

Course Outline for PHYS1107 — Physics of Music

Credits:	3 (3/0/0)
Description:	Meets MnTC Goal Areas 3 and 6. This course is an introduction to physics as it applies to the art and science of music. The course will be a mixture of lecture and lab-like experiences with both elements meeting concurrently. Experiments will be designed with musicians and non-scientists in mind and special care will be taken in the writing of lab reports. Topics include analysis of frequency, overtones, intensity, resonance and beats. Students will design and perform on musical instruments based on these principles.
Prerequisites:	(None)
Corequisites:	(None)
Competencies:	<ol style="list-style-type: none"> 1. Demonstrate an understanding of scientific method of inquiry. 2. Demonstrate the physics principles governing simple musical instruments. 3. Write concise reports in the correct format. 4. Recognize the differences between propagation of standing waves in string versus membrane media. 5. Develop an ability to control sound in different environments. 6. Analyze and demonstrate ideal environments for music performance. 7. Examine the difference between echo and reverberation control. 8. Design and build a string, wind or percussion instrument. 9. Perform on and describe the functions of their designed musical instrument to a variety of audiences.
Goal Areas:	<p>(3) Natural Sciences</p> <p>(6) The Humanities and Fine Arts</p>