



THE NEW ORLEANS CHARTER
SCIENCE AND MATHEMATICS
HIGH SCHOOL

Course Catalog 2022-2023

Unit	Courses
ENGLISH = 4 Units	
1 Unit	English I
1 Unit	English II
1 Unit	English III
1 Unit from the following	English IV or AP English Literature
MATH = 4 Units	
1 Unit	Algebra I
1 Unit	Geometry
1 Unit	Algebra II
1 Unit from the following	Probability & Statistics
SCIENCE = 4 Units	
1 Unit	Biology I
1 Unit	Chemistry I
2 Units from the following	Physical Science, Environmental Science, Physics, Anatomy & Physiology
SOCIAL STUDIES = 4 Units	
1 Unit	U.S. History
1 Unit	Civics
2 Units from the following	World Geography, African American History
FOREIGN LANGUAGE = 2 Units	
2 Units from the following:	Spanish I, Spanish II
ART = 1	
1 Unit from the following	Digital Photography, Digital Media I
HEALTH = .5 Unit	
.5 Unit from the following	Health
PHYSICAL EDUCATION = 1.5 Units	
1.5 Units from the following	Physical Education I, Physical Education II
ELECTIVES = 3 Units	
3 Units from the following	See concentration table for lists of electives

*Note: These are the minimum requirements of the State. Sci High reserves the right to require additional courses.

English

English I

English I is designed to build on the skills of the previous years through an emphasis on writing, vocabulary, and an introduction to literature. English I covers the specific standards for Grade 9 as stipulated in the state English Curriculum Guide.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	Yes

English II

English II concentrates on building skills in vocabulary, reading comprehension, essay writing, and literary writing assignments. English II covers the specific standards as stipulated in the state English Curriculum Guide.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
English I	10	None	Yes

English III

English III has its primary emphasis, the study of American literature. Grammar and usage are integrated with strengthening writing skills in accordance with the state English Curriculum Guide.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
English I & English II	11	None	No

English IV

English IV stresses the broad development of language arts competence through writing with an emphasis on British literature in accordance with the state English Curriculum Guide.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
English I - English III	12	None	No

English IV Literature and Composition Advanced Placement

The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of literature to deepen their understanding of the ways writers use language to build meaning in their work. The curriculum followed is the English IV Literature and Composition AP curriculum provided by the College Board. **Students should expect a heavy workload.** Students must complete a summer reading list. **The student must take the nationally administered AP examination in May. (Not offered every school year)**

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Teacher recommendation, AP Assignment Completion, Basic on both English LEAP 2025 exams.	12	None	No

Math

Math Essentials

A fundamental year-long course that explores basic Algebra concepts through an integrated, hands-on approach. Curricular skills mastered include demonstrating computational fluency using order of operations, error analysis, translating between algebraic, graphical, and tabular representations of real-world functions, interpreting and applying techniques of direct and indirect measurement, solving and graphing equations and inequalities, finding lopes of lines and other representations of rates of change, and solving systems of equations with and without the use of technology.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	No

Algebra I

The study of understanding quantities, variability, and change, writing and solving proportions; writing and solving linear equations, linear functions and their graphs, rates of change, linear inequalities, a system of linear equations, a system of linear inequalities, measurement, exponents, nonlinear functions and graphs, modeling and analyzing data, and probability with statistics.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Math Essentials	9	None	Yes

Algebra II

This course includes the study of understanding quantities, variability, and change, writing and solving proportions; writing and solving linear equations, linear functions and their graphs, rates of change, linear inequalities, a system of linear equations, a system of linear inequalities, measurement, exponents, nonlinear functions and graphs, modeling and analyzing data, and probability with statistics.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Algebra I	10	None	No

Geometry

Emphasizes mathematical skills applied in reasoning processes (inductive and deductive), coordinate systems, transformations, traditional measurements, and three-dimensional figures. Other topics include the measurement of segments and angles, the study of basic right triangle relationships such as the Pythagorean Theorem and special right triangles, parallelism and perpendicularity, congruence and similarity, properties of circles and circular regions, and right triangle trigonometry. Explorations include direct and indirect proofs, ratios and proportions, and constructions.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Algebra I	11	None	Yes

Probability & Statistics

Probability and Statistics course is designed to introduce the methods used in the field of applied statistics. It relies extensively on real-world situations, critical analysis, and interpretation of graphs and data. Students will be expected to analyze and write detailed descriptions and interpretations of graphs, data, and procedures. The major focus of this course is to provide students with experience in using the computer to solve problems that can be set up as mathematical models.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Algebra I - II and Geometry	11 or 12	None	No

