

COURSE INFORMATION

Class Days: Tu Th
Class Times: 4 PM – 5:15 PM
Class Location: GMCS 328

Instructor: Professor Marie Roch
Phone: 619 594 5830
Email: use FirstName . LastName @ sdsu.edu
Office location: GMCS 533
Office hours: Tu 3-3:50, Th 5:30-6:20

Most complicated issues are best solved interactively in office hours. That said, e-mail is also appropriate for resolving simpler issues. When writing e-mail, please keep a professional tone, starting e-mails with an appropriate salutation, e.g., Dear Professor Roch. While I usually respond to e-mail within one business day, it may take longer when my work load is higher. I receive a large volume of e-mail, and if you have not heard back in two business days, please feel free to resend your message.

Do not come to campus if you do not feel well. Remain home and monitor your symptoms and seek medical attention as needed. Reasonable accommodations will be made for medical related absences. If it is an exam day or something is due, contact Professor Roch prior to missing the exam or due date.

ESSENTIAL STUDENT INFORMATION

For information about student academic success, please see the [SDSU Student Academic Success Handbook](#). The handbook provides information on responsibilities and services including resources for medical, financial and psychological needs.

SDSU provides disability-related accommodations via Student Disability Services (e-mail: sds@sdsu.edu or web <https://sds.sdsu.edu>). Please contact them early as 10-14 business days may be required and accommodations cannot be granted retroactively.

Class rosters are provided to instructors with legal names. Please let me know if you prefer to use an alternate name.

STUDENT LEARNING OUTCOMES

You will master machine learning and signal processing skills. We will apply this to recognizing audio signals, but many of the skills that you will acquire are useful in many contexts such as finance, bioinformatics, control systems, etc.

Upon successful completion of this class, students should be able to:

- Understand feature extraction including automated discovery of features.
- Have an understanding of human speech production and perception.
- Solve problems related to the classification of signals using a variety of machine learning and signal processing skills, including problems with temporal dependencies.
- Organize and write a scientific paper.
- Read, understand, and critique current research literature.

COURSE MATERIALS

Materials (including texts, readings, course fees, equipment, and any technology requirements)	Required or optional	Where and how it can be obtained
Goodfellow, I., Bengio, Y., and Courville, A. (2016). <i>Deep learning</i> (The MIT Press, Cambridge, Massachusetts), pp. xxii, 775 pages. Goodfellow et al. (2016) is freely available online.	required	SDSU book store or freely available online
See course web site: roch.sdsu.edu for recommendations on Python learning materials if needed	optional	

COURSE DESIGN: MAJOR ASSIGNMENTS AND ASSESSMENTS

Consistent with University policy, I retain the right to adjust course design, including assignments, assessments and deadlines. Any changes will be announced.

A series of assignments (approximately four to five) will contain a combination of qualitative, quantitative, and programming assignments. Two of the assignments will contain a detailed lab report, an exercise to help you learn to write scientific papers.

Midterm and final exams will be given.

COURSE SCHEDULE

A [public facing web site](#) for the class shows a week-to-week course schedule as well as assignments their due dates. The schedule may vary to meet the needs of students (e.g., more time spent on a difficult topic). Your final exam is scheduled for Thursday, December 14th from 3:30 to 5:30 PM.

GRADING POLICIES

Assignments are due at 10:00 PM on their due date and are submitted via [Canvas](#). A 30-minute grace window is provided. When an assignment cannot be completed by the due date, you may submit the day of the next *following* class up to 10:00 PM for a 10% penalty.

When submitting programs, approximately 70% of the program score will be attributed to functionality. The remaining portion of your score will assess your design (20%) and appropriate levels of comments (10%). The course FAQ has information on both design and commenting.

Affidavits indicating that you performed the work yourself or with a classmate for pair programming projects are **mandatory** for all assignments. Failure to include affidavits will result in the loss of points. Instructions on affidavits are covered by a link in the assignments page.

