

MUSI 7100: Syllabus

Music Technology Research Lab

Spring 2017

Course Details

class time M 2pm, group meeting tba & by appointment
location Couch 205
credits 3 credit hours

Instructor Information

name Alexander Lerch
email alexander.lerch@gatech.edu
location Couch 205
office hours by appointment (<https://calendly.com/alexanderlerch>)

Group Communication

musicinformatics@googlegroups.com internal: meetups, discussions, etc.
music-informatics-alumni@googlegroups.com external: announcements & accomplishments for all alumni
music-performance-analysis@googlegroups.com internal: FBA & funded research

1 General Information

1.1 Course Description

Guided research and creative work in music technology. Investigation of novel technological and artistic concepts. Design and develop new hardware, software, and musical artifacts.

1.2 Prerequisites

Prior coursework in signals and systems is expected. Programming experience and familiarity with Matlab will be helpful.

1.3 Learning Outcomes

After successful completion of the class, the students will demonstrate

- knowledge of state of the art algorithms and technology in music technology,
- the ability to design and implement algorithms, and to design and implement systems for the analysis, synthesis, and/or processing of audio and music,
- the ability to approach a research project by formulating the research question, doing a literature survey, designing the experiment, evaluating and analyzing the results systematically, and presenting the results in a presentation and a scientific paper.

2 Grading

The overall grade consists of:

| | |
|------------------------------------|-----|
| attendance | 15% |
| project work | 50% |
| paper | 15% |
| final (poster) presentation | 20% |

2.1 Description of Graded Components

- **attendance:**
presence in Monday seminars and participation in group seminars as well as in scheduled individual meetings
- **project work:**
your individual or group project for this semester. Grades will assigned according to quality, significance, and impact of your contributions to the project, the ability to complete assigned tasks in a timely manner, the ability to communicate and collaborate with others, and the innovations and ideas that shape the direction of our research.
- **paper:**
conference style paper describing the project in a scientific style in a quality that would allow conference submission. Grades will be assigned according to structure, clarity, references, quality of information, and form.
- **presentation:**
there will be a demo day at the end of the semester where you will present your work to other students and visitors. Second year students will also present their MS project or thesis in the Monday seminars. The presentation grade will be assigned according to the organization, completeness, verbal and non-verbal presentation skills and the quality of the visual materials (structure, easy to read, visualizations, etc.).

2.2 Grading and Grading Policies

All graded components will be graded in points. The final grade for the course will be determined by dividing the total points earned by the number of points possible for each of the categories listed above.

These numbers will be converted into a letter grade according to the following scale:

| | |
|----------|---------------|
| A | 100–90% |
| B | 89–80% |
| C | 79–70% |
| D | 69–60% |
| F | 59% and below |

Grades may be assigned per group or individually as announced (e.g., projects are in some cases per group, quizzes are usually per individual).

3 Course Materials

3.1 Software

The assignments and project work will be done in Matlab. Note the following license information:

www.matlab.gatech.edu

Other tools and programming languages can be used if approved by the instructor.

4 Course Expectations & Guidelines

4.1 Course Schedule

The class schedule is based on weekly meetings: the weekly Monday seminar, weekly group meetings, as well as weekly individual meetings. Regular individual meetings (30 minutes) will be scheduled at the begin of the semester, time-slots will be available for additional (sign-up) appointments.

Since all classes do not progress at the same rate, it may be necessary to modify the above schedule as circumstances dictate. For example, the number and frequency of assignments may be altered or the schedule of the classes may be changed. In either of these cases, adequate notification will be given and be discussed in class.

4.2 Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit:

- <http://www.catalog.gatech.edu/rules/>.

Students are encouraged to support each other, but each artifact has to be clearly executed by the individual/group being graded. Any student suspected of cheating or plagiarizing on a quiz, exam, assignment, or other artifact will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

4.3 Accommodations for Individuals with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (often referred to as ADAPTS) at (404)894-2563 or

- <http://disabilityservices.gatech.edu>

as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

4.4 Attendance and Participation

Regular attendance is expected. Missed classes might impact your learning experience and have negative influence on the participatory grade.

4.5 Extensions, Late Assignments, Missed Exams

All assignments, papers, and other artifacts are due **ON THE DUE DATE**. The due date will be announced per assignment on t-square. A penalty of **TEN POINTS PER DAY** will be applied to all late assignments and late project papers. Documented illnesses and family emergencies are excepted. Quizzes and exams cannot be made up unless you have a valid, documented excuse.

4.6 Student Use of Mobile Devices in the Classroom

The use of mobile devices in the classroom is not allowed unless explicitly allowed by the instructor.

4.7 Student-Faculty Expectations

At Georgia Tech we believe that it is important to continually strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See

- <http://www.catalog.gatech.edu/rules/>

for an articulation of some basic expectations — that you can have of me, and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.