



# MUSI8001 — Fall 2026

## Syllabus

- *Class*
  - **Dates:** August 24th–December 17th, 2027
  - **Time:** Monday & Wednesdays 12:30pm–1:45pm
  - **Room:** West Village 275
- *Instructor*
  - **Name:** Nathaniel Condit-Schultz
  - **Email:** [natcs@gatech.edu](mailto:natcs@gatech.edu) (<mailto:natcs@gatech.edu>)
  - **Office:** Couch 209E (in person) or Teams (remote)
  - **Hours:** Book a meeting  
(<https://outlook.office.com/bookwithme/user/968565d04bea4a5a85e78f0a96b53fbc@gatech.edu?anonymous&ismsaljsauthenabed&ep=plink>)

## Course Description

This course is an introduction to academic scholarship and research methodology—how we conduct good original research and successfully disseminate (publish) our findings. The course focuses on common research paradigms in *music* science and engineering research, but the general principles you learn can be applied to various inquiries in any field. The course will guide you through the development of your own research portfolio and plans, leading into your Masters Project and beyond.

## Learning Goals

In this course, you will learn:

- The standard terminology, design paradigms, and best practices of scientific research.
- How to formulate good research questions and theories and how to propose and investigate concrete hypotheses.
- To think critically about one's *own* ideas.

- How to find, interpret, critique, use, and cite academic literature.
- Effective scientific/scholarly writing.
- How to prepare high quality and reproducible scientific documents.
- How to design scientific inquiries, research projects, and experiments.
- How to collect, analyze, and visualize data.
- Fundamental concepts in statistics and machine learning.

The lessons of the course are distilled into our research mantras (<http://ccml.music.gatech.edu/MusicScience/Mantras.html>) which remind us of the tenants of good research methodology. You are expected to memorize them all!

## Prerequisites

The course is suitable for graduate students with little or no previous background in music research. However, your peers in this class are generally at least minimally familiar with *some* of the following topics:

1. Rudimentary musical concepts and theories (Western or otherwise).
  - e.g., tonality/scales/raga, intervals, harmony, meter/tala, and musical form.
2. Reading music
  - e.g., Western standard notation, chord sheets, tabulatures, MIDI piano rolls.
3. Musicianship and music performance.
  - i.e., how to play a musical instrument or sing (at least as an amateur).
4. The basics of digital audio and Digital Audio Workstations (DAWs).
  - e.g., Garage band, REAPER, FL Studio, etc.
5. Computer coding (text-based).
  - i.e., Python or Java.
6. git (<https://git-scm.com/>) and GitHub (<https://github.com/>).

Prior experience with these topics is **not required**, but if your knowledge of these topics is limited you will have a steeper learning curve to climb! Reach out to me if you have concerns.

## Course Content

Course content will be provided in two places:

1. Our course site on Canvas (<https://gatech.instructure.com/courses/481786>)
2. Repositories on our course's GitHub organization (<https://github.gatech.edu/MUSI8001-Fall2026>) (details below).

Exams, deadlines, and grades will be posted on Canvas. However, most of your course work (i.e., writing samples) will be submitted through GitHub—I will also give you feedback and revision criteria through GitHub.

*If you don't know how to use git or GitHub, don't worry! You'll learn.*

## GitHub Enterprise

GitHub Enterprise (<https://github.gatech.edu>) is a private GitHub server accessible to all Georgia Tech students and faculty. GitHub Enterprise is totally separate from the normal (public) GitHub; You cannot use your normal (public) GitHub username—instead, you will log in with your Georgia Tech credentials. If you are off campus, you may need to connect to the Georgia Tech VPN (<https://vpn.gatech.edu>) to access GitHub Enterprise.

You will be made a member of the MUSI8001Fall2026 (<https://github.gatech.edu/MUSI8001-Fall2026>) organization during the first week of class. Only members (students in the class) can view content in this organization's repositories. Each student will make their own personal repository, based on this template ([https://github.gatech.edu/MUSI8001-Fall2026/StudentRepo\\_Template](https://github.gatech.edu/MUSI8001-Fall2026/StudentRepo_Template)). To facilitate collaboration and peer feedback, this repository will remain accessible to all students in the course—if this bothers you, you may petition me for the option to create a second private repository, which other students cannot access. Your *grades* will never be posted on GitHub.

