CS 570 Operating Systems (schedule # 21125)   **Spring 2021**

COURSE INFORMATION

Class Days: T/TH
Class Times: 4:00-5:15 PM
Class Location: Zoom
Mode of Delivery: Synchronous Zoom

Instructor: Professor Marie Roch
Phone: N/A during pandemic
Email: marie🌼dot🌼roch@sdsu.edu
Office location: N/A
Office hours: Tu 3:00-3:50 PM
Th 2:00-2:50 PM

COURSE WEB SITE, ZOOM, AND CANVAS:

Course assignments and supplemental information are available on the course web site. Submissions, and supplementary materials, and grades are available on Canvas. Class meetings are via Zoom. Take some time to familiarize yourself with the course design, especially the syllabus and course frequently asked questions list (FAQ).

Please be aware that, like other computing resources on campus, all Canvas communications are subject to the campus Information Technology Security Policies

Zoom videoconferencing:
- Class link is available on Canvas
- Please set your name to your real name. If you prefer to be called by a nickname, you may substitute that name for your first name on the canvas. If you have a common last name, please put your given name in parentheses, e.g. The Rock (Dwayne) Johnson.
- Tutorials are available for Zoom use and etiquette. Tutorials are available for both use and etiquette.

COURSE DESCRIPTION:

This is a required course for computer science majors that teaches you how to design, implement, and understand essential software services that interface between underlying hardware and application programs.

Prerequisites: CS 310, CS 370, and demonstrated programming competency in C or C++.

STUDENT LEARNING OUTCOMES

After successful completion of the course, students will be able to:

- Understand the role of operating systems as resource managers for computer hardware and describe the fundamental structure and design of these systems.
- Implement, apply and/or evaluate algorithms associated with resource management such as coordinated access to shared memory buffers, protection of user and system data, and ensuring system stability.

- Develop more complex programs in C or C++ by applying advanced techniques such as making function calls through variables pointing to functions.
- Work collaboratively using pair programming techniques.
- Comprehend and reflect on the impact of computer software on the health and well-being of society through discussion of system-critical applications and the need for more comprehensive testing (e.g. fly by wire aviation systems, pace-makers).
- Engage in operating systems design projects.

COURSE MATERIALS

Required: Tanenbaum, A. S. and Bos, H. (2015). Modern Operating Systems. Boston, MA: Pearson. ISBN-13 978-0-13-359162-0,

See web site for recommendations on books on C/C++ as well as information on the programming environment.

MAJOR COURSE ASSIGNMENT DEADLINES

- A series of 5-6 major programming assignments will be given. Deadlines are typically 2-3 weeks per assignment and always posted on the course calendar once assigned.
- 5 low stakes quizzes

Consistent with University policy, I retain the right to adjust course design, including assignments, assessments and deadlines. Major departures from the syllabus shall be made only for compelling reasons. Any major changes to the course syllabus will be announced in class and communicated to all students electronically.

ASSIGNMENTS AND ASSESSMENTS

Assignments (75%) - Problem sets consist of questions and programming assignments, and are due at 10:00 PM. Late assignments will be accepted up to one class period after the due date with a 10% penalty. Most assignments have two parts. The first part consists of questions and the second of a programming project.

Questions may be quantitative or qualitative in nature. For qualitative questions you are expected to give responses in grammatically correct complete sentences. For quantitative problems, you must show your work in order to receive credit.

Programs may be done with one other classmate from the same section using pair programming methods. All programs must be well commented and well structured. We will frequently provide unit tests that grade some of the functionality of your assignment automatically (≤ 70%). In addition to functionality, The remaining portion of your score is attributed to an assessment of your design (20%) and appropriate levels of commenting (10%). The course FAQ has information on both of these.

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 in the class FAQ.

Quizzes (25%): A series of low stakes quizzes are given at regular intervals throughout the semester. You will be given 30 minutes of class time for each quiz, usually at the end of the class. These quizzes are closed book and use of the web is prohibited, but you may use any notes that you have taken. Quizzes are designed to take 15-25 minutes, and you are welcome to use up to an additional 15 minutes after class.

SCHEDULE

A week-by-week schedule for the semester is available on the course [web site](#).

UNIVERSITY POLICIES

Accommodations: The learning environment should be accessible. SDSU provides reasonable accommodations in the following situations:

If you are a student with a **disability** and are in need of accommodations for this class, please contact the Student Ability Success Center (SASC, pronounced sassy) at sascinfo@sdsu.edu or (619) 594-6473 as soon as possible. Please know accommodations are not retroactive, and I cannot provide accommodations based upon disability until I have received an accommodation letter from SASC. Your cooperation is appreciated.

Religious observances: According to the University Policy File, students should notify the instructors of affected courses of planned absences for religious observances by the end of the second week of classes.

