



**Southern Arkansas University**  
**Course Syllabus**

***Course Information***

**Course Number and Title:** MCIS 5013 The Unix Operating System

**College and Department:** College of Science and Engineering, Department of Mathematics and Computer Science

**Term:** Summer 2023

**Format:** Online (0-24% Face-to-Face)

**Course day(s) and time:**

- Asynchronous delivery
- Class Q&A hours. Thursdays from 3 PM to 6 PM on Zoom.

**Course Location:** Online via Blackboard

**Weeks in length:** 9

**Class meetings per term:** 8

**Hours per class session:** 3

**Credit hours awarded:** 3

***Instructor Information***

**Instructor:** Dr. Islam Akef Ebeid

**Contact Number:** 870 235 4952

**E-mail:** [iaebeid@saumag.edu](mailto:iaebeid@saumag.edu)

**General Office Hours:** Tuesday, Wednesday, and Thursday from 10 AM to 1 PM

**Office:** WIL 104

***Course Description***

This is an introduction to the UNIX operating system. Topics to be covered will include the history and philosophy of UNIX systems, an introduction to the essential elements of UNIX, the “shell” command interface, utilities for managing files, and an introduction to the functions that administrators perform to maintain or re-establish the reliability of UNIX systems and the tools that UNIX provides to support that activity.

Related courses: MCIS 5023 Computer Science Fundamentals.

***Course Objectives and Learning Outcomes***

This course aims to introduce the POSIX-style family of operating systems. Those are operating systems that stem from the UNIX system. Mainly we will focus on Linux. A free and open distribution of Linux called Ubuntu Linux. Since Windows PCs and Apple Macs are the prevalent hardware and operating systems platform, we will use an emulator that runs inside any of these systems called a virtual machine.

By the end of the course, the student will have learned the following:

- 1- The system will know how to navigate any POSIX-style operating system.
- 2- The student can perform basic shell programming and scripting.
- 3- The student will have learned some UNIX commands by heart.
- 4- The student will understand the structure of the Unix operating system.
- 5- The student will learn how permissions and processes work in UNIX.
- 6- The student will learn to edit files and basic text processing in UNIX.
- 7- The student will learn networking basics and search for UNIX files.

### ***Course Format***

The course will be delivered through recorded lectures with slides and accompanied by assignments. The assignments and the quizzes will be drawn from various sources, including the required textbook and the HackerRank platform. Each week I will provide a recording of me explaining several chapters from the book, followed by additional content that I call the lab. During the weekly meeting, the student will review the recording and discuss any questions about the contents or the assignments. The course consists of 6 assignments and 4 quizzes. The assignments will be direct hands-on applications to the course content. The student in each assignment will be asked to submit a shell script containing their solution to that week's assignment. In addition, starting the 3<sup>rd</sup> week, the students will be asked to answer a short Multiple-Choice Question-based quiz. The final exam will split into 2 parts; the first part is like the quizzes Multiple Choice Questions, and the second part will be a shell scripting task asking the student to perform a set of commands based on what they have learned. The required textbook is crucial to this course.

### ***Course Material***

The Linux Command Line by William Shotts: <https://linuxcommand.org/tlcl.php>

The HackerRank Linux question bank: <https://www.hackerrank.com/domains/shell>

### ***Grade Structure***

<b>Criteria</b>	<b>Number of Weeks</b>	<b>Points per Week</b>	<b>Total Points</b>	<b>Percentage of Total</b>
Weekly Assignments	6/9	10	60	60%
Quizzes	4/9	5	20	20%
Final Exam Part 1	1/9	10	10	10%
Final Exam Part 2	1/9	10	10	10%
<b>Total</b>	9/9	-	100	100%

### ***Grade Policy***

<b>A</b>	Above 90%
<b>B</b>	Above 80%
<b>C</b>	Above 70%
<b>D</b>	Above 60%
<b>F</b>	Above 50%

## Course Plan

Week	Readings and Materials	Lecture	Assignments and Quizzes
<b>1 (May 31)</b>	1 Slide deck	Introduction	Setup local environment
<b>2 (June 7)</b>	3 Chapters 1 Slide deck 1 Lab document 1 Lecture recording	Chapter 1: What is the Shell? Chapter 2: Navigation Chapter 3: Exploring the System	Setup local environment
<b>3 (June 14)</b>	2 Chapters 1 Slide deck 1 Lecture recording	Chapter 4: Manipulating Files and Directories Chapter 5: Working with Commands	Assignment 1: Due by Friday, June 25, by midnight
<b>4 (June 21)</b>	3 Chapters 1 Slide deck 1 Lecture recording	Chapter 6: Redirection Chapter 7: Seeing the World as the Shell sees it. Chapter 8: Advanced Keyboard Tricks	Assignment 2: Due by Friday, July 7, by midnight Quiz 1: Due by Friday, June 25, by midnight
<b>5 (June 28)</b>	2 Chapters 1 Slide deck 1 Lecture recording	Chapter 9: Permissions Chapter 10: Processes	Assignment 3: Due by Friday, July 7, by midnight Quiz 2: Due by Friday, July 7, by midnight
<b>6 (July 5)</b>	4 Chapters 1 Slide deck 1 Lab document 1 Lecture recording	Chapter 11: The Environment Chapter 13: Customizing the Prompt Chapter 14: Package Management Chapter 15: Storage Media	Assignment 4: Due by Friday, July 15, by midnight Quiz 3: Due by Friday, July 15, by midnight
<b>7 (July 12)</b>	5 Chapters 1 Slide deck 1 Lab document 1 Lecture recording	Chapter 16: Networking Chapter 17: Searching for Files Chapter 18: Archiving and Backup Chapter 19: Regular Expressions Chapter 20: Text Processing	Assignment 5: Due by Friday, July 22, by midnight Quiz 4: Due by Friday, July 22, by midnight
<b>8 (July 19)</b>	8 Chapters 1 Slide deck 1 Lab document 1 Lecture recording	Chapter 21: Formatting Output Chapter 22: Printing Chapter 23: Compiling Programs	Assignment 6: Due by Friday, July 29, by midnight

