

**TISHK INTERNATIONAL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**Department of ARTIFICIAL INTELLIGENCE,**  
**2025-2026 Fall**  
**Course Information for AI 111 Programming I**

<b>Course Name:</b>	Programming I				
<b>Code</b>	<b>Regular Semester</b>	<b>Theoretical</b>	<b>Practical</b>	<b>Credits</b>	<b>ECTS</b>
AI 111	1	3	2	4	7
<b>Name of Lecturer(s):</b>	Dr. Hemin Fatih Ibrahim				
<b>Teaching Assistant:</b>	None				
<b>Course Language:</b>	-				
<b>Course Type:</b>	Main				
<b>Office Hours</b>	All the working day				
<b>Contact Email:</b>	hemin.ibrahim@tiu.edu.iq				
	Tel:07504562693				
<b>Teacher's academic profile:</b>	BSc in Mathematics, BSc in IT, MSc(Eng) in Advanced Software Engineering, PhD in AI.				
<b>Course Objectives:</b>	This course will teach students to: Experience problem solving skills through the use of the C++ programming language. Learn and apply C++ basics including variables, data types, arithmetic operations, if statements, and loops. Write and read C++ code. Isolate and fix common errors in C++ program				
<b>Course Description (Course overview):</b>	Programming I				

**COURSE CONTENT**

Week	Hour	Date	Topic
1	3	01-05/12/2025	Introduction this course
2	3	08-12/12/2025	Introduction to C++ Programming
3	3	15-19/12/2025	Output and printing in C++
4	3	22-26/12/2025	Variables
5	3	29/12-02/01/2026	Arithmetic, Casting, Random, Flowchart 1
6	3	05-09/01/2026	Arithmetic, Casting, Random, Flowchart 2
7	3	12-16/01/2026	Midterm Exam
8	3	19-23/01/2026	Control Statement 1
9	3	26-30/01/2026	Control Statement 2
10	3	02-06/02/2026	Loops
11	3	09-13/02/2026	Do-While & Nested Loops
12	3	16-20/02/2026	revision
13	3	23-27/02/2026	Final Exam

**COURSE/STUDENT LEARNING OUTCOMES**

- 1 Able to compose simple C++ programs with correct syntax and structure, utilizing variables and constants
- 2 Effectively use C++ input (cin) and output (cout) operations, incorporating techniques
- 3 Employ different methods of Conditional Statements and Loops
- 4 Declare, initialize, and manipulate arrays in C++, understanding array indexing, traversal, and basic operations
- 5 Develop problem-solving abilities by analyzing programming challenges

**COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES**

(Blank : no contribution, I: Introduction, P: Proficient, A: Advanced )

<b>Program Learning Outcomes</b>	<b>Cont.</b>
1 Analyse issues and employ critical thinking to find and formulate unique solutions within the computer domain	P

2	Design, construct, and assess computer-based systems that fulfil user requirements.	I
3	Collaborate efficiently in teams to devise solutions and attain objectives, demonstrating robust communication skills with colleagues and users	P
4	Integrate emerging technology into the organizational framework, considering the organization	I
5	Examine the effects of computer-based systems, platforms, and technologies on persons, organizations, and society	I
6	Identify and incorporate emerging AI technology into the organizational framework, taking into account the organization	
7	Evaluate the impact of intelligent systems, platforms, and automated technologies on persons, organizations, and society	I
8	Formulate algorithms to solve problems and predict outcomes by assessing complex data patterns and relationships	
9	Utilise deep learning methodologies and data science protocols to examine and efficiently address real-world challenges	
10	Design and implement AI solutions across diverse technology platforms and architectures (e.g., Robotics, NLP, Computer Vision)	
11	Evaluate professional, legal, and ethical challenges, ensuring adherence to ethical obligations in the development of AI systems	
12	Design, construct, and assess intelligent systems and machine learning models that fulfil user requirements.	