Science

Physical Science

Investigate the natural phenomena of force, momentum, energy, electricity and magnetism, waves, and chemical reactions. This course is the basis for further study of physics and chemistry. Mathematical skills in pre-algebra are used in problem-solving. Inquiry-based lab experiments and lab reports are highly emphasized.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	No

Environmental Science

Students will gain an understanding of the driving forces controlling the earth's climate, ecosystem diversity, and biological adaptation, and the role humans play in changing the global environment. Course content will focus on both global and Louisiana systems. Students will enhance their knowledge by reading current events, collecting and manipulating data, giving presentations, and engaging in debates. Conducting a scientific research project is a required part of the class. The goal of this course is for students to become literate in the science of global environmental change and be able to evaluate multiple lines of reasoning in order to make a claim and support it with evidence.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	No

Chemistry

Chemistry I focuses on the properties and reactions of matter with emphasis on real-world applications. Topics of concentration will include scientific measurements, symbolic representation, properties and structure of matter, chemical reactions, and relationships between energy and matter. These concepts are developed through inquiry-based labs, demonstrations, problem-solving, and other interactive activities. Mathematical skills through Algebra are used in problem-solving.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Algebra I, Concurrently enrolled in Algebra II	10	None	No

Biology

This course explores the characteristics and life cycles of organisms and explains their relationships with each other and their environment. Topics of concentration include cellular biology, the molecular basis of heredity, biological evolution, energy relationships within organisms and ecosystems, organization of living systems, and contemporary health issues. The development of these concepts is supported by inquiry and laboratory-based instruction.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	10	None	Yes

Physics

Covers force, motion, energy, electricity, and magnetism. Advanced math will be used in problem-solving. Conducting multiple labs and lab reports to investigate the natural phenomena, including circuitry, kinematics, lightwave refraction, and more. Students will conduct in-depth research projects synthesizing preexisting research to make evidence-based claims about a controversial topic of their choice.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
B or higher in Algebra I or Algebra II	11 or 12	None	No

Social Sciences

Title

Prerequisite	Grade Level	Certification	LEAP 2025 Required

Psychology

Do you know why fast food restaurants are always painted red? Do you know why you get so angry sometimes you can't think? Psychology is a course that will teach you about how the mind works, how personalities develop, and how society uses psychology from everything from designing restaurants to writing music. Psychology will be a project-based elective with class readings, discussion, and film.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
9th Grade Level Sciences	10,11 or 12	None	No

Africana Studies: Historical Research

This course merges African American History, Graphic Novels, Historical Research, and Art, so students can develop historical thinking skills such as Chronological Thinking, Historical Comprehension, Historical Analysis and Interpretation, Historical Research Skills, and Historical Issues: Analysis and Decision-Making. Students will use libraries, databases, and archives, to construct history about different aspects of African American History. Research topics include the Destruction of African Civilization, Race by Law, and Tactics toward Freedom. By the end of the course, students would have written 3 papers and created 3 - Art installations. *This course is honest about the realities of the African American experience.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
		None	No

Africana Studies Honors

The Chambers of Sci (1 section) In this course, students are going to work directly with Mr. Rankins to build an archive of Sci-High History. Students will develop historical thinking skills such as Chronological Thinking, Historical Comprehension, Historical Analysis and Interpretation, Historical Research Skills, and Historical Issues: Analysis and Decision-Making. Students will use libraries, databases, and archives, to construct a narrative history and build an archive that stories the 30-year history of Sci-High. By the end of the course, students would have conducted research, interviews, and written a piece of the narrative history of Sci-high. As a class, we are going to think of cool and innovative ways to share the school's history with students.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
		None	No

Title

Prerequisite	Grade Level	Certification	LEAP 2025 Required

Social Sciences

Spanish I

This course is an introduction to the Spanish language and its culture. The elements of pronunciation are stressed while communication skills are developed concurrently in four areas: listening comprehension, speaking, writing and reading. Cultural activities are presented throughout the duration of the course.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	10,11	None	No

Spanish II

This course consists of intensive drills in listening comprehension, speaking, writing, and reading in the target language. The activities and assignments in this course build upon the content covered in Spanish I. The elements of pronunciation and the essentials of grammar and syntax are caught. Cultural activities are presented throughout the duration of the course.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Spanish I	10,11	None	No

Physical Education & Health Sciences

Health

The Health Education Course is designed to enhance the awareness and knowledge of healthy lifestyle choices. The six adolescent risk behaviors (tobacco use, dietary patterns that contribute to disease, sedentary lifestyles, sexual behaviors, alcohol, and drug use, and behaviors that result in intentional and unintentional injury) will be addressed while advocating for the students to make healthy choices for their overall health. We will also cover mental and emotional health and nutrition.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	No

