Seminar: The Statistical Analysis of Music

MUST 5217 (Selected Topics in Music Theory)
Syllabus
Instructor: Dr. Brian Jarvis (bejarvis@utep.edu)
The University of Texas at El Paso – Spring 2020

Course description

This course will focus on creating new musical facts through statistical analysis of many pieces of music. We will learn by example of how data is used to talk about music by reading David Huron's *Sweet Anticipation*. We will also learn to apply standard statistical techniques in our pursuit of new knowledge. The course is directed toward a final-project presentation where a cohesive narrative and illustrative examples will be presented and defended involving the results of a long-term data-driven analytical project.

Useful information

Course website	Blackboard – my.utep.edu
Office hours:	Fox Fine Arts Center 431 11:30 – 12:30 PM on Monday and either Wednesday or Friday and by appointment (just email me to set up a meeting).

Readings

Each week, we will typically read one chapter from a book. Many of those chapters will be from David Huron's *Sweet Anticipation* and other chapters will be provided regarding statistical techniques. For each chapter from the Huron book, you are responsible for bringing in 5 discussion questions. These should be typed, printed, and ready to hand in at the start of class. The purpose of the questions is to generate discussion in class. These are not trivia or, yes/no questions but rather questions that will help us dive more deeply into the chapter. There is unlikely to be a concrete answer to the questions you bring in. Here are some sample discussion questions from my previous seminars:

- "Jahn's main criticism is that Mendelssohn didn't follow the biblical narrative and instead focused on the actual characters in the story. Jahn says this is an error and its an essential weakness for true drama. Is this an accurate assessment about drama or a sweeping generalization?"
- "How does the late arrival of the *kopfton* in Ex. 7.1 compare to the late arrival of a protagonist's entrance in film? Is the experience akin to beginning *in medias res*?"
- "Jahn says:
  > Music has, by its nature, a tendency to dwell on things, and it necessarily seeks a firm point from which it can expand its theme in a certain breadth and in all directions. (p. 367)

  Does music have a natural tendency to dwell on things? If so, what musical features would evoke that sense and in what ways do other artforms express that tendency?"

Reading Outlines

The chapters from the Huron book are usually about 20 pages but some go as long as 30 pages. Reading outlines (1-2 pages, typed) need to be submitted for every assigned reading. These outlines are a detailed hierarchical arrangement of the topics and terms from the text that you will turn in for evaluation and use as a guide for future readings and your final project. I don't want your original, keep the original on your computer and turn in a printed copy. Here is an example of a reading outline from a different course:

Reading Outline (example)   Caplin, *Analyzing Classical Form*, Chapter 1: A Review of Harmony

1. Harmonic Vocabulary
   a. Review of Roman numerals and figured-bass labeling system
   b. Introduction to harmonic functions
      i. Tonic - I$^{(6)}$ and VI
      ii. Pre-dominant - IV, II, bII, Dominants of the dominant, +6 chords, & inversions
         1. II^6 more common than IV at cadences - $\hat{4}$ more common than $\hat{6}$ in bass
      iii. Dominant - V and VII, & inversions
2. Harmonic Progressions
   a. Classified in three ways
      i. Prolongational Progressions (shown in parentheses)
         1. Sustaining, "in time an individual harmony (the *prolonged harmony*) through the use of intervening chords (*subordinate harmonies*) such as neighboring, passing, and substitute harmonies" (see example 1.1)
         2. Types
            a. Pedal point - root of prolonged harmony placed in bass throughout progression
            b. Neighboring chords - Prolonged harmony remains in the same position from beginning to end (i.e., I V$^6_4$ I)
            c. Passing chords - Prolonged harmony changes position from beginning to end (i.e., I VII^6 I^6)
            d. Substitute chords - Prolonging a harmony with another harmony because they express the same function (have two notes in common; roots 3rd part)
      ii. Cadential Progressions (shown with a bracket below)
         1. Def: "Cadential progressions confirm a tonal center", requires: T →PD→D→T
            a. Complete: T→PD→D→T or T→PD→D
            b. Incomplete: T→D→T or T→D or PD→D or D→T
         2. Types
            3. Authentic - ends with root-position tonic
            4. Half - ends with root-position dominant *triad*
               a. Must start and remain in root position
               b. Penultimate - Just before the last
               c. Ultimate - Finale chord, the destination
            5. Deceptive - Final tonic replaced with some other harmony (VI, VII^6/V, I^6)
      iii. Sequential Progressions
         1. Def: consistent pattern of root motions that destabilize harmonic activity
         2. Root motions: By fifth, third, or step
         3. First harmony has a clearly defined function in the key, last has clear function in initial or new key.
   b. TERM: Linking harmony
      i. when, "the final harmony of one progression can be seen to function as the first harmony of the next progression"

