

Course Title Introduction to Computing: Fundamental Concepts
Day(s), Time, Place A Self-paced course, one semester

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Course Description: This course aims to provide the most fundamental concepts of computer science to a wide range of students in a self-paced format. Students will learn fundamental concepts, basic facts, and principles that are important to computing. They will also learn what computing fields are about and what are important to succeed in majoring in CS or a related field. The course also examine computing and society issues.

This is a self-paced course.

Prerequisite(s): None.

Note(s): A minimum grade of C is required in this course to pass the course.

Credit Hours: 1-3 (customizable)

Text(s): *Computer Science: An Overview (11th Edition)*, by J. Glenn Brookshear, published by Prentice Hall 2011

Course Objectives:

A student successfully completing this course should:

- understand the fundamental concepts and terminology of computing.
- understand and identify basic computer hard components and their functions.
- understand difference between OS software and application software.
- understand the challenges of majoring a computing field.
- understand binary data representation.
- understand basic logic.
- be able to write simple HTML pages.
- be able to read simple programs written in a popular programming language.
- improve logical thinking and computational thinking
- be more confident in using computers.
- be able to make informative decision in taking or not taking a computing related major.

About the course Modules are organized into areas.

Grade Distribution:

Each module is followed by a quiz that students can take up-to 2 times. The highest grade will be recorded.

Quizzes 100%

Letter Grade Distribution:

≥ 93.00	A	73.00 - 76.99	C
90.00 - 92.99	A-	70.00 - 72.99	C-
87.00 - 89.99	B+	67.00 - 69.99	D+
83.00 - 86.99	B	63.00 - 66.99	D
80.00 - 82.99	B-	60.00 - 62.99	D-
77.00 - 79.99	C+	≤ 59.99	F

Course Policies:

- **General**

- Honesty is assumed. A student will learn for herself/himself and take exams by herself/himself. **Academic Honesty Policy** will apply.

Introduction

In addition to skills and knowledge, COLLEGE/UNIVERSITY aims to teach students appropriate Ethical and Professional Standards of Conduct. The Academic Honesty Policy exists to inform students and Faculty of their obligations in upholding the highest standards of professional and ethical integrity. All student work is subject to the Academic Honesty Policy. Professional and Academic practice provides guidance about how to properly cite, reference, and attribute the intellectual property of others. Any attempt to deceive a faculty member or to help another student to do so will be considered a violation of this standard. Online submission of, or placing one’s name on an exam, assignment, or any course document is a statement of academic honor that the student has not received or given inappropriate assistance in completing it and that the student has complied with the Academic Honesty Policy in that work.

Unauthorized/Excessive Assistance

The student may not give or get any unauthorized or excessive assistance in the preparation of any work.

Consequences

An instructor may impose a sanction on the student that varies depending upon the instructor’s evaluation of the nature and gravity of the offense. Possible sanctions include but are not limited to, the following: (1) Require the student to redo the assignment; (2) Require the student to complete another assignment; (3) Assign a grade of zero to the assignment; (4) Assign a final grade of “F” for the course. A student may appeal these decisions according to the Academic Grievance Procedure. (See the relevant section in the Student Handbook.) Multiple violations of this policy will result in a referral to the Conduct Review Board for possible additional sanctions.

The full text of the Academic Honesty Policy is in the *Student Handbook*.

- **Grades**

- Grades in the **C** range represent performance that **meets expectations**; Grades in the **B** range represent performance that is **substantially better** than the expectations; Grades in the **A** range represent work that is **excellent**.
- Grades will be maintained in the Blackboard course shell. Students are responsible for tracking their progress by referring to the online gradebook. Instructors will submit the final grade to the registrar.

- **Reading Assignments and Quizzes**

- Students are expected to work independently. **Offering** and **accepting** solutions from others is an act of **plagiarism**, which is a serious offense and **all involved parties will be penalized according to the Academic Honesty Policy**. Discussion amongst students is encouraged, but when in doubt, direct your questions to the professors.

- **Attendance and Absences**

- Course Attendance and Participation are mandatory. Being virtually present at the course space and going through all modules step by step is required so that students can absorb the materials presented therein. Students are required to attend all lectures and participate in the forum discussion. Attendance will be tracked by the Blackboard system. Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

- **Online course forum etiquette**

- Read the forums rules and guidelines before posting for the first time.
- Search the other posts to see if your topic is already covered.
- Use a meaningful title for your thread.
- no inappropriate comments

Tentative Course Outline:

The weekly coverage schedule is subject to change. The first part of the course focus on the essential concepts for end users and the second part focuses on fundamental concepts that students may need to know to better appreciate the computing fields.

Week	Content
1	Introduction to the course, overview, History of computer, computing
2	hardware, architecture, organization
3	software, OS and application software, local campus computing resources
4	file system, file name, folder, full name, graphical user interface
5	Computer and society, digital, ethics, sustainable computing
6	vulnerability, virus, cyber security
7	Internet, webserver, browser, URL, HTML, webpage development, social network wirelesses wifi, bluetooth, RF
8	overview of Computing fields, computing as disciplines, man made fields, Opportunities and challenges of the subject
9	number system, binary system, bits, bytes, k, m, g, decimal, oct, hexadecimal, ASCII, uni-code
10	Knowledge representation, digitized information, digital color, image, sound, Big Data
11	CPU, and instruction set, arithmetic, logic, true, false, logic operations
12	history of programming languages, generations
13	programming languages on paper, without debugging, using pseduo code or c++
14	Computational thinking, abstraction, decomposition, problem solving, not just programming, types of knowledge
15	opensource, standardizations, organizations