Physical Education I & II

This course is based on the premise that physical activity and participation are important for all students, regardless of their level of athletic skill or ability. Throughout various activities, students in our program will learn how to incorporate physical activity into their daily lives. In addition, we hope to instill enjoyment of the physical activity, as well as an understanding of the importance of maintaining physical fitness.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9, 10, or 11	None	No

Art

Digital Media I - Video Editing

The goal of this course is to turn students into strong visual storytellers as well as equip students with the skills and knowledge to take and pass the Adobe Premiere Pro certification exam administered by Certiport. Students will have a thorough understanding of Adobe Premiere Pro and will be able to produce professional-quality videos and video edits. In addition to mastering Adobe Premiere Pro, students will learn client skills and real-world applications in all stages of video production: Pre-production (screenwriting, storyboarding, scheduling, etc.), Production (directing, cinematography, producing, etc.), and Post-production (editing, marketing, sound mixing, etc.). At the end of the course, students will have a strong portfolio of projects made in class.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	10,11	Adobe Premiere Pro	No

Digital Media II - Film and Video Production

Students will demonstrate the level of expertise that has been gained from Digital Media courses, such as Web Design, Video Production, Digital Photography, and Graphic Design. This portfolio course is intended to prepare students for entry into the job market or for further study. The student will learn how to prepare for industry employment. From video production to marketing and printing, students will learn how to craft and tailor their work to apply for specific media jobs. Course topics include creating brand identities, graphic apparel design, designing a resume, writing using industry buzzwords, creating promotional reels and collateral, and critiquing portfolio work. The student will create a portfolio - an important tool for seeking employment - that will help them stand out from the competition.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Completion of Digital Photography, Digital Media I, and at least one Adobe Credential in Photoshop or Illustrator.	10,11, or 12	None	No

Electives

3-D Modeling

3D modeling intensive course where students use professional software to tackle real-world design problems.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	10,11,12	Autodesk Inventor	No

Anatomy and Physiology

Focuses on the anatomy and physiology of the major organ systems found in the human body. Nutrition and evolution are also discussed. Students gain an understanding of the structure and function of the human body on a variety of complex levels.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	12	None	No

Certified Nursing Assistant (CNA)

Through this hands-on course, students will become Certified Nursing Assistants. The course includes lectures in patient care, lab experiences, and extensive field experiences in a health care setting. Participating students must meet background check requirements.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Minimum age 17	11 or 12	CNA Certification	No

Engineering I

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9	None	No

Engineering II

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and robotics/automation. Students develop skills in problem-solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. Students will also have the opportunity to investigate engineering & high-tech careers.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
Engineering I	10-12	None	No

Entrepreneur Business

Entrepreneurship is an interdisciplinary course designed to teach students how to think and act entrepreneurial. Students learn how to start-up and operate a business while in school, thus turning their learning into earning.

Prerequisite	Grade Level	Certification	LEAP 2025 Required
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Computer Applications and Financial Literacy	11 or 12	None	No
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Financial Literacy			
Step into this course specifically designed for high school students to understand the importance of the financial world, including planning and managing money wisely. ... Financial Literacy places great emphasis on problem-solving, reasoning, representing, connecting and communicating financial data.			
Prerequisite	Grade Level	Certification	LEAP 2025 Required
Forensic Foundations			
In the introductory course of the LSU Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.			
Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9 or 10	None	No
Graphic Design / Motion Graphics			
Learn the principles of great design and typography from a design industry professional while using professional-grade Adobe design software to create digital drawings, logos, advertisements, magazine layouts, and more. In motion graphics, students study animation techniques, digital video, color theory and composition, video editing, and film production. Students typically take part in both classroom instruction and practical experience using current technologies and industry-standard software applications. Independent film, animation, or special effects projects are part of the curriculum as well.			
Prerequisite	Grade Level	Certification	LEAP 2025 Required
Adobe Certified Associate Adobe Premiere Pro	11 or 12	None	No
Makerspace			
It's a class in making things - both physical and virtual. It is a hands-on, project-based course where students try out a wide variety of creative and practical pursuits, including carpentry, 3D modeling, web design, and robotics. Priority is given to 9 th and 10 th -grade students.			
Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9 or 10	None	No
Computer Science			
An interactive introductory course for students brands new to programming that teaches the foundations of computer science using the Python language. Not only will this semester-long course prepare students for AP Computer Science Principles, but it will teach students how to think computationally and solve complex problems, skills that are important for every student.			
Prerequisite	Grade Level	Certification	LEAP 2025 Required
None	9 or 10	None	No