Analysis (Data sets)

Most weeks, you will be responsible for generating a sample data set and then sharing the results of your pursuit with the class. In most cases, please strive for collecting data that you—as a trained musician who can read music and has advanced aural training—have a special set of skills for collecting. That is, anyone can collect data about the lyrics to songs, but you have the ability to talk about the melodies, harmonies, rhythms, and form in a detailed, accurate manner, so put those types of skills to use to do something unique.

Required Technology:

Be prepared to bring a Window's or Mac laptop computer (not an iPad) to each class because we'll be using Microsoft Excel (not Google sheets and not Apple's Numbers) throughout the course. The full Microsoft suite is free for students. Click here to learn more. If you don't have your own laptop, check out this link to learn about UTEPs free equipment checkout.

Grading

- Your overall grade for the semester will be calculated as outlined below:
    - Weekly reading and reading assignments   33%
    - Weekly data sets   33%
    - Final Project   33%

- Letter grades will be assigned as follows:

A	90-100	B	80-89	C	70-79	D	60-69	F	Below 60

- Grade updates will be provided almost every week throughout the semester. Please feel free to inquire about your current average at any time.
- ***In order to pass this course, you need a grade of C or higher**

No late homework

Late homework is **NOT** accepted. Unless you have made prior arrangements with the instructor, any missed homework will receive a grade of a zero. Exceptions can be made in the case of a genuine emergency or significant illness if written documentation (e.g., a note from a health care provider, an accident report, etc.) is shown to the instructor within one week of the due date. See the instructor if you are unsure about whether your absence will be counted as excused or unexcused.

Attendance policy

On-time attendance is expected each week. I'll allow you to have two unexcused absences (sickness, concerts, transportation issues, etc.) with no grade penalty but each absence after that will result in a 5% deduction from your final grade. Being prepared for class is critical for such a small group so coming to class unprepared means that you forfeit your attendance credit for that day. Examples of being unprepared are not having done the reading, or not completing the reading assignment, or not completing the weekly data-set assignment.

Being prepared for class

In order to be prepared for class, you need to do following:
- Bring your laptop to class
- Arrive before the scheduled start of class
- Stay for the duration of the class
- Only use technology items for class-related activities
- Don't distract others or the classroom environment in the opinion of the instructor
- Bring the required materials to each class (see Required Technology section above)

Cell phones or other electronic devices

Please be respectful with your phones/tablets during class. Technology items should only be used for purposes related to class. Phones should be on silent and stowed away.

Academic Integrity and Scholastic Dishonesty

Information about The University of Texas at El Paso's definitions and expectations regarding academic integrity and scholastic dishonesty can be found at http://sa.utep.edu/osccr/academic-integrity/. In this course, all homework, quizzes, exams, and projects are to be completed on your own. Actual or attempted cheating, plagiarism, and collusion will not be tolerated. Suspected violations will go directly to the Office of Student Conduct and Conflict Resolution for consideration.

Accommodations and Support Services:

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Center for Accommodations and Support Services and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. For more information about services available to UTEP students with disabilities, see the following website http://sa.utep.edu/cass/studentsresources/.

Syllabus Change Policy

The information on this syllabus is subject to change. Any changes will be announced in class and/or via email.