Operating Systems
CS 314-002 Spring 2020 (CRN: 13850)

Welcome to CS 314!

Instructor: Dr. Hiroshi Fujinoki
Office: EB 2034  
Office Phone: (618) 650-3727
Email: hfujino@siue.edu
URL: www.siue.edu/~hfujino
Office Hours: (1) Monday: 10:00 - 11:00 A.M., and 1:30 - 2:30 P.M.
            (2) Tuesday: 2:00 - 3:00 P.M.
            (3) Wednesday: 10:00 - 11:00 A.M., and 1:30 - 2:30 P.M.
            (4) Thursday: 2:00 - 3:00 P.M.
            (4) Friday: by appointment

Note1: The above office hours will not be applied to the final exam week. During the final exam, please contact Dr. Fujinoki for your appointment.

Class Meeting Room: Founders Hall 3115
Class Meeting Days: Tuesday and Thursday
Class Meeting Time: 11:00 A.M. - 12:15 P.M. (same time for T and R)

Note: item with "♣" symbol means an important item.

♣ Course Prerequisites:
CS286 (Computer Organization & Architecture) and CS240 (Introduction to Computing III)

♣ Grading: Weight: Final Letter Grade:
Weekly Quizzes: 15% 100-92: A
Programming projects: 20% 91-82: B
Midterm Exam: 30% 81-72: C
Final Exam: 35% 71-62: D
Below 62: F
Exams:

- Exams will be closed textbook and closed notes.
- Makeup exam will be offered only for the following two cases:
  (a) Your medical emergencies (with a signed doctor's letter)
  (b) You have more than two exams scheduled on the same day
- Makeup for any other reasons will not be provided (no exception).
- Absence from an exam will result in zero point for the exam (except medical emergencies).
- A calculator is allowed in the exams (however sharing a calculator during an exam is NOT allowed – everyone needs to bring your own calculator).
- Exams will cover reading assignments and the required exercise questions.
- Any grading error regarding your exams should be reported to Dr. Fujinoki within two weeks (14 calendar days) after your graded exam is returned in the classroom.

Quizzes:

- There will be 12 quizzes during this course (each quiz takes 10 to 15 minutes). The quizzes are closed textbook, notebooks and neighbors (you are allowed to use your pens, pencils, an eraser and a calculator during a quiz).
- Makeup quizzes will be provided only for medical emergencies (makeup quiz will not be provided for any other reasons).
- The lowest quiz will be dropped from your course grade at the end of the semester.
- Any grading error should be reported to Dr. Fujinoki within two weeks (14 calendar days) after your grade quiz is returned in the classroom.

Programming Projects (tentative plan): there will be one start-up and three programming projects in this course (Project 0, 1, 2, and 3, respectively). Each programming project is an individual project (i.e., not a team project). The topics in each programming project is described in separate handouts. The course programming projects use C/C++ on a UNIX-based system. The weight of the three projects is 5, 30, 35, and 30% (for Project 0, 1, 2, and 3, respectively) of your programming project grade.

Note 1: the schedules of the programming projects are subject to change during a semester, depending of various factors, such as the number of the lecture cancellations due to severe weather and the progress of the lectures.
Note 2: if we cancel some lectures, one of the programming projects may be dropped (the weight of the programming projects will be adjusted, if one of the projects is dropped).

* Academic Dishonesty:

Following activities (but not limited to them) will be considered academic dishonesty:

I. Exams:
   - Watching and copying your neighbors' solutions during exams.
   - Using materials not allowed during exams.
   - Anyone committing academic misconduct above (I-(a) or (b)) will receive a failing grade for this course and reported to the department chair as well as to the dean of the school of engineering.

II. Programming Projects:
   - Submitting work totally or partially done by somebody else (this includes any human/electronic sources (such as web sites and even another course at SIUE)).
   - Submitting program source code files (for the programming projects) that are developed by collaborations with other people. This includes both program designs and implementations.
   - Exchanging, sending, or receiving program source code files (in any forms, such as e-mails, hard-copies, and hand-writing codes on paper) to anyone is not allowed.
   - Anyone committing academic misconduct above (II-(a) or (b)) will receive a grade of zero on the assignment plus a warning for the first infraction. Anyone committing a second infraction will automatically fail the course and/or be brought up on charges of academic misconduct, which may result in expulsion from the university.

Reading Assignments:

Textbook: The course materials are presented using PPT slides in this course, but they are the summaries of the chapters/sections in a required textbook. Designated chapters in the textbooks are supposed to be read before each lecture. Subjects in the designated textbook sections will be covered in the exams even though those subjects are not explicitly mentioned in the lecture.
Attendance Policy:

- Attendance will be taken at the beginning of lectures (being late more than 5 minutes may be considered absence).
- No penalty will be given up to two absences in a semester. For each absence beyond the second absence, -2 point penalty (in 100 scale) will be given to your next coming exam.
- The above penalty will not apply to your medical emergencies (however, you need to provide a written proof of medical service to waive the penalty).
- Any error regarding your class attendance status should be reported to Dr. Fujinoki within two weeks (14 calendar days) after your attendance status is posted to the course web site.

шей Required Textbook:


Note: The textbook is required for everyone in this course. The instructor will never loan his textbook to any student in this course.

Other Required Skills/Knowledge:

Proficiency in C/C++ is required.

Disability Support:

- Students who believe they may need accommodations in this class are encouraged to contact the Office for Accessible Campus Community & Equitable Student Support (ACCESS) as soon as possible. It is the students' responsibility to alert the instructor to SIUE sanctioned accommodations. If anyone needs assistance from SIUE ACCESS, please contact them (www.siue.edu/access).

