

# Principles of Computer Architecture– CISC 3310

## Course Information:

### *Instructor Information:*

- Prof. Tzipora Halevi
- Ingersoll Hall 2156A
- [halevi@sci.brooklyn.cuny.edu](mailto:halevi@sci.brooklyn.cuny.edu)
- Office hours: Tuesdays, Thursdays 3.30 pm – 4.30 pm and by appointment.

*Online Course Webpage:*      <http://thalevi.github.io/CISC3310>

### *Hours and location:*

Tues, 2:15 – 3:30 pm	432 IA
Th, 1:25 – 3:30 pm	

## Course Description:

Introduction to digital logic. Basic digital circuits. Boolean algebra and combinational logic, data representation and transfer, digital arithmetic. Instruction sets. Introduction to assembly languages: ALU and memory reference instructions, flow control, subroutine linkage, arrays and structures. Memory. I/O systems. Performance. Relationship between software and architecture.

**Course Objectives:** After successful completion of this course, students will have a thorough understanding of the structure and behavior of computer systems and the logical and abstract aspects of system implementation as seen by the programmer.

## Course Requirements:

### **Course Textbooks (required):**

“The Essentials of Computer Organization and Architecture” Fifth Edition, Linda Null, Julia Lobur.

Jones & Bartlett Learning

You can purchase or rent the textbook or e-textbook from the bookstore at:

<https://brooklyn.textbookx.com/adm/-!/courses/2770001/preview>

## Course Overview:

### Course Topics

1. Overview
2. Data Representation in Comp. Sys
3. Boolean Algebra & Digital Logic
4. Assembler Language
5. Instruction Set Architectures (ISA)

## Course Structure:

**Homework:** There will be frequent assignments during the semester covering the topics discussed in class, from the textbook or on-line searches. Homework solutions must be legible; Difficult-to-read solutions may be marked off or may not be graded entirely. Typing homework is recommended. **No late homework accepted.**

Attending class is mandatory and attendance will be taken at the beginning of every meeting. Students arriving after class has begun will receive half credit for attendance for that day. This rule does not apply to absences due to religious observances, as described in the Undergraduate Bulletin.

**Exams:** There will be a midterm and a final exam.

**Online Resources:** Slides, assignments, and readings will be posted on the course blackboard site. The course will also have a Blackbox dropbox for each assignment.

### **Class Grading:**

Participation / attendance	10%
Midterm	30%
Homeworks	20%
Final Exam	40%

## University Policy on Academic Integrity:

The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for policy implementation can be found at [www.brooklyn.cuny.edu/bc/policies](http://www.brooklyn.cuny.edu/bc/policies). If a faculty member suspects a violation of academic integrity and, upon investigation, confirms that violation, or if the student admits the violation, the faculty member **MUST** report the violation. Students should be aware that faculty may use plagiarism detection software.

## Center for Student Disability Services:

The Center for Student Disability Services (CSDS) is currently working remotely. In order to receive disability-related academic accommodations students must first be registered with CSDS. Students who have a documented disability or suspect they may have a disability are invited to schedule an interview by calling (718) 951-5538 or emailing [testingcsds@brooklyn.cuny.edu](mailto:testingcsds@brooklyn.cuny.edu). If you have already registered with CSDS, email [Josephine.Patterson@brooklyn.cuny.edu](mailto:Josephine.Patterson@brooklyn.cuny.edu) or [testingcsds@brooklyn.cuny.edu](mailto:testingcsds@brooklyn.cuny.edu) to ensure the accommodation email is sent to your professor.

## Non-Attendance because of religious beliefs:

The New York State Education Law provides that no student shall be expelled or refused admission to an institution of higher education because he or she is unable to attend classes or participate in examinations or study or work requirements on any particular day or days because of religious beliefs. Students who are unable to attend classes on a particular day or days because of religious beliefs will be excused from any examination or study or work requirements. Faculty must make good-faith efforts to provide students absent from class because of religious beliefs equivalent opportunities to make up the work missed; no additional fees may be charged for this consideration.

If classes, examinations, or study or work requirements occur on Friday after 4 p.m. or on Saturday, similar or makeup classes, examinations, or study or work requirements will be made available on other days, where possible and practical. The faculty and the administration will not allow any adverse or prejudicial effects to accrue to students availing themselves of this regulation. If students have complaints about the application of this policy, they are entitled to bring action or a proceeding for enforcement of their rights in the Supreme Court of Kings County.

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More information can be found at:

[http://www.brooklyn.cuny.edu/web/off\\_registrar/2020-2021\\_Undergraduate\\_Bulletin.pdf](http://www.brooklyn.cuny.edu/web/off_registrar/2020-2021_Undergraduate_Bulletin.pdf)

## Student Bereavement Policy:

Students who experience the death of a loved one must contact the Division of Student Affairs, 2113 Boylan Hall, 718.951.5352, [studentaffairs@brooklyn.cuny.edu](mailto:studentaffairs@brooklyn.cuny.edu), if they wish to implement either the Standard Bereavement Procedure or the Leave of Absence Bereavement Procedure (see below). The Division of Student Affairs has the right to request a document that verifies the death (e.g., a funeral program or death notice).

Typically, this death involves that of a family member, in parallel to the bereavement policy for faculty and staff. However, it is up to the discretion of the Division of Student Affairs to determine if a death outside of the immediate family warrants implementation of the student bereavement policy.

Immediate family shall be defined as spouse; natural, foster, or step parent; grandchild; mother-in-law; father-in-law; natural, foster, or stepbrother; natural, foster, or stepsister, natural, foster, or stepchild or any relative residing in the same household, the domestic partner of the student and a child or parent of the domestic partner or any other relative of the domestic partner living in the same household.

More information can be found at:

<http://www.brooklyn.cuny.edu/web/about/initiatives/policies/bereavement.php>

## Important Dates:

Wednesday, August 25	First day of Fall 2021 classes
Tuesday, August 31	Last day to add a course
Monday, December 13	Last day to withdraw from a course with a “W” grade
Tuesday, December 14	Reading Day
Wednesday, December 15	Final Examinations Begin
Tuesday, December 21	Final Examinations End / End of Spring Semester