Each time you create new or update existing course content (for example, writing assignments) you must write a clear and descriptive “commit message.” You will then make a pull request for me to review your changes and give feedback, if necessary. We will make use of GitHub’s “Issues” and “Discussions” features to provide instructor and peer feedback.

## Textbook

My online textbook *Inquiring about Music* (<http://ccml.music.gatech.edu/MusicScience/>) is the basis for many of the lectures, lessons, and activities in the course. Most importantly, my specifications (criteria) for evaluating writing assignments and exams is closely tied to lessons in the textbook, so you'll need to read it closely and reference it frequently! Specific readings will not be assigned, but the relevant course chapters will be posted on the syllabus schedule (updated as needed).

## Class meetings

This course includes two in-person meetings each week. You should bring a laptop computer with headphones to each class session. Generally, Monday sessions will focus on lessons, lectures, and activities while Wednesdays will focus on reading, critiquing, and discussing the class's latest writing drafts.

## Participation and Attendance

Neither participation nor attendance are explicitly graded in this course. However, successfully satisfying all our writing specifications (see below) will be much easier if you attend class, attend to lessons, ask questions, and participate in activities and discussions. In particular, Wednesday sessions can be used to discuss feedback given on your writing drafts.

**If you are feeling sick, please do not come to in-person class sessions or office hours.** Contact me and I will do whatever I can to fill you in on whatever you missed that day—or better yet, attend one of my office hours as soon as you are feeling better.

## Course Work

### Writing

*The vast majority of work in this is writing.* The main final deliverable for the course is a set of scientific writing samples, which must be completed satisfactorily by the end of the semester (December TBA). All writing samples are graded pass/fail, but may be revised and resubmitted repeatedly until the final deadline on December TBA; Thus, you will expand and refine each of your writing samples throughout the course.

Weekly draft deadlines will be posted on Canvas, indicating a new item or a revision that must be submitted each week. You will also be asked to share and workshop your writing samples in class meetings and *to edit and/or revise other students' writing samples*.

There are two types of writing assignments: writings about *original research*—structured and styled like sections of a scientific journal article—and *reviews of published papers*—structured and styled like scientific peer reviews. The different types of writing samples are:

- *Article sections*
  - Abstract
  - Introduction
  - Background (a.k.a., literature review)
  - Methodology
  - Results (a.k.a., data analysis)
- *Paper reviews*
  - Concise summary
  - Full peer review

You will learn how to write appropriately in these styles in the class.

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Most of your writing samples will be about original research ideas that you must devise. I will also *assign* you other ideas to write sections about, including ideas devised by other students. Similarly, for your paper reviews, you will select some papers yourself and have others assigned to you by me.

*Note: If appropriate, one\* of your research ideas may overlap with your MUSI 7100 work and one may overlap with a MUSI 6003 paper.\**

## LaTeX

You must format and render all of your writing samples using LaTeX (<https://www.latex-project.org/>), the de facto standard in scientific publication. You will also need to use bibtex (<http://www.bibtex.org/Using/>) for citations. You can write and render LaTeX code at Overleaf ([www.overleaf.com](http://www.overleaf.com))—make sure to sign in using your Georgia Tech credentials!

You will submit all assignments by pushing files to your personal course GitHub repo. For each assignment, push the `.tex` file, `.bib` file, and any other necessary files (for example, images) into a suitably-named directory on your class GitHub Repo.

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Though you may use Overleaf to render your documents (i.e., make them pdfs), I *recommend* installing a TeX distribution (<https://www.latex-project.org/get/>) on your own computer as well, which will give you greater power and flexibility in generating professional documents. For statistics and data visualization, I will use the R programming language (<https://www.r-project.org/>) and its associated IDE RStudio (<https://posit.co/products/open-source/rstudio/?sid=1>). If you install LaTeX and R locally, you can use the knitr (<https://yihui.org/knitr/>) package to embed R code (and graphs) directly into your LaTeX documents.