Other Notices:

- This course expects each of you to work at least nine (9) hours other than attending lectures (this is also a policy of SIUE).
- Important announcements will be made at the beginning of a lecture.
- If you are absent from a lecture, it is your responsibility to find the announcements and the contents in the missed lecture (you are suggested to talk to your classmates).
Each of you is expected to check "Weekly Notices" in the web site of this course (you can reach the course web site from http://www.siue.edu/~hfujino) at least twice in a week. The decisions regarding which course materials are posted belong to the course instructor. If any promised course material is missing in the course home, it is your responsibility to request such material to the course instructor.

Any grading problem should be reported within two weeks (14 days) after their grades are posted or the graded materials are returned in the classroom.

Any electric device, such as smart phone, laptop PC, and tablet computer (except a calculator), should not be used during lectures and exams.

E-mails sent to the course instructor during weekends and the break (spring break) may not be responded.

Any special arrangement agreed between you and the course instructor (Dr. Fujinoki) should be documented. Any promises or agreements orally made between you and the course instructor may not take effect without a documentation (it is your responsibility to document any such promises and agreements).

Ask your questions to the course instructor whenever you have anything you do not have a clear answer for. Please do not make your own assumptions (if you do, you are responsible for any assumptions you make when they are not correct).
### Tentative Class Schedule (subject to change):

This schedule is tentative and subject to change.

<table>
<thead>
<tr>
<th>Week #</th>
<th>Day</th>
<th>Topics</th>
<th>Reading Assignments</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>January 14 (T): Introduction to operating systems</td>
<td>Chapter 1 (1.1 through 1.7)</td>
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<td>January 16 (R): Operating System Concepts (1)</td>
<td>Chapter 1 (1.1 through 1.7)</td>
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<td>January 16 (R): Operating System Concepts (2)</td>
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<td>Week 2</td>
<td>January 21 (T): Quiz #1, Processes and process management (1)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>January 23 (R): Processes and process management (2)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>Handout</td>
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<td>Week 3</td>
<td>January 28 (T): Processes and process management (3)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>January 30 (R): Quiz #2, Programming project #1 discussions</td>
<td>Handout</td>
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<td></td>
<td>• Programming Project #0 due</td>
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<td>• Programming Project #1 assigned</td>
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<td>Week 4</td>
<td>February 4 (T): Threads and thread management (1)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>February 6 (R): Quiz #3, Threads and thread management (2)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>Week 5</td>
<td>February 11 (T): Threads and thread management (3)</td>
<td>Chapter 2 (2.1 through 2.5)</td>
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<td>February 13 (R): Quiz #4, Process Deadlocks (1)</td>
<td>Chapter 3 (3.1 through 3.4)</td>
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<td>Week 6</td>
<td>February 18 (T): Process Deadlocks (2)</td>
<td>Chapter 3 (3.5 and 3.6)</td>
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<td>Handout</td>
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<td>Week 7</td>
<td>February 25 (T): Deadlocks (3)</td>
<td>Chapter 3 (3.5 and 3.6)</td>
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<td>February 27 (R): Quiz #6, Memory Management (1)</td>
<td>Chapter 4 (4.1 and 4.2)</td>
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<td>Week 8</td>
<td>March 3 (T): Memory Management (2)</td>
<td>Chapter 4 (4.3 and 4.4)</td>
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<td>March 5 (R): Midterm Exam</td>
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<td>Week 9</td>
<td>March 10 (T): Spring Break</td>
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<td>March 12 (R): Spring Break</td>
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<td>Week 10</td>
<td>March 17 (T): Memory Management (3)</td>
<td>Chapter 4 (4.5 through 4.7)</td>
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<td>March 19 (R): Memory Management (4)</td>
<td>Chapter 4 (4.5 through 4.7)</td>
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<td>Week 11</td>
<td>March 24 (T): Quiz #7, File System (1)</td>
<td>Chapter 6 (6.1)</td>
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<td>March 26 (R): File System (2)</td>
<td>Chapter 6 (6.2)</td>
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**Week 12:** April 2 (T): **Quiz #8**, Programming project #3 discussions  
*Handout*

April 4 (R): File System (3)  
*Chapter 6 (6.3)*

**Week 13:** April 9 (T): **Quiz #9**, File System (4)  
April 11 (R): I/O Subsystems (1)  
*Chapter 6 (6.4)*

**Week 14:** April 16 (T): **Quiz #10**, I/O Subsystems (2)  
April 18 (R): I/O Subsystems (3)  
*Chapter 5 (5.4 through 5.6)*

**Week 15:** April 23 (T): **Quiz #11**, I/O Subsystems (4)  
April 25 (R): Topics To Be Announced  
*Chapter 5 (5.4 through 5.6)*

**Week 16:** April 30 (T): **Quiz #12**, Topics To Be Announced  
May 2 (R): Topics To Be Announced

**Final Exam Week:** May 6 (Wednesday): comprehensive final exam, **10:00 - 10:40 A.M.**

- The list of the reading assignment is the minimum requirement. It is expected that each student voluntarily studies not only the required sections but other related sections or materials.
- If you have any problem for the above schedule, please contact to Dr. Fujinoki as soon as possible.
- Any question regarding this syllabus should be addressed to: hfujino@siue.edu

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Course syllabus last modified at 12:17 P.M., January 13, 2020