COURSE DESCRIPTION

Course Number	0418-101	**Course Title**	Introduction to Computer Science
Credit Hours	3 (3:1:3)	**Course Coordinator**	Prof. Hamdi Yahyaoui
Compulsory	Yes	**Prerequisite**	None

Catalog Description

History of computation, a tour of computer science, the motivation to use computers, various types of computers, computer structure, binary number system, basic computational problems, elementary programming concepts, and software tools.

Textbook

Title	Invitation to Computer Science (Latest Edition)
Author	G. Michael Schneider and Judith Gersting
Publisher	Cengage Learning

Major Topics Covered in the Course

	Topics	**Hours**
1	History of computers and computation	2
2	Introduction to algorithms: computational thinking, problem solving and flowcharts	3
3	Foundations of digital computers (circuits and binary system)	3
4	Overview of computer hardware, architecture, and operating system	3
5	Computer networks, World Wide Web, and cloud	3
6	Security, privacy, ethical and social issues in computing	3
7	Basics of programming and compilation: memory, data types, statements, expressions	9
8	Simple algorithms for solving problems with computers: simple I/O, conditionals, and simple loops	9
9	Functions	7
	Total	42

Laboratory work:

	Topic	Week
1	Hardware and Software Overview	1
2	Computational Thinking and Problem Solving	2
3	Computational Thinking and Problem Solving	3
4	Computational Thinking and Problem Solving	4
5	Introduction to Linux and Windows Commands	5
6	Simple Expressions	6
7	Data Types, Assignments, and Variables	7
8	Conditionals	8
9	Conditionals	9
10	Loops	10
11	Loops	11
12	Functions	12
13	Functions	13
14	Lab Final	14

Grading

30%	Midterms
10%	Labs
15%	Assignments/Quizzes
5%	Final Lab
40%	Final

Course Outcomes

Students should be able to acquire the following skills.

1. Understand the concept of computation.
2. Understand the structure of computers, systems, and networks.
3. Understand basics of computer programs.
4. Understand security and ethical issues in computing
5. Write simple programs.
6. Work in teams.

Relationship between Course Outcomes and Student Outcomes

Course Outcomes	Student Outcomes					
	1	2	3	4	5	6
1	M					
2	M					
3	M					
4				M		
5	M	M				
6			M		M	