ITBU 373: Operating Systems

Student Syllabus

May 10, 2022

1 Course Information

Term: Fall, 2022, 8 week session
Section: ITBU373 - WDL1/MDL1
Credit hours: 3
Course Term Dates: Begins: August 22, 2022, Ends: October 15, 2022
Campus: Online
Room: Online
Days/Time: Online
Instructor: Charles Carter
Office: Online
Email: charles.carter@mobap.edu
Phone: 706-662-6351
Office hours: Thursday 6:00 - 8:00 p.m. CT, Saturday 8:00 - 10:00 a.m. CT

2 Course Description

An introduction to basic operating system level software concepts. Course topics include processes, threads, symmetric multi-processing, thread synchronization and memory management techniques.

3 Prerequisite(s)

BCIS 403 - Management Applications of Information Technology

4 Co-requisite

None

5 Required Text(s)

Unless indicated, all resources are available without cost. (International versions and prior editions of this text are not the same and are not acceptable for this course).

Title	ISBN, URL
Operating Systems, Three Easy Pieces[1]	`https://pages.cs.wisc.edu/~remzi/OSTEP/`, ISBN: 978-1985086593
Book repository	`https://github.com/remzi-arpacidusseau`
FREE Microsoft Office License for MBU Students	contact Helpdesk

6 Technology Requirements

The Information Technology program curriculum requires that students have a laptop computer to fully participate in the courses' hands-on lab assignments. The following technical requirements are for a laptop and are the recommended minimum configuration. Students will be required to bring their laptops to each class as directed in the course syllabus. Please note that students will not be able to participate fully in the program with Chromebooks, tablets, or cell phones, and their use is not advised. Students should contact their instructor with any questions or concerns before the start of the course.

- CPU
  - 64-bit Intel i5/i7 2.0+ GHz processor
  - Your system's processor must be a 64-bit Intel i5 or i7 2.0 GHz processor or higher. To verify on Windows 10, press Windows key + I to open Settings, then click System, then About. Your processor information will be toward the bottom of the page.
- RAM
  - 8 GB RAM minimum with 16 GB recommended for the best experience. To verify on Windows 10, press Windows key + I to open Settings, then click System, then About. Your RAM information will be toward the bottom of the page.
- Hard Drive Free Space
  - 50 GB of FREE space
- Operating System
  - Your system must be running the latest version of Windows 10 with up to date patches.
- Web Browser
  - Any modern web browser (Chrome, Firefox, Edge)

7 University Policies

A link to University Policies specific to course work can be viewed by clicking on the tab in the course navigation bar in canvas labeled MBU Course Policies. Policies can also be found using the following link: `https://www.mobap.edu/course-policies/`

8 Course Policies

8.1 Course Learning Outcomes

An introduction to basic operating system level software concepts. Course topics include processes, threads, symmetric multi-processing, thread synchronization and memory management techniques. Upon completion of this course, students will:

- identify the key functions of an operating system.

[1] Required text.

- describe how the operating system manages memory, virtual memory, and physical memory
- describe how the operating system manages processing, including scheduling of processes and threads.
- describe how the operating system manages processes, threads, and synchronization
- describe how the operating system manages the file system, input, and output

8.2 Course Assigments, Projects, or Activities

Evaluation Item	Weight	Metrics
Homework	30%	Homework and class discussions are based on the assigned homework. **Completion of the written homework assignments is mandatory.** Homework/discussions will be assessed on a pass/fail basis, based on class presentations. You are encouraged to work on the homework in pairs.
Exercises & Labs	30%	Programming labs receive a grade on a 0 to 100 point scale. These are open book/open note labs. You may work individually or in groups/-pairs as directed. If you do not complete a graded lab, you will receive a grade of 0 for that lab.
Exams	40%	There will be four examinations during the term approximately every four weeks, including the final exam. The exams are non-cumulative. The exams will be closed book, closed note, and individually completed.
Quizzes	% TBD	Optional, at the discretion of the instructor. These are *quizzes*, except that these will be timed, in-class labs completed individually on an open note, open book, open internet basis. There are no makeups. A failure to complete a quiz during the allocated time will result in a zero. The intention of quizzes (if any) is a checkpoint.

8.3 Textbook Reading

Per the schedule, students are expected to read the chapters covered each class session. Homework questions come directly from the text (except in rare cases as noted). I will cover the homework solutions in class, and students should self-correct their homework. Readings and homework work together and students will complete both the readings and written assignments.

8.4 Lab Assignments

Students will present their lab assignments during office hours. Please make sure to follow the instructions for preparation of the labs, which we will cover in class. All students will submit their written lab reports. Selected students will present their labs in open class.

8.5 Lecture Presentation

Online classes do not have regularly scheduled classroom lectures. I will present course material during office hours. See section 9.5. This will ordinarily consist of homework solution, student lab presentations, and discussion of learning materials. **Attendance at office hours is mandatory.**[2]

8.6 Writing and Referencing Style

American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.).

