INTRODUCTION TO DIGITAL MUSICOLOGY

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Preface

This page contains material for the course **Introduction to Digital Musicology**, held at Julius-Maximilians-Universität, Würzburg (Germany) in Fall 2025.

> ⚠️ **Warning**
>
> This is work in progress.

Test citation Knuth (1984).

Part I.

INTRODUCTION

1. What is Digital Musicology?

Introduction and terminology

> **ⓘ Goal**
>
> Understanding what "digital musicology" means.

- Introduction
- Overview of the field
- Terminology
    - e.g. digital vs computational; the latter in 2nd semester
    - digital vs empirical vs quantiative
    - how does DM relate to "traditional" subdivisions of musicology?

> **💡 Exercise**
>
> Read.

2. Digital Musicology today

> **i** Goal
>
> Acquiring and overview of current activities in Digital Musicology.

- Current research topics
- Important institutions and people (also, e.g. NFDI4Culture)
- Central journals and conferences

3. The history of Digital Musicology

> **i** Goal
>
> Knowing the beginnings and the major stages of DM.

Part II.

DATA ABOUT MUSIC

4. RISM metadata

> **i** Goal
>
> Learn what metadata are and how to search for music sources on RISM Online.

- What is RISM?
- What is RISM Online?

> **Exercise**
>
> Understand basic SPARQL and design queries via prompting.

5. Spotify and MusicBrainz metadata

> **i** Goal
>
> Understand the kind of metadata provided by Spotify vs MusicBrainz.

6. Music and the streaming industry

> **i Goal**
>
> Gain first insights into the music market and its workings.

> **💡 Exercise**
>
> Work with sales data.

Part III.

MUSIC AS DATA

7. Audio

i Goal

Understand what an audio signal is and how it is represented digitally .

- Waveform to spectrogram
- Harmonics
- Timbre
- Audible range and volume
- reading melodies from a spectrogram
- digital audio: sampling

8. MIDI

> **ℹ Goal**
>
> Be able to name use cases for MIDI. Translate MIDI numbers to pitches.

9. MEI - header

> **ⓘ Goal**
>
> Understand basic XML encoding and the skeleton structure of MEI.

- mei friend

10. MEI - the body

ℹ **Goal**

Understand the relation between CWMN and the MEI music element.

- MuseScore export
- mei friend

Part IV.

WORKING WITH MUSIC DATA

11. Digital music analysis: harmony

> **i** Goal
>
> Understand what labeling is and why labels can be useful.

- further MuseScore practice
- segmentation and labeling
- Counting chords, finding cadences

12. Digital music analysis: melody

> **ℹ Goal**
>
> Understand how melodic pattern matching works in principle.

- Pattern finding in melodies (Non-Western)

Part V.

CRITICAL DIGITAL MUSICOLOGY

13. Copyright

> **ℹ Goal**
>
> Know a few famous copyright infringement cases and why data analysis is important here.

- Plagiarism cases and copyright

14. Representation and representativeness

> **ℹ Goal**
>
> Understand the difference between representativeness and representation. Obtain a critical understanding of biases relevant for data selection.

- Representation and the canon
- Representing means modeling means abstraction (what is "music" in "music encoding"?)
- biases: how to recognize them, how to deal with them, and when biases are a good thing.
- FAIR and CARE

15. Discussion

ℹ Goal

References

Knuth, Donald E. 1984. "Literate Programming." *Comput. J.* 27 (2): 97–111. https://doi.org/10.1093/comjnl/27.2.97.