<b>Prerequisites (Course Reading List and References):</b>	None																																																														
<b>Student's obligation (Special Requirements):</b>	Students are expected to attend lectures regularly. Actively participate in class discussions and ask questions. Students are required to complete programming assignments and regularly practice coding outside of class. Prepare thoroughly for exams and assessments by reviewing class materials, completing assigned readings, and practicing programming problems to demonstrate comprehension of course content.																																																														
<b>Laboratory/Practice Plan:</b>	<table border="1"> <thead> <tr> <th>Weekly</th> <th>Week</th> <th>Hour</th> <th>Date</th> <th>Topics</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td>2</td> <td>01-05/12/2025</td> <td>Intro to environment</td> </tr> <tr> <td></td> <td>2</td> <td>2</td> <td>08-12/12/2025</td> <td>Print and C++ based code lines</td> </tr> <tr> <td></td> <td>3</td> <td>2</td> <td>15-19/12/2025</td> <td>Variables 1</td> </tr> <tr> <td></td> <td>4</td> <td>2</td> <td>22-26/12/2025</td> <td>Variables 2</td> </tr> <tr> <td></td> <td>5</td> <td>2</td> <td>29/12-02/01/2026</td> <td>Arithmetic, Casting, Random, Flowchart 1</td> </tr> <tr> <td></td> <td>6</td> <td>2</td> <td>05-09/01/2026</td> <td>Arithmetic, Casting, Random, Flowchart 2</td> </tr> <tr> <td></td> <td>7</td> <td>2</td> <td>12-16/01/2026</td> <td>Midterm Exam</td> </tr> <tr> <td></td> <td>8</td> <td>2</td> <td>19-23/01/2026</td> <td>Control Statement 1</td> </tr> <tr> <td></td> <td>9</td> <td>2</td> <td>26-30/01/2026</td> <td>Control Statement 2</td> </tr> <tr> <td></td> <td>10</td> <td>2</td> <td>02-06/02/2026</td> <td>Loops</td> </tr> <tr> <td></td> <td>11</td> <td>2</td> <td>09-13/02/2026</td> <td>Do-While &amp; Nested Loops</td> </tr> </tbody> </table>			Weekly	Week	Hour	Date	Topics		1	2	01-05/12/2025	Intro to environment		2	2	08-12/12/2025	Print and C++ based code lines		3	2	15-19/12/2025	Variables 1		4	2	22-26/12/2025	Variables 2		5	2	29/12-02/01/2026	Arithmetic, Casting, Random, Flowchart 1		6	2	05-09/01/2026	Arithmetic, Casting, Random, Flowchart 2		7	2	12-16/01/2026	Midterm Exam		8	2	19-23/01/2026	Control Statement 1		9	2	26-30/01/2026	Control Statement 2		10	2	02-06/02/2026	Loops		11	2	09-13/02/2026	Do-While & Nested Loops
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<b>Course Book/Textbook:</b>	Starting Out-with-C-Early-Objects-7th-Edition-Gaddis. C++ Programming. 5th edition, D.S.Malik, 2011. Problem Solving, Abstraction, and Design using C++ 6th Edition.																																																														
<b>Other Course Materials/References:</b>	<a href="http://www.cplusplus.com/doc/tutorial/">http://www.cplusplus.com/doc/tutorial/</a> <a href="https://www.tutorialspoint.com/cplusplus/index.htm">https://www.tutorialspoint.com/cplusplus/index.htm</a> <a href="http://stackoverflow.co">http://stackoverflow.co</a>																																																														
<b>Teaching Methods (Forms of Teaching):</b>	Lectures, Practical sessions, Exercises, Demonstation, , ,																																																														

#### COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Participation	1	5
Quiz	3	5
Midterm Exam	1	30
Practical Exam	1	10
Final Exam	1	40
<b>Total</b>		<b>100</b>

**Examinations:** True-False, Multiple Choices, Short Answers, , ,

**Extra Notes:**

<b>ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD</b>			
<b>Activities</b>	<b>Quantity</b>	<b>Workload Hours for 1 quantity*</b>	<b>Total Workload</b>
Theoretical Hours	11	3	33
Practical Hours	11	2	11
Final Exam	1	35	35
Participation	1	10	10
Quiz	3	12	36
Midterm Exam	1	25	25
Practical Exam	1	20	20
<b>Total Workload</b>			<b>170</b>
<b>ECTS Credit (Total workload/25)</b>			<b>7</b>

**Peer review**

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean