Summary

This course will introduce students to the broad range of topics in digital musicology as well as essential theoretical approaches and methods. In the practical part, students will carry out a small course project on their own.

Content

Digital Musicology (DM) is a vibrant field that covers the study of a wide variety of musical forms across cultures and historical traditions (e.g., from Gregorian chant up to present-day Jazz, Pop or Indian music), using analytical and corpus-based computational methods. DM involves bridging various sub-disciplines, such as historical musicology, music cognition, music theory, and music aesthetics.

I. Fundamental musicological concepts and methods
   • Core research questions in DM
   • Types of music-related data, corpora and their representation, forms of transmission
   • Cultures, histories, geographies, & networks
   • Music aesthetics

II. Music theory, cognition, and modelling
   • The acoustical foundation: Tuning systems, scales, sonorities, technologies
   • Tonal Pitch Space
   • Statistical properties of melody, harmony, rhythm, and meter
   • Musical expectancy and predictive processing
   • Models of syntactic structure
   • Corpus research & style analysis

Learning Prerequisites

Required courses

• Foundations of algebra, statistics and data analysis
• Basic programming (e.g. Python, Julia)

Recommended courses
Recommended background:
• Introduction to music theory and analysis

Important concepts to start the course
Prior knowledge of music theory (harmony & counterpoint) is desirable, but the class can be completed without.

Learning Outcomes
By the end of the course, the student must be able to:
• Distinguish the core concepts used in digital music research
• Explore and orient him-/herself in the multidisciplinary field and identify important research questions and methods
• Analyze databases containing musical and contextual data (e.g. harmonic corpora, melodic corpora, Montreux archive, concert programs, etc.)
• Develop and test hypotheses about musical structures (e.g. melody, harmony, meter) and implement these analyses

Teaching methods
The course consists of 2 hours of lectures per week that will cover concepts and methods. An additional 2 hours per week are dedicated to a class project tackling a chosen DM research question.

Expected student activities
Students are expected to attend the class regularly and actively contribute to the project section. Students are also required to fulfill the reading assignments.

Assessment methods
The theoretical part will be evaluated with an oral exam during the exam session, and the practical part based on the student’s class project.

Supervision
| Office hours | Yes |
| Assistsants  | Yes |
| Forum        | Yes |