

MUSI S110E: ELEMENTS OF MUSICAL PITCH AND TIME

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Yale Summer Session B, July 2024
MW 1-4:15, on Zoom via Canvas

About

This course will introduce you to the fundamental building blocks of musical language (notation, rhythm, scales, keys, melodies, and chords), and help you develop practical skills including analytical listening and facility with translating sounding music into notation and vice versa. It is intended for students who have little to no experience with music theory and staff notation, but it is also designed to provide challenges to those with some experience. The concepts we develop in this course will come from Western classical and vernacular music theories, as well as music theories from South Asia and the Islamic world.

Materials

No purchases are required for this course. A significant portion of our work together will be based on a class playlist to which all students will contribute. This playlist, along with other playlists for the course, will be hosted on Spotify, so you will need at least a free Spotify account. We will also work with a number of free software tools for the analysis of sound and the notation, composition, and performance of music.

Assessment

Your grade for this course will be determined by the following formula:

- **40% fluency** — The core of this course is a series of “roboquizzes,” short skill-building drills delivered as Canvas quizzes with instant, autonomous grading. These assessments are randomly generated from large question banks, and most of them may be retaken indefinitely with only your high score recorded. The intention of these exercises is to give you tools to practice with as you build fluency with the core concepts of music theory and notation. My goal is for everyone to have a perfect score in this category. That shouldn’t be your final goal, though: you shouldn’t be satisfied with a perfect score on a given quiz unless you’ve built up the fluency and speed you need to get a perfect score every time, quickly. *Expect eight to ten of these per week, maybe more.*
- **25% notation** — We will learn several different techniques for representing music symbolically, including staff notation, piano-roll visualization, and solmization. Notation assignments will teach you to create and manipulate these representations, and to translate between them. *Expect three or four of these per week.*

- **15% analysis** — Assignments in this category will ask you to listen attentively for certain features in a given musical composition or performance. An assignment may have a variety of questions ranging from roboquiz-style fact-based multiple-choice questions to drawing interpretive diagrams to short-answer questions describing your hearing. *Expect two or three of these per week.*
- **10% performance** — Some assignments will call for you to practice interacting with a recorded or notated musical stimulus, usually by clapping, singing, or playing along according to a specific set of instructions, and submit a recording of yourself doing this once you're ready. The word "performance" here only refers to the way these assignments capture something you do live in real time. Your goal in these assignments should only be accuracy; you will not be graded on artistry or anything like that. *Expect one or two of these per week.*
- **10% participation** — In our class meetings I will use the chat for informal polls and suchlike to help me gauge your comprehension, fluency, and engagement. I'll use the chat transcripts to determine this portion of your grade, which will reflect the existence of your participation (and not, say, its perfection).

Please note that the work is fairly well distributed throughout the term. Compared to a paper-or-exam-driven course, you might have less to do at the middle and end of the term, but more to do on a day-to-day basis.

Attendance

Attendance is mandatory in Yale Summer Session. Your final grade will be scaled by the proportion of class hours you have attended. Missing one whole class session (out of ten), for example, will lower your grade ceiling to 90%, and missing half of three sessions will lower your grade ceiling to 85%. (In practice, since your participation grade will also suffer, these ceilings will be slightly lower.) Since this is an online course that is easy to attend, absences are unlikely to be excused except in truly exceptional and unavoidable circumstances.

Academic Integrity

In this course you are expected to turn in only work you have done yourself, and to credit your sources for any facts or interpretations that you have not learned in this course or discovered through your own analysis. Most if not all of the writing you do in this course will be in short-answer form. Please do not use generative AI to produce this writing: if you are tempted to do so, you should know that these systems in general are quite confused about music theory and tend to produce false or incoherent statements. Violations of academic integrity policies will be referred to the appropriate disciplinary bodies. See also Yale Summer Session's [statement on academic integrity](#).

Tentative Schedule of Topics Covered

(a more complete schedule will be in place when the course begins)

- **Week 1 – July 1, 3**
 - Free software tools: Audacity and theremin.app
 - Creating and reading spectrograms
 - Basic psychoacoustics: the Weber-Fechner law, pitch/frequency, rhythm/duration, overtone series, intervals as frequency ratios
 - Clefs, letter names, and the five-line staff
 - Text and musical repetition: verses, refrains, and bridges
 - Text and musical duration: rhythm and meter
- **Week 2 – July 8, 10**
 - Free software tools: beepbox.co and MuseScore
 - Power-of-two timescales and their notational counterparts
 - The “proximity” dimension of pitch: octaves, semitones, and scale steps
 - The “affinity” dimension of pitch: octave equivalence, the line of fifths, chroma, and the flat-sharp duality
 - BeepBox scales and their step intervals
 - Diatonic intervals: major/minor seconds, thirds, sixths, and sevenths; perfect/augmented fourths, perfect/diminished fifths
 - Scales and half-scales (trichords and tetrachords)
- **Week 3 – July 15, 17**
 - Scale construction in the maqām (Arabic) and mēḷakartā (South Indian) systems
 - Key signatures
 - Triplets and tresillos
 - Time signatures
 - Tertian harmony: chords, their roots and qualities,
- **Week 4 – July 22, 24**
 - Chord shuttles and loops
 - Chromatic intervals
 - Additive meters
- **Week 5 – July 29, 31**
 - In-depth analysis of selected tracks from the class playlist