

Health Dynamics

- Understand the benefits within project adventure, which allow students to work together and adapt to various abilities in an attempt to achieve a collective goal.
- Understand how activity participation patterns are likely to change throughout life and identify strategies to deal with those changes.
- Examine the function of the brain as it relates to sensation, motor learning, perception and cognitive learning.
- Recognize signs of stress in daily life and discover methods to rid the body of stress.
- Perform activities that reduce stress and promote fitness.

Electives

In addition to art, music, and health dynamics, the following unified arts are part of the 12th grade curriculum:

- Technology
- Drama
- Stage Craft
- Chorus
- Industrial Arts
- Forensic Investigations
- Financial Literacy
- Community Service
- Consumer Law
- History of Lynn
- Street Law
- Sociology/ Psychology
- Microeconomics
- ROTC (at LEHS only)

Placement

Advanced Placement and honors level programs are available for academically talented students in the following areas: English, social studies, mathematics, science, and foreign language. Curriculum requirements include more demanding classroom assignments, longer home preparation periods, and some independent study.

All students should be in a program that is realistically challenging. Students who have ability but have failed to demonstrate that ability should be placed at a level at which they will be significantly challenged.

Curriculum Team Vision

All teachers will plan for all instruction using the Massachusetts Curriculum Frameworks, aligned to the Common Core, and craft powerful learning experiences for students.

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LYNN PUBLIC SCHOOLS

Twelfth Grade Curriculum Guide

The Lynn Public Schools



*Excellence and Innovation
in Education*

English Language Arts

Reading Literature & Informational Texts

- Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text
- Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
- Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama.
- Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.
- Analyze how an author's choices concerning how to structure specific parts of a text contribute to its overall structure and meaning as well as its aesthetic impact.
- Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant.
- Analyze multiple interpretations of a story, drama, or, evaluating how each version interprets the source text.
- Analyze a work of fiction, poetry, or drama using a variety of critical lenses.
- Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.
- Integrate and evaluate multiple sources of information presented in different media or formats as well as in words in order to address a question or solve a problem.
- Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy.
- Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.

Reading Literature & Informational Texts

- By the end of grade 12, read and comprehend nonfiction and literature, including stories, dramas, and poems, in the grades 12–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.

English Language Arts

Writing

- Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
- Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- Demonstrate understanding of the concept of theme by writing short narratives, poems, essays, speeches, or reflections that respond to universal themes.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- Conduct short as well as more sustained research projects to answer a question or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.
- Write routinely over extended and shorter time frames for a range of tasks, purposes, and audiences.

English Language Arts

Speaking and Listening

- Initiate and participate effectively in a range of collaborative discussions with diverse partners on *grades 12 topics, texts, and issues*, building on others' ideas and expressing his or her own clearly and persuasively.
- Integrate multiple sources of information presented in diverse formats and media in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
- Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
- Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Language

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking as well as capitalization, punctuation, and spelling when writing.
- Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Mathematics

Algebra III:

This is a course in advanced algebra topics and trigonometry for the college bound student who has successfully completed Algebra II and Geometry. Topics include algebraic equations and inequalities, patterns and functions including polynomial functions, rational functions, conic sections, exponential and logarithmic functions, trigonometric functions, analytic geometry, systems of equations and inequalities, matrices and determinants, sequences, data analysis, and probability.

Advanced Mathematics:

This course is for seniors who have completed algebra III, but will not be taking calculus. The course will include and reinforce topics such as: conic sections, complex numbers in trigonometry form, matrices and linear algebra, linear programming (optimization and minimization), regressions, vectors, sequence and series, parametric equations, polar coordinates, 3-D coordinate system, and limits.

Pre-Calculus:

This course is designed to give students a thorough preparation in the topics needed for the study of calculus. Topics include advanced algebra, geometry, trigonometry, analytic geometry, elementary functions including linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise defined. The graphing calculator is an integral part of the course.

Probability and Statistics/Discrete:

This is a semester course in statistics. The focus of the course is on data analysis and real-world applications. Aspects of statistics included are variation, data collection, graphic display of data, concepts underlying inference, and problem solving skills. Examples and exercises are based on realistic data drawn from a variety of disciplines. The graphing calculator is essential to the course.

Calculus:

This course features an enhanced problem solving focus that encourages the student to look at problems numerically, graphically, and analytically. Trigonometric functions are presented in the prerequisites, and then used throughout. Extensive real-life applications using real-world data are included throughout the course. Topics include limits and their properties, differentiation, applications of differentiation, integration, logarithmic, exponential and other transcendental functions, and integration techniques.

It is important to note that students may take different math courses in a given year depending on previous courses taken, grades received, college/career plans, and/or interest.

Science

Biology II:

A detailed survey of biological organization focusing on structural and functions diversity. Major concentration involves the comparison of cytological and physiological characteristics of representative life forms.

Forensics:

Using a hands-on study approach, students have the opportunity to recreate a crime scene and learn how to sketch out crime scenes and collect evidence. Students may have the opportunity to begin an introduction to the various aspects of forensic science, such as blood pattern analysis, toxicology, report preparation, firearm trajectories or characteristics of wounds. As a good follow up to the basics of forensic science, a course in crime scene investigation basics provide students with the six rules of working a crime scene, which are to observe, assess, search, collect, document and analyze.