The course uses coarse scale grading. Typically, you will see the following symbols on your submitted work:

E: excellent – Great answer that went above and beyond; nothing or very little to change.

G: good (G) – A very solid answer.

MR: mostly right – This answer shows reasonable understanding of the concept, but it is clear that there may be nuances that were missed.

RT: right track – Answer demonstrates some understanding of the concept, but there are clear misconceptions.

VE: valiant effort – The answer demonstrates a serious attempt to address the question, but fails to answer the question correctly. VE answers typically earn almost 40% of the available points; *it is worth trying to solve problems*.

The assignments grade, consisting of all non-exam assessments, is computed by adding up the number of points scored and dividing by the number of points possible.

Grade weights:

assignments:	60%
midterm:	20%
final exam:	20%

INTELLECTUAL PROPERTY

The programs that you create in this class are your own. However, when these build on scaffolding provided by a faculty member, portions of the programs are not your intellectual property. You are welcome to show any assignment to an employer. You may not however publicly post software that is provided to you. Developing scaffolding software requires faculty time and resources, and posting completed solutions increases faculty workload.

ACADEMIC HONESTY

The University adheres to a strict policy prohibiting cheating and plagiarism. Examples of academic dishonesty include but are not limited to:

- Using generative AI to produce work that you claim as your own
- Copying, in part or in whole, from another student's work
- Obtaining copies of a test, an examination, or other course material without the permission of the instructor;
- Collaborating with another or others in coursework without the permission of the instructor;
- Falsifying records, laboratory work, or other course data;
- Submitting work previously presented in another course, if contrary to the policies of the course;
- Altering or interfering with grading procedures;
- Assisting another student in any of the above;

- Using sources verbatim or paraphrasing without giving proper attribution (this can include phrases, sentences, paragraphs and/or pages of work);
- Copying and pasting work from an online or offline source directly and calling it one's own;
- Using information found from an online or offline source without giving the author credit;
- Replacing words or phrases from another source and inserting one's own words or phrases.

Unauthorized recording or dissemination of course instruction or materials by students, especially with the intent to disrupt normal university operations or facilitate academic dishonesty, is a violation of the Student Conduct Code. This includes the posting of exam problems or questions to on-line platforms. Violators may be subject to discipline.

The California State University system requires instructors to report all instances of academic misconduct to the Center for Student Rights and Responsibilities. Academic dishonesty will result in disciplinary review by the University and may lead to probation, suspension, or expulsion. Instructors may also, at their discretion, penalize student grades on any assignment or assessment discovered to have been produced in an academically dishonest manner.

CLASSROOM CONDUCT STANDARDS

SDSU students are expected to abide by the terms of the [Student Conduct Code](#) in classrooms and other instructional settings. Violation of these standards will result in referral to appropriate campus authorities. Prohibited conduct includes:

- Willful, material, and substantial disruption or obstruction of a University-related activity, or any on-campus activity.
- Participating in an activity that substantially and materially disrupts the normal operations of the University or infringes on the rights of members of the University community.
- Unauthorized recording, dissemination, or publication (including on websites or social media) of lectures or other course materials.
- Conduct that threatens or endangers the health or safety of any person within or related to the University community, including:
 1. Physical abuse, threats, intimidation, or harassment.
 2. Sexual misconduct.

DIVERSITY AND INCLUSION

The learning environment should be accessible to all people. I make a concerted effort to help all students learn. As a woman, first-generation college student, and a Mexican-American, I regularly engage in activities designed to provide individuals with the tools to succeed. We *all* rise together.

LAND ACKNOWLEDGEMENT

For millennia, the Kumeyaay people have been a part of this land. This land has nourished, healed, protected and embraced them for many generations in a relationship

of balance and harmony. As members of the San Diego State University community, we acknowledge this legacy. We promote this balance and harmony. We find inspiration from this land, the land of the Kumeyaay.