setting goals, parenting a learner and what to do if their student needs help. We try to help the parents walk the fine line between helping too much or too little. We advise them to help their students to make an increasing number of decisions on their own so that they will be adept at this skill when they leave high school.

Another important component of parent involvement is communication between the school and home. We have an open door policy for parents (and students) and try to make them feel welcome when they visit. We encourage parents to e-mail, call or visit the school any time they have a concern. We also encourage parent/teacher/student conferences. Parents are notified

immediately if their child has had a discipline problem. Letters are sent home to all students earning a “D” or fail. These letters inform the parent about tutoring and encourage them to discuss their student’s progress at home and with the teacher. Additionally, letters are sent weekly to inform parents when their children are missing assignments. Students who need even more monitoring are placed on a daily check system using their school planners. Both the counselor, and parents, check the student’s planner for assignments and messages from the teachers each day. Student led conferences are held each semester for all students. Special evening counseling nights are held four times each semester to provide working parents time to meet with the counselor.

Parents are encouraged to become involved at the school in a variety of campus organizations. Magnet parents and students are represented on the School Site Council, Accreditation Team, and BBAC. Two of the three parent representative in the Parent Center is a Magnet Parent. Many of our parents are very active in the various booster clubs for our athletic teams. Parents have been very generous in volunteering to drive for field trips and host student study groups at home.

A critical area of parent involvement revolves around helping students prepare for college. Most of our parents have not attended college themselves and have many concerns about their child attending college. Some feel it is not in their child’s best interest. We try to gently convince them that college will provide many excellent opportunities for their child. Other parents are concerned because they do not know what is required or how to begin the process of applying for college. To that end, WE make sure the student takes the necessary courses. We remind the students about taking the SAT. We send home a grade appropriate newsletter and check sheet at the beginning of each school year. This newsletter outlines what their child should be doing in that grade level to help them prepare for college. Sylmar High School offers Financial Aid workshops and College Fairs. Parents may also get personal help with financial aid and other applications from the Magnet Counselor and Coordinator.

Our students are heavily encouraged to become involved in our community through volunteer work. Almost every Magnet Student is involved in some sort of community service. The Sylmar High School Chapter of the Key Club (part of the Kiwanis Service Organization) is nearly all Magnet Students, as well as Interact which is part of Rotary International. All Magnet Seniors are expected to work on a political campaign or registering voters. Many of our students develop lasting relationships with their elected officials and other involved community members.