8.7 Exams

The equivalent of four exams covering the coursework will be administered. The exams are not cumulative, and will be open for a 24 hour window. Late exams receive a grade of 0.

[2]You will not receive an attendance grade, but will will not be able to pass the course if you do not attend office hours.

8.8 Homework (Lab Assignments)

Homework assignments will include hands on lab assignments and discussion topics from the text or directly assigned by the instructor.

9 Instructor Specific Policies

9.1 Academic Integrity and Honesty

Academic dishonesty jeopardizes the academic integrity of the University and is not in keeping with Christian principles. It is considered to be a serious offense. Missouri Baptist University expects students to attach their names only to work or research which they have done themselves. Materials and sources must be properly documented. Students must prepare original work and research, present their own reports and papers, and take examinations without any assistance or aids not expressly permitted in the testing procedure.

Academic dishonesty includes, but is not necessarily confined to: plagiarizing; cheating on examinations; submitting counterfeit reports, tests, or papers; stealing tests or other academic materials; knowingly falsifying academic records or documents such as transcripts; and submitting the same work to more than one class without consent of the instructors involved.

Academic dishonesty of any nature will result in disciplinary action, which may include receiving a failing grade on the work in question, failure in the course, or dismissal from the University. Academic dishonesty is a part of the Student Conduct Code.

9.2 Unicheck

Major assignments are submitted through Unicheck. By submitting your assignments, you agree to have Unicheck software check the originality and intellectual integrity of your work. You acknowledge and understand that upon submission, your paper will be added to the Missouri Baptist University database and compared against a global database of submitted papers. You further recognize that the determination of academic dishonesty rests with the instructor of this course and that plagiarism will be dealt with according to the policy set forth in the MBU Student Handbook.

9.3 Student End of Course Evaluations

Students are encouraged to provide constructive feedback on every course. A bonus point assignment with a link to complete the course evaluation is provided in the week 7 or 8 learning unit.

9.4 Changes to Syllabus

This syllabus is provisional and may be changed. Students will be given notice in a timely manner of all changes to this syllabus. Notice may be given orally in class. Updated syllabi completely replace all prior versions. The latest revision date is given on each page.

9.5 Attendance Policy

This is an online, asynchronous course. We do not have classroom activities at scheduled times. I will have regularly scheduled office hours. **Attendance at office hours is required.** During regularly scheduled office hours, I will review the homework, preview the exams, and have students present their labs. I will also be available for private appointments as requested by individual students. Please refer to section 8.5.

9.6 Canvas

Students are required to utilize Canvas throughout the semester. Assignments, announcements, and other information will be placed on Canvas, and it is the student's responsibility to check this medium frequently to ensure that you do not miss an assignment or a discussion. Make sure that your email address is correct on Canvas as this is one of the methods that will be utilized to communicate. Assignments should be sent through Canvas. All files submitted in Canvas must be in plain text or Mark Down format.

9.7 Classroom Decorum

In an online course, communication should be respectful, especially in any areas of disagreement. If inappropriate behavior occurs, in accordance with the MBU Student Handbook, a student may be asked to leave the online classroom and be referred to the Vice President of Student Development before being allowed to return to class.

9.8 Testing

Examinations are delivered asynchronously. Students are expected to know the material (this is called "learning"). Examinations are *closed* book, i.e., no reference to the textbook, class notes, homework. or internet resources is allowed. Collaboration between students is not allowed. Please refer to section 9.1.

10 Course Schedule

All homework and programming labs are due on Friday. All assignments shall be in written form, and may be delivered electronically. Format shall be in plain text files, or alternately, in Markdown format if desired. Please do *not* use Word or any other word processing software. **Late policy:** Ordinarily, I do not penalize late assignments. We will usually go over the assignments in class after the due date, and it is expected that students will correct their errors and resubmit their assignments. I reserve the right to enforce a late policy if students are not diligent about submitting the assignments. Please do not fall behind — this class is hard enough without having to catch up.

Week	**Due Date**	**Homework**	**Exam**	**Readings**
Week 1	August 26	Homework 1, 2, 3, 4		Chapters 1 – 7
Week 2	September 2	Homework 5, 6, 7, 8	Exam 1	Chapters 8 – 11
Week 3	September 9	Homework 9, 10, 11, 12, 13, 14		Chapters 12 – 18
Week 4	September 16	Homework 15, 16, 17, 18, 19	Exam 2	Chapters 19 – 24
Week 5	September 23	Homework 20, 21, 22, 23		Chapters 25 – 30
Week 6	September 30	Homework 24, 25, 26, 27	Exam 3	Chapters 31 – 34
Week 7	October 7	Homework 28,29,30, 31, 32		Chapters 35 – 41
Week 8	October 14	Homework 33, 34, 35, 36, 37	Exam 4	Chapters 42 – 46