



حکومتی هه‌ریما کوردستانی – عێراق
وهزاره‌تا خواندنا بلند و فه‌کولینین
زانستی
په‌یمانگه‌ها ته‌کنیکی و په‌یشه‌یی یا رهند
کورس بووک



(IT Department)

General Information پێزانین گشتی	
Course Title:	Programming Fundamentals I
Department:	Information Technology (IT)
Stage:	1 st
Academic Year:	2025-2026
Course Code:	
Hour Per week	Theory (Two hours), Practical (2 hours)
Number of Units:	6
Study System:	Bologna system
Language of Instruction	English

Lecture Information پێزانین ماموستای	
Lecturer Name (Theory):	Maryam A. Sulaiman
Lecturer Name (Practical):	Maryam A. Sulaiman
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Degree:	Msc
Scientific Title:	Assistant Lecturer
Specialization:	Image Processing & AI

Course Overview کورتیه‌ک لسه‌ر بابته‌ی
- Overview of programming: background, history and context, programming languages, programming environment, compilers; the edit-compile-link-execute model, portability, programming style and conventions hand-execution of simple programs. - Understanding the problem, plans, top-down design / stepwise refinement, recognition of similarities between problems leading to adaptation and reuse. - Syntax and semantics, statements and expressions - execution and evaluation, flow of control - sequence, iteration, selection; state - declaration, update and use of variables, procedural and functional abstraction - declaration, use, parameters and results, I/O - graphical and textual types - primitive and compound types, type checking; program units, programming models - simulation, data processing, event-driven.

Course Objectives ئارمانجىن بابەتى

On completion of the course, the students will be able to:

Knowledge:

- techniques for solving problems
- basic computational concepts and elementary data structures
- the edit-compile-link-run cycle from a user point of view
- testing strategies
- the main activities of software development and their interactions, and some of the major problems of software development

Skills:

- hand-execute simple programs, showing how input data is processed, output data is produced, and how the values of internal variables change
- explain at various levels the behavior of fragments of programming language code
- amend existing programs to adjust or correct their functionality
- translate well-structured plans into working programs
- analyze simple problems involving text, numbers and graphics, producing a top-level plan with refinements
- use the error messages of the compiler to identify and correct mistakes in program syntax
- use testing strategies to identify and correct semantic errors in programs

Attitudes - appreciate that:

- a programmer requires creativity in order to solve problems and precision in the construction and manipulation of programming language code
- a programmer builds up a repertoire of techniques for solving problems, usually adapting and reusing techniques as each new problem is encountered
- a programmer must be able to communicate his/her ideas to others
- effective programming requires effort both in front of and away from a computer
- learning to program requires commitment and perseverance

Learning Outcomes ئەنجامىن قىربونى

Specific skills and knowledge you want students to gain.

- List the learning outcomes of the module for the learners.
- Matching the content of the module with the labor market needs.
- What will be the learning outcomes of the module for learners to acquire new and in-depth knowledge?

Teaching Methodology ریکٹن وانہگوتتی

- Data show and PowerPoint.
- Smart Board.
- Whiteboard.
- Discussion and Group Work.
- Field visits or laboratory sessions.
- Practical work within the laboratories.

Assessment Scheme سیستہمی ہلہسہنگاندنی

	Theory	Practical
Quiz	5	
Seminar	4	
Students' Attendance	3	
Report	3	
Mid-Term	10	10
Quiz	5	
Seminar	4	
Students' Attendance	3	
Report	3	
Final	20	30
Total	100%	

Reference سہر جاوہین سہرہکی

- **Main Textbook:**
- <https://learntocodewith.me/resources/coding-tools/>
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- **Supportive References:**
- <https://dev.to/coursesity/coding-made-easy-10-free-resources-to-learn-coding-1lb9>

Weekly schedule خشتی بابہتان			
WEEK	Theory	practice	Note
Week 1	Introduction to Programming Fundamentals in C#	Introduction to Programming Fundamentals in C#	
Week 2	Data types, variables definitions and constants.	Data types, variables definitions and constants with applying.	
Week 3	Output/input methods Arithmetic, Bitwise operations	Type Casting, Console Arithmetic, Bitwise operations & logical operations	
Week 4	Conditional Statements Part-1 (If Statement)	Conditional Statements Part-1 (If Statement)	
Week 5	Conditional Statements par-2 (If- else Statement)	Conditional Statements par-2 (If- else Statement)	
Week 6	Conditional Statements par-2 (If- else Statement) Con.	Implement and execute examples of the Conditional Statements par-2 (If- else Statement)	
Week 7	Midterm Exams		
Week 8	Conditional Statements part-3 (Nested if)	Conditional Statements Part-3 (Nested-If)	
Week 9	Student's Seminar Presentations	Practical Training on Student's Seminar Presentations	
Week 10	Conditional Statements Switch statement	Implement and execute examples of the Switch statement	
Week 11	Loops (for loop)	Execution of for loop	
Week 12	Loops (Nested for loop)	Implement and execute examples of the for loop	
Week 13	Loops (While)	Implement and execute examples of the While loop	
Week 14	Loops (Do-While)	Implement and execute examples of the Loops (Do-While)	
Week 15	Final exams		

Lecturer(s) in charge

Lecturer(s) in charge	
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Date	24/1/2026
Signature	

Head of Departmental Scientific Committee

Head of Departmental Scientific Committee	
Name	Maryam Ameen Sulaiman
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Quality Assurance