

## **MUCP 5690-4690 . Generative and Algorithmic Composition**

### **Instructor and office hours**

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Office hours by appointment.

### **Schedule**

This course takes place in person in the CEMI Studio 2009, We 2-4:40 PM. Course material and assignment submission will be in Canvas.

### **Textbooks**

1. Pedro Kroger, Music for Geeks and Nerds, <https://pedrokroger.net/mfgan> free download of books and data: <https://github.com/kroger/books/blob/master/README.md>
2. Other text will be suggested during the course as optional reading material.

### **Outline**

In this course we will cover a variety of topics on generative and algorithmic techniques in music composition, from earlier examples to current developments. This is a project-based course where the main objective is to develop an effective computational mindset for music creativity. We will learn how to design and implement compositional models using Python as our base programming language and using a variety of open-source packages. A prior knowledge of Python is not required, and all the needed fundamentals will be covered in the course, through the extensive use of score (code) analysis and creative coding exercises.

### **Course Objectives**

Upon successful completion of this course, you will be able to:

1. learn advanced python programming structures and fundamentals of modular programming applied to music composition and analysis
2. given a compositional problem, design the algorithm that will allow you to solve it effectively - develop your *computational musical thinking*
3. learn how to use computation as a meaningful interpretation of musical data structures.
4. learn the most efficient visualization techniques for the problem at hand.

## Prerequisites

There are no required prerequisites for this course. However, in order to be successful in this course you will need to:

- have a basic computer literacy, including understanding of editors, shells, and installation of computing environments (installation of [anaconda python](#) is required)
- understand the basic logic of python programming structures, such as variables, iterators, logic statements etc.
- have the ability of designing algorithms for representative physics problems

## Syllabus

Module 1. Review of python programming

Module 2. Introduction to algorithmic composition

Module 3. The primitives of Music

Module 4. Working with randomness

Module 5. Music from Math and Data

Module 6. Music from process

Module 7. Computational models in music theory

Module 8. Music and complexity

Module 9. Individual instruction/composition

Module 10. Individual instruction/composition

Other subjects can be discussed upon completion of the required modules.

## **Grading**

Grading will be based on the successful completion of the modules in the allotted time. Students will return their assignments as jupyter notebooks through Canvas.

## **Course Technology & Skills**

### Minimum Technology Requirements

- Computer

### Computer Skills & Digital Literacy

- Using Canvas
- Downloading and installing software

## **Course Policies**

### Face Coverings

UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

With COVID-19 cases on the rise again, especially among those who remain unvaccinated, UNT requests that all students, faculty, and staff comply with a new mandate from the City of Denton to wear a face covering indoors per CDC guidance for our region.

### Attendance

Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with the professor and the instructional team prior to being absent, so you, the professor, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the professor and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

*The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable*

*accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at [940.565.4323](tel:940.565.4323).*

UNT's policy on Academic Dishonesty can be found at:  
<http://www.vpaa.unt.edu/academic-integrity.htm>

Drop information is available in the schedule of classes at:

<http://registrar.unt.edu/registration/schedule-of-classes>

***The Student Perceptions of Teaching (SPOT) is a requirement for all organized classes at UNT. This short survey will be made available to you on-line at the end of the semester and will provide you with an opportunity to provide feedback to your course instructor. SPOT is considered to be an important part of your participation in this class. In addition to SPOT, there will be a brief in-class course survey during the last two weeks of the semester.***

**Near the end of the Fall 2017 semester you will receive an email on from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Please look for the email in your UNT email inbox. Simply click on the link and complete your survey.**

After logging in to the [my.unt.edu](http://my.unt.edu) portal, students can access the SPOT survey site by clicking on the SPOT icon. A list of their currently enrolled courses will appear. Students complete each course evaluation independently. During the long terms, the SPOT is open for students to complete two weeks prior to final exams. During the Fall term, the SPOT is open for students to complete six days preceding their final exam. See <https://spot.unt.edu/content/fall-2017-8w1-calendar> for specific dates and deadlines.