



Computer Systems Engineering Technology Department

CST 347 **Real-Time Embedded Operating Systems** **COURSE OUTLINE / POLICIES** **Spring 2015**

Instructor:	Claude Kansaku	Office:	PV 173
Office Phone:	541-851-5276	Office Hours:	MWF 2:00-3:50 MWF
E-Mail Address:	troy.scevers@oit.edu		Or by appointment
WWW/Materials:	https://online.oit.edu/		
Lecture:	10:00 – 10:50 MWF	Location:	PV 223
Lab Time/Location:	11:00 – 1:50, PV 107 (KF) 6:00-8:50, WV 240 (WV)	Credits:	4
Prerequisite:	CST 211 and CST 240 with grade "C" or better		
Textbook:	Required: Silberschatz, et. al., Operating Systems Concepts Essentials ISBN(9780470889206) Recommended: Shaw, Real-Time Systems and Software ISBN(0471354902)		

Catalog Description:

OS Kernel Constructs and Problem Scaling, Small Scale Environment Specification, Process, Threads, Fibers, Synchronization Primitives, Small Scale Memory Management, Scheduling Paradigms, Real Time Scheduling, I/O and Debugging. Lab integral to course.

Course Objectives:

Upon completion of CST 347, students will:

- Understand main components of operating systems and their standard interfaces.
- Understand different types of operating systems.
- Understand multiprocessing and multithreaded concepts.
- Understand problems related to multiprocessing and multithreaded processing models.
- Understand implementation strategies in low level operating system programming.
- Understand I/O devices and the different programming strategies associated with them.
- Understand real-time processing terminology and scheduling algorithms.
- Be able to integrate a simple real-time embedded operating system.
- Be able to solve the producer/consumer problem in a preemptive multithreaded environment

Class Policies:

Attendance:

Lecture attendance is mandatory. You should notify me before any absence. Work accommodations, though not guaranteed, will be considered only with a notification of absence.

Grading:

Grades will be assigned using a total score percentage as broken-down below.

Exam 1	20%
Exam 2	20%
Final	25%
Homework/in-class work	10%
Lab	25%

90% += A

80% += B

70% += C

60% += D

59% -= F

Lab:

It is intended that the lab section will facilitate the learning and retention of the course material. The lab activities also provide opportunities to extend concepts beyond the level presented in class. Lab information will be posted on Blackboard. Lab write-ups will be turned in either in class or via the Blackboard Assignment Tool. You will be appropriately advised. Generally, no late lab write-ups will be accepted. In the rare circumstance that a late lab write-up is accepted, a 10% per day deduction will be assessed. Make-up labs will be handled on a case-by-case basis under extenuating circumstances only.

Note: Tentatively, it is planned that all material required for the lab will be provided to the student. If a portion of the material needs to be purchased, the instructor will work with the students to procure the required material.

Coarse Website:

The course website can be found at <http://online.oit.edu>. You will login with your OIT e-mail username and password. It is expected that you will login at least once a day, but preferably twice; at the beginning and at the end of the day to ensure that you receive any postings and Announcements in a timely manner. All supplemental lecture material is supplied as reference and shall not serve as a substitute for class attendance, unless instructed otherwise.

Homework and In-Class Work:

Homework assignments will be posted on the Blackboard course website. However, depending on the assignment, homework may be administered through the classroom as well. Generally, no late homework will be accepted. Please work neatly. Please use correct grammar and spelling. Points will be deducted for careless work. In-class work, including any quizzes, will be given on an announced or unannounced basis. As class attendance is mandatory, no make-up work will be given.

Exams:

Unless otherwise specified, exams shall be given during class on the days specified under the Important Dates section. Though I will make every attempt to meet these dates, you are advised that these dates are subject to change. In the event of a change, the class will be notified at least one week in advance of a test date. The final exam date is fixed per that published in the current term's Class Schedule. Make-up exams are generally not given except under the rarest of circumstances. The decision to allow a make-up exam will be considered on a case-by-case basis with no guarantee of accommodation.

Disability Services Statement:

"If you may need a course adaptation or academic accommodation because of a disability, or if you might need special arrangements in case the room or building must be evacuated, please see me as soon as possible. I rely on the Disability Services for assistance in verifying the need for accommodations and developing accommodation strategies. If you have not previously contacted that office, I encourage you to do so. You may call 541-885-1031 or 541-851-5227 for further assistance. Disability Services is located in LRC 230B."

Statement on Recording Lectures and In-Class Discussions:

Disability Services will frequently grant students permission to make audio recordings of classes as an accommodation. Students are informed that they may not share or otherwise distribute these recordings. Disability Services recommends that all syllabuses feature the following statement. It should be placed separately from the Disability Services Statement to eliminate the inference that students making recordings have a disability.

"Please be advised that this class may be recorded. If you would like permission to record this class you must speak with the professor."

Academic Honesty:

You are encouraged to discuss the class content with fellow students in a mutually contributing context. However, any work that is assigned a score must be your own. It is expected that each student conduct themselves with integrity and honesty.

Breach of ethical behavior will result in consequences consistent with OIT's stated policies. I will attempt to give the highest level of "benefit of the doubt" to students. However, I may consider apparent trends to be a breach of ethics.

Disrupting the Academic Environment:

"Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other institutional activities, including the Institution's public service functions or other authorized activities on institutionally owned or controlled property is strictly prohibited by Oregon Tech's code of student conduct and may result in disciplinary action."

Tentative Schedule:

TBD