Biotech/Forensics:

This course combines biotechnology and forensics. Students will study biotechnology to understand the techniques used in the industry and in Forensic science. Biotechnology provides an introduction to current biotechnology practices. The Theory of biotechnology, along with hands-on laboratory experience, provides the student with a general background of the biotechnology industry. A lecture, discussion, lab and project-based course that focus on the molecular and genetic tools used to analyze and modify genetic material and used to modify organisms to produce desired small molecules and proteins. Students will also learn what job opportunities are available with a biotechnology education.

Anatomy and Physiology:

The human body is studied to understand how homeostasis is maintained at the cellular, tissue, and organ systems levels. This course also includes an exploration of human clinical conditions.

Applied Chemistry:

This course is designed for the student who does not intend to study science after high school. The intent of this course is to provide students with fundamental chemistry concepts assisting them in developing into responsible citizens capable of making educated decisions. Such topics may include: Acid Rain, Greenhouse Effect, Fossil Fuels, Ozone Depletion, Food Chemistry, Nutrition, Pharmaceutical, Forensics and Medical Issues, Greater emphasis will be placed on collaborative, hands-on laboratory activities. Exploring the role of chemistry in various fields will allow the student to better understand the principles of chemistry, their, applications and the relevance of chemistry in our daily lives.

Science

Marine Biology:

This course concentrates on the marine life typical of New England waters. Classes study a variety of local organisms including sponges, jellyfish, clams, crabs, and fish. Both live and preserved specimens are studied as students learn about the structure and function of life in the oceans. Additional topics include the study of ocean water, currents, waves, pollution, ocean mining, and man's influence on the marine environment.

AP Environmental Science:

This college level course includes an in-depth study of environmental issues that are related to global populations. Topics include: impact of human population growth, pollution, and use of technology in environmental science.

AP Chemistry:

This college level course provides an in-depth study of atomic and molecular structure, ideal gases, solutions, stoichiometry, equilibrium, kinetics, and thermodynamics. The course also places emphasis on data collection and analysis.

AP physics:

This course enables students to pursue college-level studies while still in high school. AP physics provides willing and academically prepared students with the opportunity to earn college credit, advanced placement, or both. The AP Physics course covers topics typically found in a first-year introductory college physics course and advances the student's understanding of concepts normally covered in high school physics. Major course themes include: Newton's Laws, Pascal's and Archimedes' Principles, solid and fluid mechanics, wave motion and sound, magnetism, circuits, thermodynamics, optics, quantum mechanics, particle physics, and astrophysics.

AP Biology:

This course includes the full range of topics that would be taught in a two semester introductory college biology course. The course revolves are four big ideas: Evolution, Cellular Processes, Genetics and Information Transfer, and Interactions in Biological Systems. The course places an emphasis on scientific inquiry and analysis.

**** Students take the College Board AP examination in May to possibly earn college credits for AP classes.**

Science

Chemistry II:

This is a 12th grade science elective. It is a second year course that continues to study principles of chemistry in depth. The course is shaped around two essential questions: What do we know? How do we know what we know? Major topics covered in this course include: stoichiometry, physical characteristics of gases, molecular composition of gases, states of matter, solutions, acids and bases. Course work is supplemented by lab experiments. Students will be given a problem to solve using the scientific method as a culminating project. This is a challenging course where students are expected to be able to apply quantitative thinking, problem solving, and experimental procedures. Students need to have strong, independent study skills for this class.

Literacy in Science, Social Studies, and Technical Subjects

Reading Standards

- Cite specific textual evidence to support analysis of science and technical texts, primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
- Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas; paraphrase in simpler yet still accurate terms.
- Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
- Follow complex multistep procedure for carrying out experiments and then analyze results.
- Determine the meaning of words and phrases as they are used in a text, if symbols, key terms, and other domain specific words, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
- Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
- Analyze text structures information or ideas into categories of hierarchies, demonstrating an understanding of the information or ideas.
- Analyze author's purpose.
- Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.

Literacy in Science, Social Studies, and Technical Subjects

- Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
- Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
- Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
- By the end of grade 12, read and comprehend history/social studies texts in the grades 12–CCR text complexity band independently and proficiently.

Writing Standards

- Write arguments focused on *discipline-specific content*.
- Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- Draw evidence from informational texts to support analysis, reflection, and research.
- Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Foreign Language

The Foreign Language Department offers from grades 7 through 12, five years of Spanish and French, in both regular, honors and advanced level classes, and 4 years of Latin. By using a coordinated program of books, tapes, visuals, and tests, modern language students learn the four skills of reading, writing, speaking, and listening, and also become acquainted with the culture and civilization of the countries that use the language. Oral skills are supplemented with tapes. Latin students learn to read the language so that they may appreciate ancient literature and language. By studying mythology, classical civilization, and the relationship of Latin to English and many other modern languages, Latin serves as a background subject for many different areas.

Social Studies

US Government and Politics:

The course is designed to provide an analytic perspective on United States politics and the U.S. Government. The course will focus on the institutions, groups, ideas and beliefs that comprise U.S. politics. The course requires familiarity with the basic institutions of the U.S. Government, and a background in the historical development of the United States.

Microeconomics:

This class introduces students to basic economic principles through classroom discussion and debates, workbook exercises, classroom activities, and outside speakers. While it is outside the microeconomics curriculum, students participate in a "stock market game" where they are responsible for investing their own "money."