



WACO, TEXAS

Course Syllabus

MATH 1332

Contemporary Liberal Arts Mathematics

(for Music Majors)

REVISED: 09-10

CONTEMPORARY LIBERAL ARTS MATHEMATICS
For Music Majors
MATH 1332

Course Description:

Emphasizes critical thinking and problem-solving skills. Topics may include set theory, logic, dimensional analysis, number systems, number theory, functions, introductory probability and statistics, and the application of these concepts to real-world problems.

PREREQUISITE:

MATH 0307, or THEA math score of 230 or higher, or consent of the division director.

Required Text & Material:

Foundations of Diatonic Theory: A Mathematically Based Approach to Music Fundamentals, by Timothy Johnson, Key College Publishing. (ISBN: 1-930190-80-8)

Handouts from blackline activity masters in *Functional Melodies: Finding Mathematical*

Relationships in Music, by Scott Beal, Key Curriculum Press (Book **not** for student purchase)

Optional: *Music and Computers: A Theoretical and Historical Approach*, by Burk, Polansky, repetto, Roberts, and Rockmore, Key College Publishing (ISBN: 1-930190-95-6)

Course Objectives:

- To examine and understand the group theoretical basis of chord construction.
- To explore the mathematical basis of modes, scales, and chords.
- To learn about linear and exponential functions and their applications in tempo, transpositions, tones, tuning, and instrument construction.
- To explore sequences and patterns as they relate to the aesthetics of music.
- To use dimensional analysis for such things as studying a music score and making commercial music plans.

COURSE OUTLINE:

- I. Group theory; sequence and pattern recognition (with applications to diatonic theory).
- II. Dimensional analysis (with application to tempo and practical business considerations).
- III. Functions and graphs (with application to tempo, composition, transposition, tone, tuning, and instrument construction).

IV. Optional: Computer math, probability and stochastic theory (with application to computerized generation of music).

MCC Attendance Policy:

Regular and punctual attendance is expected of all students, and each instructor will maintain a complete record of attendance for the entire length of each course, including online and hybrid courses. Students will be counted absent from class meetings missed, beginning with the first official day of classes. Students, whether present or absent, are responsible for all material presented or assigned for a course and will be held accountable for such materials in the determination of course grades. In the case of online and hybrid courses, attendance will be determined in terms of participation, as described in the course syllabus.

Absence from 25 percent of scheduled lecture and/or laboratory meetings will be taken as evidence that a student does not intend to complete the course, and the student will be withdrawn from the course with a grade of W. The instructor may reinstate the student if satisfied that the student will resume regular attendance and will complete the course. If the student's 25 percent absences are reached after the official drop date, the instructor may assign a W, if the student is passing and requests to be withdrawn. However, if a student who is not passing reaches the 25 percent point after the official drop date, the student will receive an F. In extenuating circumstances, the instructor may assign a W to a student who is not passing.

Each absence will count toward attendance requirements in each course.

Students will be permitted to make up class work and assignments missed due to absences caused by (1) authorized participation in official College functions, (2) personal illness, (3) an illness or a death in the immediate family, or (4) the observance of a religious holy day. Also, the instructor has the prerogative of determining whether a student may make up work missed due to absences for other reasons. It is the student's responsibility to inform the instructor of the reason for an absence and to do so in a timely fashion.

Student Absences on Religious Holy Days

McLennan Community College shall excuse a student from attending classes or other required activities including examinations for the observance of a religious holy day, including travel for that purpose. Students are required to file a written request with each instructor for an excused absence. A student whose absence is excused for this observance may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. Religious holy day means a holy day observed by a religion whose places of worship are exempt from property taxation under

the Texas Tax Code. McLennan Community College may not excuse absences for religious holy days which may interfere with patient care.

Note: Students interested in seeing the class attendance policy in its entirety should check the Highlander Guide or the MCC policy manual.

ADA Statement:

In accordance with the requirements of the Americans with Disabilities Act (ADA), and the regulations published by the United States Department of Justice 28 C.F.R. 35.107(a), MCC's designated ADA co-coordinators, Mr. Gene Gooch - Vice President, Finance and Administration and Dr. Santos Martinez – Vice President, Student Services shall be responsible for coordinating the College's efforts to comply with and carry out its responsibilities under ADA. Students with disabilities requiring physical, classroom, or testing accommodations should contact Mr. Marcus Sweatt, Disabilities Specialist, at 299-8122 or msweatt@mclennan.edu.