

Syllabus

Course Code: COMP135

Title: Computer Architecture using Assembly Language

Institute: STEM

Department: Computer Science

Course Description: Students will acquire the fundamentals of computer architecture from a programmer's perspective by learning assembly language, the interface between hardware and software. Designed for students with previous high-level programming language experience, this course enables the students to write code that provides a good, intuitive model of the computing environment. Concepts covered will be data representation, memory organization, the instruction cycle, addressing modes, exception handling and interrupts. Programs will be developed using the popular INTEL based architecture.

Prerequisites: COMP-171 or approval of Instructor/Department Chair

Corequisites:

Prerequisites or corequisites:

Credits: 3

Lecture Hours: 3

Lab/Studio Hours: 0

Required Textbook/Materials:

Textbook: Assembly Language for X86 Processors, 6th Edition

Kip R. Irvine

Prentice Hall

ISBN: 9780136022121

ISBN-10: 013602212X

Optionally, you may use the fourth or fifth edition of the above text. See the instructor for appropriate mappings of readings and homework assignments to these editions.

Additional Time Requirements: You should expect to spend at least five hours doing coursework outside of class periods each week (in a fifteen-week semester). Coursework includes homework, reading, viewing, test/quiz preparation, etc.

For information on Brookdale's policy on credit hour requirements, and student work outside of class, refer to [Academic Credit Hour Policy](#).

Additional Support/Labs:

See <https://www.brookdalecc.edu/academic-tutoring/>

Computer Science Academic Tutors are available in the LAH 103 Computer Science Lab and via Zoom to assist students with course content. Please visit the [Computer Science Lab web page](#) for information regarding their scheduled availability.

Course Learning Outcomes:

Upon completion of this course, students will be able to:

- Use the Intel based 32-bit architecture (IA-32) to manage memory
- Solve problems encountered in real situations using real mode and protected mode
- Incorporate basic Boolean logic in the programming schematic to solve the required assignments

Course Content:

This course covers the fundamentals of computer systems, computer architecture, and assembly language. Students will write assembly language programs using basic instructions and then continue on to include conditional logic and procedures. Specific topics include data representation in memory, processor architecture, the instruction execution cycle, addressing, data transfer, and machine-level arithmetic operations.

Please see the syllabus addendum for additional information about the course content, how the content is organized, and when in the semester specific content is covered.

Department Policies:

Testing: You are allowed to take each test only **one** time. There are **no retests**. If you have a valid reason for not taking a test when scheduled, a makeup test may be taken at a later date, with the permission of the instructor. The makeup test must be taken within ten days, including Saturdays and Sundays, and will be graded for full credit; if not taken within ten days, a grade of zero will be assigned to the missed test.

Late assignments: Assignments are to be submitted on a timely basis. The instructor will assign due dates. At the instructor's discretion, the grade for any assignment submitted after its due date may be reduced or set to zero.

Attendance: Attendance is required every week for in-person and remote live classes. More than three unexcused absences may result in a failing grade.

Syllabus Addendum: Individual instructors may include additional requirements to this syllabus in the syllabus addendum (e.g., due dates, how assignments are submitted, class rules, etc.).

ACADEMIC INTEGRITY VIOLATIONS

The instructor of the course has the authority to give you a course grade of **F** if you submit the work of another person in a manner that represents the work as your own, or if you knowingly allow your work to be submitted by another person without the instructor's authorization. All documents submitted for course assignments must be maintained in your own cloud storage account or on your own portable storage device.

Carefully read the department's Academic Integrity Statement available in Canvas. Please be sure to discuss any academic integrity questions or concerns with your instructor.

Grading Standard:

Your final grade in the course is determined by the mapping below that specifies the letter grade earned based on the numeric average score on applicable homework, tests, quizzes, etc. Please see the syllabus addendum for details of what coursework is graded and how the numeric average is calculated.

Numeric Average	Final Grade
94 – 100	A
90 – 93	A-
87 – 89	B+
84 – 86	B
80 – 83	B-
75 – 79	C+
70 – 74	C
60 – 69	D
Below 60	F

College Policies:

As an academic institution, Brookdale facilitates the free exchange of ideas, upholds the virtues of civil discourse, and honors diverse perspectives informed by credible sources. Our college values all students and strives for inclusion and safety regardless of a student’s disability, age, sex, gender identity, sexual orientation, race, ethnicity, country of origin, immigration status, religious affiliation, political orientation, socioeconomic standing, and veteran status. For additional information, support services, and engagement opportunities, please visit www.brookdalecc.edu/support.

For information regarding:

- Academic Integrity Code
- Student Conduct Code
- Student Grade Appeal Process

Please refer to the [Student Handbook](#) and [Catalog](#).

Notification for Students with Disabilities:

Brookdale Community College offers reasonable accommodations and/or services to persons with disabilities. Students with disabilities who wish to self-identify must contact the Accessibility Services Office at 732-224-2730 (voice) or 732-842-4211 (TTY) to provide appropriate documentation of the disability and request specific accommodations or services. If a student qualifies, reasonable accommodations and/or services, which are appropriate for the college level and are recommended in the documentation, can be approved.

Mental Health:

24/7/365 Resources:

- Monmouth Medical Center Psychiatric Emergency Services at **(732) 923-6999**
- 2nd Floor Youth Helpline – Available to talk with you about any problem, distress, or hardship you are experiencing. Call or text at **888-222-2228** or visit the website at <https://www.2ndfloor.org/>

Faculty Counselors:

- Students who need to make an appointment with a faculty counselor can do so by calling 732-224-1822 (non-emergency line) during business hours. Faculty counselors are licensed mental health professionals who can assist students and refer them to other mental health resources.

Diversity Statement:

Brookdale Community College fosters an environment of inclusion and belonging. We promote a safe and open culture, encourage dialogue respecting diverse perspectives informed by credible sources, and uphold the virtues of civil discourse. We celebrate all identities with the understanding that ultimately, diversity, equity, and inclusion cultivate belonging and make us a stronger Brookdale community.

The syllabus is intended to give student guidance in what may be covered during the semester and will be followed as closely as possible. However, the faculty member reserves the right to modify, supplement, and make changes as the need arises.