		Chapter 24: Writing your First Script Chapter 25: Starting a Project Chapter 26: Top-Down Design Chapter 27: Flow Control & Branching with If Chapter 28: Reading Keyboard Input	
<b>9 (July 26)</b>	1 Slide deck	Course Recap	Final Exam Part 1, Tuesday, August 1, all-day Final Exam Part 2 Tuesday, August 1, all-day

### ***University Policies***

For general university policies, please refer to: <https://web.saumag.edu/academics>.

### ***Academic Dishonesty***

Southern Arkansas University affirms its commitment to academic integrity and expects all University community members to accept shared responsibility for maintaining academic integrity. Therefore, students in this course are subject to the provisions of the University's Academic Integrity Policy, approved by the president and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment or a failing grade in the class. Continued enrollment in this course affirms a student's acceptance of this University policy.

Code is like writing. It only belongs to its author. The author can refer to somebody else's work, but they must cite them and give them credit for it. When you take someone else's code, you rob that person of the time they spent authoring that piece of code. If you are facing a problem in programming, it is ok to go online and search for a solution, but you must mention where you got that piece of code from. The whole point is not to trick people into thinking you wrote something you did not. That is your measure. Keep it in mind.

And finally, the goal of this class is to teach you a skill. If you plagiarize, copy, cheat, or fabricate, you hurt yourself before others.

In the context of this class, here is a list of what I consider academic dishonesty:

- 1- While in class, you looked at your colleague's screen and copied the same code they had written
- 2- I suggest you continue your in-class assignments at home. So, you went home and asked your software engineer sibling to do it for you.
- 3- You copied code from the internet without citing it
- 4- During an MCQ exam, you copied the whole question and pasted it on Google in the hopes of finding the correct answer

Please refer to <https://web.saumag.edu/academics/dishonesty-and-integrity/>

### ***Disability Support Services***

It is the policy of SAU to accommodate students with disabilities under federal law, state law, and the University's commitment to equal education opportunities. Therefore, any student with a disability who

needs accommodation should inform the instructor at the beginning of the course. Students with disabilities are also encouraged to contact the Office of Disability Support Services, Reynolds Center, Room 216, 870-235-4145. More information can also be found at <https://web.saumag.edu/testing/disability-support-services/>.

### ***Instructor Policies***

#### ***Holidays***

The instructor will follow the federally and state-recognized holiday schedule by the University, which can be found here:

<https://web.saumag.edu/human-resources/holiday-schedule/>

However, if you need unique accommodation for religious or other types of holidays that you observe, please let the instructor know beforehand.

#### ***Diversity***

The instructor is committed to diversity, inclusion, and equality in the classroom and accordance with the university policies regardless of cultural background, country of origin, religion, race, ethnicity, and sexual orientation.

Please let the instructor know how you would like to be addressed. During the first lecture, the instructor will ask the students about their names, pronouns, and other forms of addressing they want to be referred to. Please notify the instructor if that changes or if you were addressed mistakenly.

#### ***Office Hours***

- First come, first served.
- Maximum 15 minutes if people are waiting,
- If two or more students come simultaneously, it will be in the order of the last name.
- Please come prepared to office hours with questions.

#### ***Conflict***

In case of conflict between students in the classroom, the instructor will act as a mediator until proper university authorities are notified.

#### ***How to Succeed in this Class***

You will receive it if you work hard, put in the effort, and use all your resources to achieve the highest grade in this class. In that regard, I recommend the following to succeed in this class:

- 1- Please attend all classes and let the instructor know if you need help.
- 2- Please work separately and independently during the in-class and homework assignments unless otherwise made clear.
- 3- Using internet resources is allowed with restrictions that the instructor will mention during the classroom. Yet please don't copy and paste code or answers for any questions.
- 4- If you are having trouble finishing an in-class assignment, that will NOT automatically result in a lousy grade. On the contrary, a good grade could be achieved if you showed effort and explained your thought process.

- 5- Complete all your assignments to the best of your abilities.
- 6- See your errors and mistakes as opportunities to learn more.
- 7- Please ask questions if things need to be clarified.
- 8- Use email as the preferred way of communicating.

### ***Academic Resources***

#### ***Mental Health***

If you need help with any issue that is affecting your academic performance, please refer to:

<https://web.saumag.edu/counseling/>

#### ***Writing***

If you have difficulty communicating in written English language, please let the instructor know, and please refer to the following:

<https://web.saumag.edu/writing-center/>

#### ***Tutoring***

If you would like additional help for the class or any other classes, please notify the instructor and refer to:

<https://web.saumag.edu/support/tutoring/>