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
Required course (obligatory):
• 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 at the end of the semester, and the practical part based on the student’s class project.

**Supervision**
- Office hours: Yes
- Assistants: Yes
- Forum: Yes