

INTRODUCTION TO DIGITAL MUSICOLOGY

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Table of contents

Preface	1
I. INTRODUCTION	3
1. What is Digital Musicology?	5
2. Digital Musicology today	7
3. The history of Digital Musicology	9
II. DATA ABOUT MUSIC	11
4. RISM metadata	13
5. Spotify and MusicBrainz metadata	15
6. Music and the streaming industry	17
III. MUSIC AS DATA	19
7. Audio	21
8. MIDI	23
9. MEI - header	25
10. MEI - the body	27
IV. WORKING WITH MUSIC DATA	29
11. Digital music analysis: harmony	31
12. Digital music analysis: melody	33
13. Digital music analysis: copyright	35

Table of contents

V. CRITICAL DIGITAL MUSICOLOGY	37
14. Ethical issues	39
15. Discussion	41
References	43

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 quantitative
 - how does DM relate to “traditional” subdivisions of musicology?

Exercise

Read.

2. Digital Musicology today

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

Goal

Knowing the beginnings and the major stages of DM.

Part II.

DATA ABOUT MUSIC

4. RISM metadata

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

Goal

Understand the kind of metadata provided by Spotify vs MusicBrainz.

6. Music and the streaming industry

Goal

Gain first insights into the music market and its workings.

Exercise

Work with sales data.

Part III.

MUSIC AS DATA

7. Audio

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

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

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

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

Goal

Understand how melodic pattern matching works in principle.

- Pattern finding in melodies (Non-Western)

13. Digital music analysis: copyright

Goal

Know a few famous copyright infringement cases and why data analysis is important here.

- Plagiarism cases and copyright

Part V.

CRITICAL DIGITAL MUSICOLOGY

14. Ethical issues

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

 Goal

References

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

