TEXAS ACADEMY OF MATHEMATICS AND SCIENCE
Visual Arts Course Descriptions

Students at the Texas Academy of Mathematics and Science must pass all courses taken. The below course descriptions are taken from the University of North Texas catalog.

ADES 1500 ***Introduction to Communication Design***
Overview of the communication design profession. Terminology, design planning, creative methodological processes, human communication, metaphorical thinking, Gestalt, form analysis, semiotics, ethics and creative teamwork.

ADES 2500 ***Design Thinking***
Introduces students to creative methodologies, research processes, ethnographic study, teamwork, ideational drawing for communication, iterative exploration, semiotics and branding. Students encapsulate the processes they learn in this class into a capstone visual artifact.

ART 1301 ***Honors Art Appreciation***
History and analysis of Western art with reference to non-Western cultures**.**

ART 1600 ***Foundations: Perceptions and Transition***
This course focuses on the translation of visual phenomena using a variety of digital and analog drawing (mark-making) materials

ART 1700 ***Foundations: Space (physical, temporal, and virtual)***
This course explores multiple conceptions of space, ranging from physical objects to metaphorical space.

ART 1800 ***Foundations: Narrative and Representation***
Emphasizes multiple levels of representation ranging from the physical to the intangible.

ART 1900 ***Foundations: Systems and Transformations***
Critically analyzes multiple (choice and research-based) perspectives of object- and image-making and challenges students to develop a personal framework in the processes of visual art and design.

ART 2350 ***Art History Survey I***
Introduction to the development of art forms from the earliest prehistoric cave paintings through the late Middle Ages**.**

ART 2360 ***Art History Survey II***
Art from the 14th century to the mid 19th century throughout the world.

ART 2370 ***Art History Survey III***
An introduction to the development of global art forms from the mid-nineteenth century to the present.

BIOL 1710 ***Biology for Science Majors I***
An integrated approach to cell and molecular biology with an emphasis on biological chemistry, cell structure and function, Mendelian and molecular genetics, evolutionary biology.

BIOL 1760 ***Biology for Science Majors Laboratory***
Laboratory techniques and research methods for introductory biology.

CHEM 1410 ***General Chemistry for Science Majors***
Fundamental concepts, states of matter, periodic table, structure and bonding,

stoichiometry, oxidation and reduction, solutions, and compounds of representative elements.

CHEM 1430 ***Laboratory Sequence for General Chemistry***
Laboratory techniques, weighing, errors and significant figures, identification and purification of substances, and elementary quantitative analysis.

CSCE 1030 ***Computer Science I***
Introduction to computer science and engineering, problem solving techniques, algorithmic processes, software design and development.

CSCE 1040 ***Computer Science II***
Continuation of CSCE 1030. Software Design, structured programming, object-oriented design and programming

ENGL 1315 ***Writing about Literature I***
Writing as a means of critical thinking using readings from poetry and drama as sources for essay topics. Emphasis on the process of perfecting the essay through the writing of several drafts.

ENGL 1325 ***Writing about Literature II***
Study of relationship between writing and research with research topics drawn from readings from prose fiction. Emphasis on the process of perfecting the essay through the writing of several drafts.

HIST 2610 ***United States History to 1865***
From colonial origins through the Civil War.

HIST 2620 ***United States History since 1865***
From the Civil War to the present.

MATH 1650 ***Pre-Calculus***
Preparatory course for calculus: trigonometric functions, their graphs and applications; sequences and series; exponential and logarithmic functions and their graphs; graphs of polynomial and rational functions; general discussion of functions and their properties.

MATH 1710 ***Calculus I***
Limits and continuity, derivatives and integrals; differentiation and integration of polynomial, rational, trigonometric, and algebraic functions; applications, including slope, velocity, extrema, area, volume and work.

MATH 1720 ***Calculus II***
Differentiation and integration of exponential, logarithmic and transcendental functions; integration techniques; indeterminate forms; improper integrals; area and arc length in polar coordinates; infinite series; power series; Taylor's theorem.

PHYS 1710 ***Mechanics***
Laws of motion; inertia, acceleration, force, energy, momentum and angular momentum. Rotational and oscillatory motion. Gravitation.

PHYS 1730 ***Laboratory in Mechanics***
Laboratory to accompany PHYS 1710.

PSCI 2305 ***US Political Behavior and Policy***
Explores the connection between the will of the people and the policies implemented by government by focusing on individual political values and attitudes, the mechanisms that connect individual beliefs to government action (parties, interest groups, the media, and

elections), and the outcomes of government policy.

PSCI 2306 ***US and Texas Constitutions and Institutions***
An introduction to the institutions of government, with particular emphasis on the U.S. and Texas Constitutions. Focus on the structure and powers of the three branches of government (both national and Texas); the division of power between those branches (separation of powers); the division of power between the national and state governments (federalism); and issues related to civil rights and civil liberties. Satisfies the legislative requirement for a course emphasizing the Texas constitution.

Updated: May 2020