Course Outline ECE446/JEB1447 – 2020

ECE446/JEB1447: SENSORY COMMUNICATION

Course title: Sensory Communication
Code: ECE446H1F / JEB1447F
Credit Weight: 0.5
Prerequisite: 
Co-requisite: 
Exclusions: 

Contacts

Instructors
Name: Prof. Willy Wong
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Lab Assistant
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Marking Assistant
Name: Alex Mertens
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Textbook
A copy of lecture notes will be posted after each chapter is completed.

Suggested additional references


Calendar description

Learning Outcomes
At the conclusion of this course, the student will be able to:

1. Identify and characterize an engineering acoustic problem
2. Frame a complex, open-ended acoustics problem in engineering terms
3. Generate design solutions for an open ended lab project
4. Work as part of a team-based project
5. Communicate your design work as part of a presentation

Composition
Lecture hours 3 hrs/week Lab hours 1.5 hrs/week
Course Outline ECE446/JEB1447 – 2020

Synchronous/asynchronous scheduling

All lectures will be recorded and available for your viewing through Quercus. I will be running a synchronous session at Wednesdays 4-5pm each week covering the material + problem solving like a tutorial session.

Grading Scheme (included dates are the due dates)

* Individual assessment: 75%
  - Final exam 40%
  - Midterm (Oct 20 4:05-5:35pm) 25%
  - Problem set (Nov 6) 10%
* Group lab assessment: 25%
  - Preliminary proposal (Sept 18) NA
  - Final proposal (Sept 25) 2%
  - Status update 1 (Oct 2) 2%
  - Status update 2 (Oct 23) 2%
  - Status update 3 (Nov 17) 2%
  - Recorded video presentation (Nov 30) 7%
  - Final report (Dec 9) 10%

Assessment Scheme

The midterm will be carried out during class hour (October 20, 16:00-17:30 EST) and will distributed over Quercus. Questions are offered individually with no backtracking to the previous question. The midterm is closed book. The exam will be carried out in similar format during the exam period.

Course Outline

Waves and physical acoustics (week 1)
Loudspeakers, microphones and electroacoustics (weeks 2-6)
Audio signal processing (weeks 7-8)
Physiology of the senses (week 9)
Environmental noise (weeks 10-11)
Virtual reality and room acoustics (weeks 11-12)

Notice of video recording and sharing (Download permissible; re-use prohibited)

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

Academic Integrity Policies
http://www.academicintegrity.utoronto.ca/
Inclusivity, Accommodations & Mental Health Support

Inclusivity Statement:

You belong here. The University of Toronto commits to all students, faculty and staff that you can learn, work and create in a welcoming, respectful and inclusive environment. In this class, we embrace the broadest range of people and encourage their diverse perspectives. This team environment is how we will innovate and improve our collective academic success. You can read the evidence for this approach here.

We expect each of us to take responsibility for the impact that our language, actions and interactions have on others. Engineering denounces discrimination, harassment and unwelcoming behaviour in all its forms. You have rights under the Ontario Human Rights Code. If you experience or witness any form of harassment or discrimination, including but not limited to, acts of racism, sexism, Islamophobia, anti-Semitism, homophobia, transphobia, ableism and ageism, please tell someone so we can intervene. Engineering takes these reports extremely seriously. You can talk to anyone you feel comfortable approaching, including your professor or TA, an academic advisor, our Assistant Dean, Diversity, Inclusion and Professionalism, the Engineering Equity Diversity & Inclusion Action Group, any staff member or a U of T Equity Office.

You are not alone. Here you can find a list of clubs and groups that support people who identify in many diverse ways. Working together, we can all achieve our full potential.

Syllabus Statement on Accommodations:

The University of Toronto supports accommodations for students with diverse learning needs, which may be associated with mental health conditions, learning disabilities, autism spectrum, ADHD, mobility impairments, functional/fine motor impairments, concussion or head injury, blindness and low vision, chronic health conditions, addictions, deafness and hearing loss, communication disorders and/or temporary disabilities, such as fractures and severe sprains, or recovery from an operation.

If you have a learning need requiring an accommodation the University of Toronto recommends that students register as soon as possible with Accessibility Services at https://studentlife.utoronto.ca/service/accessibility-services-registration-and-documentation-requirements/.

Phone: 416-978-8060
Email: accessibility.services@utoronto.ca

Mental Health Statement:

As a university student, you may experience a range of health and/or mental health challenges that could result in significant barriers to achieving your personal and academic goals. Please note, the University of Toronto and the Faculty of Applied Science & Engineering offer a wide range of free and confidential services that could assist you during these times.

As a U of T Engineering student, you have an Academic Advisor (undergraduate students) or a Graduate Administrator (graduate students) who can support you by advising on personal matters that impact your academics. Other resources that you may find helpful are listed on the U of T Engineering Mental Health & Wellness webpage, and a small selection are also included here:

- Accessibility Services & the On-Location Advisor
- Graduate Engineering Council of Students’ Mental Wellness Commission
- Health & Wellness and the On-Location Health & Wellness Engineering Counsellor
Course Outline ECE446/JEB1447 – 2020

- Inclusion & Transition Advisor
- U of T Engineering Learning Strategist and Academic Success
- My Student Support Program (MySSP)
- Registrar’s Office
- SKULE Mental Wellness
- Scholarships & Financial Aid Office & Advisor

If you find yourself feeling distressed and in need of more immediate support resources, consider reaching out to the counsellors at My Student Support Program (MySSP) or visiting the Feeling Distressed webpage.

Access to U of T from Abroad

If you are a citizen of another country, and/or accessing your courses at the University of Toronto from a jurisdiction outside of Canada, please note that you may be subject to the laws of the country in which you are residing, or any country of which you have citizenship. The University of Toronto has a long-established commitment to freedom of expression, with this right enabled by an environment valuing respect, diversity, and inclusion. In your classes, you may be assigned readings, or discuss topics that are against the law in other jurisdictions. I encourage you to become familiar with any local laws that may apply to you and any potential impact on you if course content and information could be considered illegal, controversial, or politically sensitive. If you have any concerns about these issues, please contact your instructor directly to discuss with them.