

# Electronic Synthesizer Techniques, MTEC 474a

## Course Syllabus Fall 2022

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### Instructor:

Timo Preece

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Mailbox: TMC 118

Office Hour: TBA by appointment.

### Goal:

It is the goal of this course that each student—upon successful completion—gains a working knowledge of electronic synthesizers and the components of the synthesis process (oscillators, filters, envelope generators, etc.) for the creation, shaping, and design of sound.

### Required Software:

Steve Duda's **Serum** synthesizer will be our primary tool for this class. Since computer labs are not available, you will need to purchase or rent this synthesizer plug-in.

### Serum (Xfer Records)

Full purchase: \$132.20 (30% off for USC students)

[Purchase link](#)

Serum monthly subscription: \$9.99/month through Splice (rent to own, requires Splice membership)

[Splice URL](#)

### Required Online Coursework:

[www.Syntorial.com](http://www.Syntorial.com) Synthesizer training software.

Syntorial includes a fully functional software synthesizer and training software.

Syntorial is **not** installed on the lab computers. **You will need to purchase this software** on your personal laptop, iPad or home computer for your weekly homework assignments.

Promo code: USCSYN (40% off, \$77.99 is your price)

\* There will be weekly Syntorial homework exercises with short quizzes\*

### Hardware Requirements:

You must have headphones or monitors. The department **STRONGLY** recommends the [Sony MDR-7506](#) headphones or similar. They are the standard headphone for all MTEC and MUIN courses. If you plan to take any other courses in these areas, you will need reference headphones.

\*\*\*Bring **your own headphones to EVERY MEETING with a 1/4" adapter**. We do not loan out either of these items and not having them will affect your ability to participate and consequently your participation score\*\*\*

[Sweetwater's Headphone Buying Guide](#)

I also recommend these options if you can afford to invest a bit more:

[Beyerdynamic DT 770 PRO 250 ohm Closed-back Studio Mixing Headphones](#)

[Focal Spirit Professional headphones](#)

### Additional Resources:

Rick Schmunk has a great beginning Serum course. Definitely worth checking out if you want to review or get a little ahead during the semester. <https://www.linkedin.com/learning/learning-serum/wavetable-oscillators?u=76870426>

How to create a free USC **LinkedIn Learning** account: <https://itservices.usc.edu/linkedin-learning/>

**Course Outline • Syntorial Quiz Schedule**

<b>Date</b>	<b>Class Topic</b>	<b>Syntorial Section Quiz</b>
8/23	Course Introduction; Syntorial, Serum	
8/30	Oscillators and Sound Sources	1-3
9/6	Wavetables	4-6
9/13	Noise Oscillator	7-9
9/20	Filters	10-12
9/27	LFO	13-15
10/04	Envelopes and Modulation	16-18
10/11	Modulation Matrix and LFOs	19-21
10/18	<b>MIDTERM EXAM</b> – Patch Assignments and a Test covering Syntorial lessons 1 - 21	<b>1 - 21</b>
10/25	<b>MIDTERM presentations</b> and Matrix and LFO	22-24
11/1	Matrix and LFO	25-27
11/8	Custom Wavetables	28-30
11/15	Gates and Arpeggiation - Modulation Sources	31-33
11/15	<b>Final Project Presentations</b> and feedback	
11/29	<b>Final Exam Due</b> – Take home quiz and Serum patches that need to be completed.	

**Requirements, Exams and Grading Information**

Student assessment in MTEC 474a will consist of in-class participation, weekly exercises, a mid-term and a final project. Unless otherwise noted, all exercises are due one week from the date assigned.

It's extremely important that students keep up with the weekly reading assignments and exercises before the next class session.

This course is being offered in an in-person modality. Please be attentive to the class attendance policy. Remote attendance will not be considered unless I am presented with a directive from the Office of Student Accessibility Services. However, if on any day you are ill or have symptoms consistent with COVID-19, stay home. In that case, contact me to make up work or otherwise maintain continuity with the course.

All assignments are to be turned in to the class DropBox, accessed through Blackboard, and must carefully follow file naming conventions, file management and format guidelines.

\*\*\*Assignments must also be brought to class each week and available for in-class demonstrations and collaborative exercises\*\*\*

**Communication and Online Materials:**

Please make it a habit to check your USC email account. If you do not regularly use that account, make sure you have it forwarded to the account you do use. Any emails I send to the class will use the USC email account. All course materials, including slides, audio examples, handouts, and assignments, as well

as class grades will be available in Blackboard (<https://blackboard.usc.edu>). Be sure to check Blackboard if you have to miss a class. You are responsible for any materials presented and assignments made even if you are not in class that day.

**Grade Breakdown:**

- Participation, Assignments, Patches 45%
- Online Reading Quizzes 15%
- Midterm Exam 20%
- Final Exam 20%

**Sharing of course materials outside of the learning environment**

USC has a policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment. Please do not share or otherwise distribute class materials, music scores or recordings produced by me or any students in the conduct of this course without expressed permission.

*SCampus Section 11.12(B)*

*Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).*

**Zoom etiquette**

If applicable, I expect you to demonstrate your presence and participation in class by your being on camera in all Zoom sessions. If you will be unable to keep your camera on during the synchronous Zoom session, please contact me prior to the class session to discuss.

**USC technology rental program**

We realize that attending classes online and completing coursework remotely requires access to technology that not all students possess. If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university's equipment rental program or other assistance. To apply, please [submit an application](#) on the Student Basic Needs portal.

**USC Technology Support Links**

[Zoom information for students](#)

[Blackboard help for students](#)

[Software available to USC Campus](#)

**Academic Conduct**

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" [policy.usc.edu/scampus-part-b](https://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](https://policy.usc.edu/scientific-misconduct).

**Support Systems**

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call*

[studenthealth.usc.edu/counseling](https://studenthealth.usc.edu/counseling)

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call*

[suicidepreventionlifeline.org](https://suicidepreventionlifeline.org)

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call*

[studenthealth.usc.edu/sexual-assault](http://studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298*

[equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

*Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298*

[usc-advocate.symplicity.com/care\\_report](http://usc-advocate.symplicity.com/care_report)

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Disability Services and Programs - (213) 740-0776*

[dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

*USC Campus Support and Intervention - (213) 821-4710*

[campussupport.usc.edu](http://campussupport.usc.edu)

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101*

[diversity.usc.edu](http://diversity.usc.edu)

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

*USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

*USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call*

[dps.usc.edu](http://dps.usc.edu)

Non-emergency assistance or information.