



Programming Languages 1

ABOUT THE COURSE

Course Team

Lecturer

Dr. Amr Abed (amrabad@mu.edu.eg)

Assistant Lecturer

Eng. Lamyaa Gaber(lamya.gaber@mu.edu.eg)

About the instructor

- ▶ B.S. Computer Engineering, Ain-Shams University, Egypt, 2000 – 2005
- ▶ M.S. Computer Engineering, Virginia Tech, USA, 2011 – 2013
- ▶ Ph.D. Computer Engineering, Virginia Tech, USA, 2014 – 2017

Teaching & Research Interests

- ▶ Machine Learning
- ▶ Mobile Computing
- ▶ Cloud Computing & Security
- ▶ Internet of Things (IoT)

Why Programming Languages

- ▶ Undergraduate Studies
- ▶ Postgraduate Research
- ▶ Job Opportunities

Dependent Courses

- ▶ Programming Languages 2
- ▶ Data Structures and Algorithms
- ▶ Operating Systems
- ▶ Software Engineering
- ▶ Microprocessors
- ▶ Machine Learning
- ▶ Mobile Computing
- ▶ Lab 1, 2, 3, 4
- ▶ Graduation Project

Why C++

- ▶ Extension of C
- ▶ Object Oriented Programming
- ▶ Covers different concepts of programming languages
 - ▶ Easy to switch to other languages, e.g. Java & Python

Course Objectives

- ▶ Learn the fundamental concepts of programming languages
- ▶ Learn syntax and semantics of C++ programming language
- ▶ Introduce Object Oriented Programming (OOP) concepts

Course Outlines

- ▶ Introduction
- ▶ Variables & Constants
- ▶ Arithmetic & Logic Operators
- ▶ Input & Output
- ▶ Conditional Statements
- ▶ Loops
- ▶ Arrays & Strings
- ▶ Pointers & References
- ▶ Files
- ▶ Functions
- ▶ Structures
- ▶ Classes
- ▶ Namespaces
- ▶ Templates
- ▶ Inheritance & Polymorphism

Course Website

<http://courses.amrabet.me>

1. Register
2. Enroll
3. Browse

Recommended Textbook

None

Recommended Websites

- ▶ Learn

- ▶ <https://www.tutorialspoint.com/cplusplus>
- ▶ <http://www.cplusplus.com/doc/tutorial>
- ▶ <https://www.geeksforgeeks.org/c-plus-plus>

- ▶ Practice

- ▶ <https://www.hackerrank.com/domains/cpp>
- ▶ <https://practice.geeksforgeeks.org/tracks/CPP>

- ▶ Any other website you find useful

Grading

- ▶ Assignments – 30 points
- ▶ Midterm Exam – 30 points
- ▶ Final Exam – 90 points
- ▶ Bonus – 10 points

Assignment Policy

- ▶ Assignments are to be submitted online by 11:59PM on the due date
- ▶ Late submission deducts 10% of the assignment grade per day
- ▶ A maximum of 2 days of *free* late submissions are allowed