DEPARTMENT OF MATHEMATICS
COLLEGE OF SCIENCES
CENTRAL WASHINGTON UNIVERSITY
COURSE SYLLABUS FALL 2014

1. **MATH 101M: Math in Music**

CRN	TIME/DAY	BLDG/ ROOM	INSTRUCTOR
96394	9:00-9:50	Boullion 144	Dr. Janet Shiver

2. **Textbook and Materials**:
    There is no textbook for this course.
    A calculator will be needed for this course. A graphing calculator is recommended and will be used in the latter part of this course. I recommend a TI-83 or 84 for our needs.

3. **Office Hours and Phone Numbers:**
    Office: Bouillon 115
    Phone: 963-2834
    Email: shiverj@cwu.edu
    Office hours: 2:00 – 3:00 or by appointment

4. **Course Description:** This course is designed for music majors wishing to complete their general mathematics requirement. The goal of this course is to learn some of the mathematics which can help us to better understand music – its structure, arrangement, and perception. This course presents the fundamental topics underlying the mathematical structure of music and sound including modular arithmetic, ratios and proportions, patterns and sequences, models including sinusoidal functions, and statistics.

5. **Prerequisites**: Students need some background in music. To be successful you should be able to read music and identify and understand intervals and scales.

6. **Course Expectations:** Students will be expected to complete all assigned problems and projects on time (at the beginning of class), keep a well organized notebook, and to seek outside assistance when difficulties are encountered. Take home assignments will be accepted up to one day late but 20 points will be deducted from the grade received on the assignment for any late work. All Assignments should be written at the college level, they should be written NEATLY **in pencil** or typed and all supporting work must be shown.

7. **Absence Policy:** Regular attendance is essential for successful completion of this course. A student absent from a test or other class assignment will be given a **zero** unless excused in advance by the instructor. Extenuating circumstances such as illness or injury will be evaluated on a case- by- case basis but must be accompanied by a doctor's note. Please have supporting documentation available for review upon returning to class or you will not be allowed to make up the missed work. *More than 5 unexcused absences from this class may result in a grade of F for the quarter.*

8. **Grading Policy:** The course grade will be determined as follows:
    Projects 20%
    Activities: 10%
    Homework: 10%
    Quizzes: 10%
    Tests: 30%

Final Exam = 20%

Homework: Homework will be assigned throughout the course. You may drop the two lowest assignments. If you miss class with an excused absence, it is your responsibility to find out whether there was any homework assigned and to complete it within a week of your return.

Quizzes: We will have about four quizzes during the term, to test your understanding and recall of some of the basic information we discuss. Quizzes will be announced in class.

Projects: 3 to 4 projects will be assigned during the quarter over different musical concepts such as building your own scale and writing a transformational piece of music.

Activities: This course is very hands-on. We will be completing numerous activities inside and occasionally outside of class. Your attendance is important so that you do not miss these activities. Group activities cannot be made up regardless of the circumstances. You may drop one of the activities from your final grade.

Tests: Three tests will be given during this term.

Final Exam: The final exam will be given Tuesday, December 9th at 8:00 a.m. You are required to be present for your final exam. Please do not ask me for exceptions unless it is a school sponsored activity that cannot be avoided. Family trips are not a legitimate excuse so don't plan them during finals.

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93-100%	90-92%	87-89%	83-86%	80-82%	77-79%	72-76%	70-72%	67-69%	63-66%	60-62%	<60%

9. **Academic Honesty:** The integrity of students and their written and oral work is a critical component of the academic process. All written work submitted in this course will be individual work unless instructed otherwise. Students must properly document all outside sources used for projects, activities, and homework. The submission of another's work as one's own is plagiarism, and will be dealt with using the procedures outlined in the Undergraduate Catalog.

10. **Disabilities**: Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Center for Disability Services as soon as possible so we can discuss how the approved adjustments will be implemented in class. Students without this form should contact the Center for Disability Services, Bouillon 205 or dssrecept@cwu.edu or 963-2171.

11.   FIRE!! In the event of a fire alarm signal students will exit the building in a quick and orderly manner through the nearest hallway exit. Learn the floor plan and exits of this building. Do not use elevators. Crawl on the floor if you encounter heavy smoke. Assist disabled persons and others if possible without endangering your own life.

12. **Course Outline:** This schedule is a **<u>rough</u>** estimation of the time that will be spent on the following topics. This schedule **<u>will</u>** be modified by the instructor throughout the course. Test dates will be adjusted as needed.

Week of	Topic	Assessment
September 22	Transformations and Modular Arithmetic	
September 29	Transformations and Modular Arithmetic	
October 6	Transformations and Modular Arithmetic	**Test 1** **Work Day – No Class Friday**
October 13	Ratios, Proportions and the Scale	
October 20	Ratios, Proportions and the Scale	
October 27	Patterns, Sequences and Music	**Test 2**
November 3	Patterns, Sequences and Music	
November 10	Patterns, Sequences and Music	
November 17	Math modeling and Sound	**Test 3,** **Veterans Day** **Tuesday – No class**
November 24	Math modeling and Sound	**Thanksgiving** **No Class Wednesday – Friday.**
December 1	Math modeling and Sound	
December 9, Tuesday	**Final Exam 8:00 – 10:00**	**Final!**