Student Privacy and Intellectual Property: The [Family Educational Rights and Privacy Act](#) (FERPA) mandates the protection of student information, including contact information, grades, and graded assignments. As such, we do not leave grades or graded assignments in public places. Student work may be retained beyond the end of the semester for departmental purposes such as maintaining accreditation or comparisons with future submissions. Students maintain other intellectual property rights to work products they create as part of this course unless they are formally notified otherwise.

Classroom etiquette: Turn cell-phones off before class and refrain from chatting during class as both disturb the students around you.   If you find yourself unable to resist chatting, you will be asked once to be quiet. A second time will result in your being asked to leave for the day. If you need to work on assignments for another class, please do it somewhere else.

Conflicts/Issues: Should you have any concerns about the course, please contact me and we will try to resolve the problem together. If you are not satisfied with the resolution after having discussed the issue with me, you may contact the department chair, Professor [Shangping Ren](#).

Resources for students: A complete list of all academic support services--including the [Writing Center](#) and [Math Learning Center](#)--is available on the Student Affairs' [Academic Success](#) website. [Counseling and Psychological Services](#) (619-594-5220)

offers confidential counseling services by licensed therapists; you can Live Chat with a counselor at http://go.sdsu.edu/student_affairs/cps/therapist-consultation.aspx between 4:00pm and 10:00pm, or call San Diego Access and Crisis 24-hour Hotline at (888) 724-7240.

SDSU Economic Crisis Response Team: If you or a friend are experiencing food or housing insecurity, or any unforeseen financial crisis, visit sdsu.edu/ecrt or email ecrt@sdsu.edu.

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

- copying, in part or in whole, from another's test or other examination;
- obtaining copies of a test, an examination, or other course material without the permission of the instructor;
- collaborating with another or others in work to be presented 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 rules 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 without using quotation marks and calling it your own;
- using information you find from an online or offline source without giving the author credit;
- replacing words or phrases from another source and inserting your own words or phrases.

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. Any assignment or assessment discovered to have been produced in an academically dishonest manner will receive a failing grade.

TAKE THE TUTORIAL:

Test your knowledge of what constitutes plagiarism through a tutorial offered by the SDSU Library. To access the tutorial go to: http://library.sdsu.edu/guides/tutorial.php?id=28

See also the library tutorial on the difference between acceptable paraphrase and plagiarism at: http://library.sdsu.edu/guides/tutorial.php?id=16

Turnitin Policy:

• Turnitin (integrated within Canvas) is used in this course for written assignments. Students in this course agree that papers are subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism, as well as for online evaluation, feedback, and grading by the instructor.

• All submitted papers will be included as source documents in the Turnitin.com database solely for the purpose of detecting plagiarism of such papers. Students may submit their papers in such a way that no identifying information about them is included. (You do not need to type your name on your documents, as your submission will be identified in the instructor's assignment inbox automatically.)

• Another option is that a student may request, in writing, that their papers not be submitted to Turnitin.com. However, this option requires the student to provide documentation to substantiate that the papers are the original work of the student and do not include any plagiarized material.

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.

Medical-related absences: Students are instructed to contact their professor/instructor/coach in the event they need to miss class, etc. due to an illness, injury or emergency. All decisions about the impact of an absence, as well as any arrangements for making up work, rest with the instructors. Student Health Services (SHS) does not provide medical excuses for short-term absences due to illness or injury. When a medical-related absence persists beyond five days, SHS will work with students to provide appropriate documentation. When a student is hospitalized or has a serious, ongoing illness or injury, SHS will, at the student's request and with the student's consent, communicate with the student's instructors via the Vice President for Student Affairs and may communicate with the student's Assistant Dean and/or the Student Ability Success Center.

Sexual violence / TItle IX mandated reporting: As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I am a mandated reporter in my role as an SDSU employee. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep the information you share private to the greatest extent possible. However, I am required to share information regarding sexual violence on SDSU's campus with the Title IX coordinator, Jessica Rentto 619-594-6017. She (or her designee) will contact you to let you know about accommodations and support services at SDSU and possibilities for holding accountable the person who harmed you. Know that you will not be forced to share information you do not wish to disclose and your level of involvement will be your choice. If you do not want the Title IX Officer notified, instead of disclosing this information to your instructor, you can speak confidentially with the following people on campus and in the community. They can connect you with support services and discuss options for pursuing a University or criminal investigation. Sexual Violence Victim Advocate 619-594-0210 or Counseling and Psychological Services 619-594-5220, psycserv@sdsu.edu. For more information regarding your university rights and options as a survivor of sexual misconduct or sexual violence, please visit titleix.sdsu.edu or sdsutalks.sdsu.edu. You can also reach out to the San Diego Domestic Violence/Sexual Assault 24-hour Hotline: 1-888-DVLINKS or 1-888-385-4657.