# Exams

The course has three exams: two short exams concerning the research mantras (<http://ccml.music.gatech.edu/MusicScience/Mantras.html>) enumerated in the course textbook, plus a final exam. All the exams are closed book and must be proctored by me in person.

- **Mantras**
  - *Mantra Recitation*
    - Testing your recollection of the mantras.
  - *Mantra Apologetics*
    - Testing your understanding of the mantras.
- **Final Exam**
  - Write a short peer review of another student's writing sample.

The two **mantra exams** are short exams that you can take and retake repeatedly until you achieve your desired score. I will, periodically, set aside time at the beginning or end of class sessions for everyone to take (or retake) one of these exams (we will also practice and review in class). You may also attend one of my office hours to take or retake one of the exams.

The **final exam** will take place on December TBA, from 11:20am–2:10pm. During this time, you will be given a short writing sample (from a fellow student or a publication) to read and peer review. The exam will be graded on a five-point rubric, which will be discussed in detail in the final weeks of class.

# Grading

Grades in this course are assigned based on a system called *specifications grading*. This means that grades are based on the satisfaction of course learning outcomes, measured through the successful completion of specific sets of assignments. Each assignment has very specific “specifications” (requirements) which must be met. Your final course grade is determined by which assignments you successfully complete (see the Final Grades section below).

Assignment specifications are either satisfied or not; thus **all assignments are graded on a pass/no-pass basis**. Submissions must be graded “pass” in order to be counted towards a final course grade—there is no possibility of partial credit. However, if you have made a good-faith effort and there seems to be the possibility of improvement, I may allow you to “revise and resubmit” an improved draft one or more times. If a revised draft meets the assignment specifications, it is graded “pass” with no penalty.

General specifications about **writing** are posted on our GitHub organization, here (<https://github.gatech.edu/MUSI8001-Fall2026/Course-Content/blob/main/WritingSpecifications.md>).

# Deadlines

Final drafts of all writing samples must be committed no later than December TBA at 11:59pm. However, “*draft deadlines*” will be assigned each every week on Canvas—you must push your new or updated drafts to GitHub (<https://github.gatech.edu/MUSI8001-Fall2026>) each week before the deadline. These deadlines are generally the

start of the first class meeting of each week (either Monday or Wednesday at 12:30pm). Draft deadlines may specify either new samples (first drafts) or revised submissions of previous work.

## Late work

If you do not commit (and push) the assigned draft by the week's deadline at 12:30pm, your draft is counted as a late. However, if you have a valid excuse, I may grant you up to six days of extra time to submit a draft. Valid excuses include illness or injury, family emergencies, or important academic/professional activities (e.g., job interviews or conference presentations). I will accept at most *one* excuse per semester with no formal evidence—just inform of me via email of the (valid) reason why you missed the deadline; if you want to excuse additional missed deadlines, you will need to email me formal proof of your valid excuse (e.g., a doctor's note).

## Final grades

To achieve a specific final grade, you must—by the end of the semester—pass a certain set of writing assignments, hit a certain number of draft deadlines, and achieve certain minimum scores on the exams. The table below summarizes the minimum needed for each final grade.

Note that **all five criteria must be met to achieve the associated grade.**

(For Writing Samples, “self” means you select the topic/paper, “assigned” means I do.)

	A	B	C	D
<b>Hit Draft Deadlines</b>	13 out of 16	12 out of 16	11 out of 16	10 out of 16
<b>Mantra Recitation</b>	≥ 100%	≥ 90%	≥ 80%	≥ 70%
<b>Mantra Apologetics</b>	≥ 90%	≥ 80%	≥ 70%	≥ 60%
<b>Final Exam</b>	≥ 4/5	≥ 3/5	≥ 2/5	≥ 2/5
<b>Total Writing Samples</b>	23	20	14	12
Introduction	3 self : 0 assigned	3 self : 0 assigned	2 self : 0 assigned	2 self : 0 assigned
Background	3 self : 0 assigned	2 self : 0 assigned	2 self : 0 assigned	1 self : 0 assigned
Methodology	2 self : 1 assigned	1 self : 1 assigned	1 self : 1 assigned	1 self : 0 assigned
Results	1 self : 2 assigned	1 self : 1 assigned	0 self : 1 assigned	0 self : 1 assigned
Abstract	3 self : 0 assigned	3 self : 0 assigned	2 self : 0 assigned	2 self : 0 assigned
Summary	3 self : 3 assigned	3 self : 3 assigned	2 self : 2 assigned	2 self : 2 assigned
Review	1 self : 1 assigned	1 self : 1 assigned	0 self : 1 assigned	0 self : 1 assigned

