

Health Dynamics

- Apply concepts about sequential motor learning and development, biomechanics, exercise physiology, and sports psychology.
- Develop a personal fitness plan with goals.
- Apply safe practices, rules, procedures and sportsmanship etiquette in physical activity settings, including how to anticipate potentially dangerous situations within physical activity.
- Use nutritional principles to plan for calorie and nutritional input and output of energy.
- Identify the body parts, function, and stages of the male and female reproductive system.

Electives

In addition to art, music, and health dynamics, the following unified arts are part of the 11th 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

Eleventh Grade Curriculum Guide

The Lynn Public Schools



*Excellence and Innovation
in Education*

English Language Arts

The eleventh grade student will:

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.
- By the end of grade 11, read and comprehend nonfiction and literature, including stories, dramas, and poems, in the grades 11–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 11 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 II:

Number and Quantity

The Complex Number System

- Perform arithmetic operations with complex numbers.
- Use complex numbers in polynomial identities and equations.

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on matrices and use matrices in applications.

Algebra

Seeing Structure in Expressions

- Interpret the structure of expressions.
- Write expressions in equivalent forms to solve problems.

Arithmetic with Polynomials and Rational Expressions

- Perform arithmetic operations on polynomials.
- Understand the relationship between zeros and factors of polynomials.
- Use polynomial identities to solve problems.
- Rewrite rational expressions.

Creating Equations

- Create equations that describe numbers or relationships.

Reasoning with Equations and Inequalities

- Understand solving equations as a process of reasoning and explain the reasoning.
- Represent and solve equations and inequalities graphically.

Functions

Interpreting Functions

- Interpret functions that arise in applications in terms of the context.
- Analyze functions using different representations.

Building Functions

- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.

Pre-Calculus:

Number and Quantity

The Complex Number System

- Perform arithmetic operations with complex numbers.
- Represent complex numbers and their operations on the complex plane.
- Use complex numbers in polynomial identities and equations.

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on vectors.
- Perform operations on matrices and use matrices in applications.

Mathematics

Functions

- Interpreting Functions
- Analyze functions using different representations.
- Building Functions
- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.
- Trigonometric Functions
- Extend the domain of trigonometric functions using the unit circle.
- Model periodic phenomena with trigonometric functions.
- Prove and apply trigonometric identities.

**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

Biotech:

This course 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. Biotechnology companies follow current good manufacturing practices (cGMP), which are regulated by the Food and Drug Administration (FDA). cGMP details quality management, buildings and design, equipment and personnel requirements, facility and equipment cleaning, production and process controls, packaging, labeling, complaint handling, and record keeping. Along with the theory and government regulations are general laboratory skills. Students learn what job opportunities are available with a biotechnology education.

Ecology:

This course will provide an in-depth study of the interaction among organisms and between those organisms and their environment. The students will develop an understanding of what an ecosystem is and the elements that determine the types and numbers of organisms that live in them. They will look at the atmosphere, the hydrosphere and the lithosphere, how each biotic factor helps to sustain the biosphere, and how the biotic factors of the biosphere interact with each of the other spheres. Ecology also refers to any form of biodiversity, from the biology of the smallest bacteria to the global flux of atmospheric gases that are regulated by photosynthesis and respiration as organisms breathe in and out of the biosphere. Studying all of life's processes will help students explain and understand the adaptation and evolution of all life. Strong analysis and synthesis skills will be developed and used extensively in all work done in this course.

Science

Physics:

This course places emphasis on problem solving aspects of classical Newtonian mechanics which includes rectilinear and curvilinear motion. Heat, waves, sound, light and optical concepts are also studied in depth. Labs are conducted throughout the year to supplement the course work.

Anatomy and Physiology:

Cell and tissue levels of organization are presented as the foundation for understanding organs and organ systems. Lab activities include both actual and virtual dissections. This course is recommended for students planning to enter the nursing or medical profession and/or any student who has a desire to learn more about the human body.

History of Science and Technology:

This course examines the history of science spanning from ancient times to the present. Through the lens of history, this survey course will examine the growth of scientific ideas by examining the cultural and social context in which the ideas developed. The relationship between prevailing scientific explanations in various eras and new, emerging ideas will be traced. Understanding the transformation of society in various eras due to innovations in science and technology will be a key concept in this course.

Earth Science:

This course places its main emphasis on the chemical makeup of the earth, mineral identification, rock identification, layers of the atmosphere and plate tectonics. Other topics include oceanography, marine topography, topographic maps and the earth's relationship to the universe.

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 Biology:

This course includes the full range of topics that would be taught in a two semester introductory college biology course. The course revolves around 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.

Honors Anatomy and Physiology (Lab work required)

This course will include a yearlong program of intense human anatomy and physiology studies. The areas covered will include medical terminology, basic chemistry, cell and tissue structure, and the 11 systems of the human body.

*For AP courses, students take the College Board AP exam in May to possibly earn college credits.

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 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.
- Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
- Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
- By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.

Literacy in Science, Social Studies and Technical Subjects

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 History II:

This course takes the student from the late nineteenth century to the present time. The development of the United States from a continental to a world power is stressed. The student in this course, studies the expansion of popular democracy and the social agenda, the increasing role of labor and the farmer, the growth of business and industry, and the evolution of America into a superpower. Selected readings and reports will be required.