INTRODUCTION TO COMPUTER SYSTEM
21:198:300 (3 credits)

COURSE DESCRIPTION
This course introduces the fundamental hardware and software of computing systems. It covers MOS transistors, logic gates, combinational and sequential logic circuits, memory, Von Neumann model, and architecture of a simple computer, as well as machine and assembly language programming.

PREREQUISITE

TEXTBOOK
Assembly Language for x86 Processors, 8th Edition


Textbook can be purchased on publisher’s website or from online retailers such as eBay, Amazon.

RECOMMENDED SOFTWARE
1. Microsoft Visual Studio
2. DEV C++
3. LC-3 Simulator
4. MMLogic
5. Any other recommended software.

SUPPLEMENTARY READINGS
Any and all other additional materials, or means by which to obtain these materials, will be physically or electronically provided to you by your instructor.

Java Documentation
Documentation for Android App Developers
Apple Developer Documentation
Microsoft Technical Documentation
**FINAL EXAM**
Date and time according to Academic Calendar.
Location: Classroom

**DEPARTMENT WEBSITE**
Mathematics & Computer Science | Rutgers SASN

**TENTATIVE COURSE TOPICS**

Chapter 1: Welcome Aboard
Chapter 2: Bits, Data Types, and Operations
Chapter 3: Digital Logic Structures
Chapter 4: The Von Neumann Model
Chapter 5: The LC-3
Chapter 6: Programming
Chapter 7: Assembly Language
Chapter 8: I/O
Chapter 9: TRAP Routines and Subroutines
Chapter 10: The Stack
Chapter 11: Introduction to Programing in C
Chapter 12: Variables and Operators
Chapter 13: Control Structures
Chapter 14: Functions

**EVALUATION AND WEIGHT**

<table>
<thead>
<tr>
<th>Graded Items</th>
<th>% of Final Grade</th>
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<tbody>
<tr>
<td>Homework, Labs and Projects</td>
<td>48%</td>
</tr>
<tr>
<td>Mid Term Exam</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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<tr>
<td>Attendance</td>
<td>11%</td>
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<tr>
<td>In-Class Discussion, Participation</td>
<td>1%</td>
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**GRADING**

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tr>
<td>90 and above</td>
<td>A</td>
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<tr>
<td>85-89</td>
<td>B+</td>
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<tr>
<td>80-84</td>
<td>B</td>
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<tr>
<td>75-79</td>
<td>C+</td>
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<tr>
<td>70-74</td>
<td>C</td>
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<td>60-69</td>
<td>D</td>
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<tr>
<td>0-59</td>
<td>F</td>
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**ABSENCES**
Per the University’s Course Attendance policy (10.2.7), students are responsible for communicating with their instructors regarding absences. The Division of Student Affairs is available to verify extended absences: (973) 353-5063 or DeanofStudents@newark.rutgers.edu
HONOR PLEDGE
Please type and sign the following honor pledge on all your exams and assignments:
“On my honor, I have neither received nor given any unauthorized assistance on this examination (assignment).”

ACADEMIC INTEGRITY
As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University’s educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. The entire Academic Integrity Policy can be found here https://sasn.rutgers.edu/student-support/current-students/academic-performance-standards/academic-integrity-ai

LEARNING RESOURCES
- Rutgers Learning Center (tutoring services)
  Room 140, Bradley Hall
  (973) 353-5608
  https://sasn.rutgers.edu/student-support/tutoring-academic-support/learning-center
- Writing Center (tutoring and writing workshops)
  Room 126, Conklin Hall
  (973) 353-5847
  nwc@rutgers.edu
  https://sasn.rutgers.edu/student-support/tutoring-academic-support/writing-center

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