

Mississippi Valley State University
Department of Mathematics, Computer & Information Sciences
Itta Bena, Mississippi 38941
Fall 2025

Course Syllabus

Course Number: CS 321-01

Course Title: Computer Architecture

Course Instructor: Dr. Stacy J. White

Email: swhite@mvsu.edu

Classroom: CRB 203

Office Hours:

10:40-11:40 (wonline); 11:40 AM – 12:40 PM (wonline) on Tuesdays

10:40-11:40 (wonline) on Thursdays

Office Hours: 12:40-1:10 on Tuesdays and 11:40-1:10 on Thursdays

Or by Appointment

Course Time 9:25-10:40 TH

Credit Hours: 3 Credit Hours

Course Coordinator: Dr. Stacy J. White

Office: CRB 111B

Office Phone: (662) 254-3662

Textbook:

The Essentials of Computer Organization and Architecture by Linda Null and Julia Lobur, 6th edition, Jones and Bartlett, ISBN: 978-1-284-12303-6

Course Prerequisite: CS 204 Computer Programming II

Prerequisites by Topics

Thorough of understanding of:

- Unsigned binary integers: representation, conversion, arithmetic
- Basic Assembly Language: Instruction types, addressing modes
- Design and construction of a combinatorial circuit
- A High-level programming language.

Catalog Description: Introduction to the internal logical structure of computers and the techniques of machine level programming; architectures and functioning of micro/conventional computer systems.

Program Outcomes:

Students will be able to:

1.2 Apply computer science theory and software development fundamentals to produce computing-based solutions.

2.1 Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

Student Learning Outcomes:

Students will be able to:

1. Develop an understanding of computer hardware to evaluate the tradeoffs between cost and performance issues.

2. Understand the fundamentals of computer organization and architecture.

Course Outcomes Mapped to Program Outcomes						
CS 205 Data Structures						
Course Outcomes	PO 1.1	PO 1.2	PO 2.1	PO 2.2	PO 3.1	PO 3.2
1		x	x			
2		x	x			

Major Content Covered in Course:

1. Introduction of Computer Architecture and Organization – (1 Wk)
2. Data Representation in Computer Systems – (2 Wk)
3. Boolean Algebra and Digital Logic – (1 Wk)
4. MARIE: An Introduction to a Simple Computer – (2 Wks)
5. A Closer Look at Instruction Set Architectures – (1Wks)
6. Memory – (1 Wk)
7. Input / Output and Storage Systems – (1 Wk)
8. Alternative Architecture – (2 Wks)
9. Performance Measurement – (2 Wks)

Oral and Written Communication:

Students will be required to submit a written report.

Social and Ethical Issues: None

Problem Analysis and Design:

This course will help students to understand the basic concepts of operating systems.

Estimated CAC Category Content	
	Core
Computer Architecture and Organization	3

Class Attendance Policy: Students are required to attend class regularly. Attendance will be taken at the beginning of class.

Course Drops/Incompletes: Students not completing the course for any reason are required to submit official drop notices to the Registrar's Office prior to the deadline date. This is your responsibility. Failure to comply with the procedure WILL result in your receiving a letter grade of "F".

Not officially withdrawing from the university may impact your financial aid and result in you owing the university.

Cheating and Plagiarism: Copying, and/or cheating of any kind will not be tolerated. Any student who submits another student's work as their own will have committed the act of plagiarism. This includes programming assignments and papers. Cutting and

pasting from another paper (from web) without giving proper credit to the author of the original paper will be considered plagiarism. Copying parts of another student's paper and programming assignments is also considered plagiarism. The student receives an automatic F on that paper/assignment if it is plagiarized. If the student commits the act of plagiarism a second time, then the student will receive an F grade for that class.

Any infraction will result in a grade of F, along with the student being reported to the appropriate disciplinary committee and the Dean of Student Affairs.

Academic Integrity Policy: Academic integrity is a commitment to the values of honesty, trustworthiness, fairness, respect and responsibility in academia. Academic integrity is violated by any dishonest act that is committed in an academic context. Honesty and integrity are essential values of the Mississippi Valley State University's mission to pursue truth and knowledge. Academic excellence can be reached only with the cooperation and support of students. Students are expected therefore to accept responsibility for maintaining honesty and integrity in all acts inside and outside the classroom, studio or laboratory.

For a detailed description of sanctions and appeal procedures, consult Student Handbook pg. 59.

https://www.mvsu.edu/sites/default/files/student_handbook

Late/Missed and Make-Up Assignments: Students absent for any reason whatsoever are expected to do the full work of the course, and are responsible to the professor for work missed through late registration, illness, or any other cause. The professor is not obligated to give any make-up work. Students absent from class for an extended period due to illness, family tragedy, or other legitimate reasons are to file appropriate documentation with the Dean of Students and to submit the appropriate documentation to me within one business day (24 hours) of your absence. If a student has a legitimate excuse for his/her absence (as described above) for missing an examination or test and provides appropriate documentation, the student's next quiz or exam grade will be doubled. Students are given adequate time to complete and submit assignments; therefore, **no late assignments will be accepted.**

Grading Criteria:

90 -100 A 80-89 B 70-79 C 60-69 D 59-0 F

Evaluation:

Exams 20%

Assignments 25%

Midterm Exam 20%

Final Exam 25%

Attendance and participation 10%

ADA/STUDENTS WITH SPECIAL NEEDS:

Mississippi Valley State University is committed to providing reasonable accommodations for students with a documented disability. If you feel you are eligible to receive accommodations for a covered disability (medical, physical, psychiatric,

learning, vision, hearing, etc.) and would like to request it for this course, you must be registered with the Services for Students with Disabilities (SSD) program administered by University College. It is recommended that you visit the Disabilities Office located in the Social Science Building Office 105 to register for the program at the beginning of each semester. For more information or to schedule an appointment, please contact Mrs. Kathy Brownlow, via phone or email at 662-254-3443 or kbrownlow@mvsu.edu.

This syllabus does not constitute a contract with the university. It contains guidelines. I reserve the right to make changes to the syllabus as needed. The grade that you see in Canvas is not your overall grade in the course.*