TEXAS ACADEMY OF MATHEMATICS AND SCIENCE

Music 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.

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.

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.

MUAC 15XX **Applied Concentration Lessons (course taken depends on instrument)**
Lower-level applied music, private lessons. Variable credit for majors.

MUAG 10XX ***Keyboard Skills for Music Majors (course taken depends on piano proficiency)***
Functional keyboard skills combined with the application of music theory principles at the piano (progressions, sight reading, harmonization and transposition) for beginning students.

MUAM 15XX ***Applied Concentration Lessons (course taken depends on instrument)***
Lower-level applied music, private lessons. Variable credit for majors.

MULB 18XX ***Large Ensemble (course taken depends on instrument and audition)***

MUMH 1610 ***Music as Communication***
Introduction to issues of music seen as a form of human communication with emphasis on developing listening skills and critical thinking. Includes discussion of Western and non-Western music based on case studies.

MUTH 1400 ***Theory I***
Large-lecture format. Introduction to analysis, part writing, figured bass realization, and harmonization beginning with melody and two-part exercises.

MUTH 1410 ***Aural Skills I***
Reinforcement of theoretical concepts presented in MUTH 1400 via singing, ear training and conducting experiences.

MUTH 1500 ***Theory II***
Continuation of analysis, part writing, figured bass realization and harmonization covering harmonic vocabulary of 18th-century music and smaller forms of the Baroque period.

MUTH 1510 ***Aural Skills II***
Reinforcement of theoretical concepts presented in MUTH 1500 via singing, ear training, keyboard, and conducting experiences.

PHYS 1270 ***Science and Technology of Musical Sound***
Sound production; nature of vibrations in percussion, string, and wind instruments. Sound propagation; sound speed; echoes. Sound intensity, physical and perceived. Sound pitch, physical and perceived; intervals. Complex sounds; harmonic series. Room acoustics; reverberation time; ideal listening rooms. Wave phenomena; interference and diffraction. Digital sound recording; musical scales; the human voice. Includes weekly laboratory exercises.

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.

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