This syllabus serves to establish the rules and topics for the course.

**Course Description:** The purpose of this course is to ask the question “What is Music?” from a physical point of view. We will discuss how music is produced, what makes an instrument sound the way it does, and how does that sound travel to you to be perceived by your ears and interpreted by your brain as music. We will also discuss what music is from the point of view of how it is structured. We will define scales, intervals chords, and we will understand why scales are arranged the way they are by introducing the circle of fifths (perhaps the most important concept in Western music theory). Along the way, we will develop a deeper appreciation for music as listeners by learning to think more analytically about what we listen to.

**Prerequisite:** None

**Credit Hours:** 4

**Required Text:** *Physics and Music: The Science of Musical Sound*, Dover Edition  
**Authors:** Harvey E. White and Donald H. White  
**ISBN-13:** 978-0486779348

**Required:** i>clicker, calculator (your cell phone calculator will probably be good enough)

**Supplementary Text** (not required): *The Physics of Sound*, 3rd Edition  
**Authors:** Richard Berg and David Stork  
**ISBN-13:** 978-0131457898
Course Schedule
The schedule (including reading assignments) will be posted and continuously updated on Canvas.

Course Objectives
Students will gain knowledge of the following topics (and more):

- Waves: frequency, amplitude, sine-functions, resonance
- Sound: pressure waves, speed of sound
- Creating sound: vibrating strings, bars, and tubes
- The overtone series
- Adding waves and the Fourier transform: why do instruments sound the way they do
- Elements of music: melody, harmony, rhythm
- Musical notation: notes, staff, key signature
- The circle of fifths
- ...

Point Distribution

<table>
<thead>
<tr>
<th>Attendance/i&gt;clicker participation</th>
<th>15%</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
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<tr>
<td>Listening assignments</td>
<td>15%</td>
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<tr>
<td>Midterm assignment</td>
<td>20%</td>
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<tr>
<td>Final paper</td>
<td>30%</td>
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Letter Grade Distribution

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
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<tbody>
<tr>
<td>A</td>
<td>90 and above</td>
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<tr>
<td>B</td>
<td>80 and above &lt; 90</td>
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<tr>
<td>C</td>
<td>70 and above &lt; 80</td>
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<tr>
<td>D</td>
<td>60 and above &lt; 70</td>
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<tr>
<td>F</td>
<td>50 and above &lt; 60</td>
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Note that + and – beyond the letter grades will be assigned as appropriate.
I reserve the right to curve grades up if I feel it is warranted.

Academic Honesty

Clearly cheating is not acceptable. You are encouraged to discuss all assignments with your classmates! However, your quizzes, listening assignments, midterm, and final paper should ultimately be done on your own.

The UO policy on academic honesty can be found here.
The UO student conduct code can be found here.
Course Policies

For late assignments (including the midterm), 20% will deducted for each day late. Late assignments will not be accepted past 5 days late. The final paper will not be accepted after the deadline.

- **Homework** (15% for listening assignments; 20% for quizzes)
  - Your homework in the course has two components: reading assignments (ungraded) and weekly Canvas assignments (graded).
  - The weekly assignments will alternate between a written critical listening assignment and a quiz.
  - Critical listening assignments: a written analysis of a piece of music. A set of mp3 music tracks are provided (although you are allowed to choose any piece of music you want). Detailed instructions and an example assignment are provided on canvas.
  - Quizzes: These will cover the course material. They will be assigned on canvas. For the multiple choice questions, you will be allowed as many tries as you want with no penalty. The last submission is the one that determines your grade.
  - The weekly assignments are turned in on Canvas will be due by Mondays at 11:59 pm.
  - There will be a homework assignment during dead week.

- **Attendance/i>clicker participation** (15%)
  - Attendance is mandatory.
  - Attendance will be tracked by i>clicker participation.
  - You must bring your i>clicker to every class.
  - You will not be graded on what i>clicker answer you provide, only on that you answered.
  - You can miss up to two classes without any penalty.

- **Midterm assignment** (20%)
  - This assignment will be an intermediate step towards your final paper.
  - You will have already picked a paper topic as a question on the quiz due on 4/30.
  - There will be three components:
    1. An outline of your proposed paper
    2. An annotated bibliography with three sources (not our text book)
    3. A rough draft introduction (one to three paragraphs).
  - More detailed instructions will be provided on Canvas.
  - This assignment will be due on Friday, May 18 by 11:59 pm and submitted on Canvas.

- **Final paper** (30%)
  - Your final project will be a paper on something related to the course.
  - There will be no final exam.
  - The paper should be between 5 and 6 pages, double space, 1 inch margins, 12 point font.
  - More detailed instructions will be provided on Canvas.
  - This assignment should be submitted on Canvas by the end of the final exam block for our course (Thursday, June 14 by 10 am).