## (Tentative) Schedule

The following schedule is tentative and will certainly change to reflect the needs of the class; Always check back here for up-to-date info!

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<b>Week</b>	<b>Dates</b>	<b>Module</b>	<b>Topics</b>
1	Aug. 24	<b>Introduction</b>	Philosophy of Science
	Aug. 26		Research Publication
2	Aug. 31		Questions, Theories, Hypotheses
	Sep. 02		
3	Sep. 07	<b>Background</b>	<i>LABOR DAY</i>
	Sep. 09		Literature and Citation
4	Sep. 14		
	Sep. 16		
5	Sep. 21	<b>Methodology</b>	Experimental design
	Sep. 23		
6	Sep. 28		Measurement
	Sep. 30		
7	Oct. 05		Sampling
	Oct. 07		
8	Oct. 12	<b>Data</b>	<i>FALL BREAK</i>
	Oct. 14		Human Data
9	Oct. 19		
	Oct. 21		Musical data
10	Oct. 26		
	Oct. 28		
11	Nov. 02	<b>Results</b>	Data Description and Visualization
	Nov. 04		
12	Nov. 09		Statistics
	Nov. 11		

Week	Dates	Module	Topics
13	Nov. 16 Nov. 18		Machine learning
14	Nov. 23 Nov. 25	<b>Discussion</b>	<i>THANKSGIVING BREAK</i>
15	Nov. 30 Dec. 02		
16	Dec. 07		
17	Dec. TBA	<b>Conclusion</b>	11:20am–2:10pm

## Policy Statements

### Academic Integrity

Students must do their own work on assignments, projects, and exams unless collaboration is previously specified and approved by the instructor. Students caught cheating on an assignment will receive zero credit for that assignment and may be subject to further sanctions through the Office of Student Integrity (<http://osi.gatech.edu>). Students are expected to abide by the Georgia Tech Honor Code (<http://policylibrary.gatech.edu/student-affairs/academic-honor-code>) and avoid any instances of academic misconduct, including but not limited to:

1. Possessing, using, or exchanging improperly acquired written or oral information in the preparation for an exam.
2. Substitution of material that is wholly or substantially identical to that created or published by another individual or individuals.
3. False claims of performance or work that has been submitted by the student.

Please refer to the Georgia Institute of Technology Academic Honor Code (<http://policylibrary.gatech.edu/student-affairs/academic-honor-code>) for further information.

### Reasonable Accommodation

In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodation. The Office of Disability Services (<http://disabilityservices.gatech.edu>) will certify a disability and advise faculty members of reasonable accommodations.

### Learning Environment

As the instructor of this course, I endeavor to provide an inclusive learning environment. If you experience barriers to learning in this course, do not hesitate to discuss them with me, the Office of Disability Services (<http://disabilityservices.gatech.edu>), or the School of Music administration.

# Changes to Course

Since all classes do not progress at the same rate, it may be necessary to modify the requirements laid out in this syllabus, or their timing, as circumstances dictate. For example, the number and frequency of exams may be changed, or the number and sequence of assignments will be altered. In any such case, adequate notification will be given in writing and be discussed in class.

# Diversity, Equity, and Inclusion

The School of Music community of faculty, staff, and students aspires to create and nurture an environment that is supportive of all backgrounds where different views and ideas are respected and encouraged. In all our pursuits, we commit to justice, diversity, equity, and inclusion with regard to race, national origin, language, age, sexual orientation, gender, religion, and ability. Moreover, we will encourage intellectual inquiry and respectful exchange that cements our dedication to these principles.