# CENG 2002 Programming Language Concepts, Spring 2019

**Instructor:** Dr. Tugba Önal Süzek

 Office: Computer Engineering Dept E1-06

 Email: tugbas2001@yahoo.com

**Lecture Hours:** Mon 9:30-12:20 (C105)

**Recitation Hours:** Thu 15:30-17:20 (Linux Lab) by Erdem Turk (Teaching Assistant)

**Office Hours:** by appointment

**Course Web page:** <http://eng1.mu.edu.tr/~tugba/PL>

**Email to** **tugbas2001@yahoo.com** **to be added to class email list**

**Goal:** The emphasis will be on overview of features that are common to all programming languages, such as types, data abstraction, control mechanisms, storage, and execution methods.

We will study the implementation of these concepts in a statically typed language (**C++**) and a dynamically typed language (**Perl**).

Another goal of this course is to introduce you to different styles of programming called Functional Programming (FP). As an alternative to procedural programming, FP has gained a lot of popularity throughout the world since the late 1980s. You will learn a functional language Functional Python as a representative of a functional programming languages that are in common use today.

We will study Perl as an example of dynamically typed and scripting language. Both **Perl** and **C++** will be covered in the lab sessions. You will have hands-on opportunity to try out the programming features in these two different types of languages!

**Textbook:** David Watt, Programming Language Design Concepts, Wiley, 2004 <http://eng1.mu.edu.tr/~tugba/PL/ProgrammingLanguageDesignConceptsBook.pdf>

**Grading (tentative):**

* Midterm 30 %
* Perl project+Quizes 15 %
* Attendance 5 %
* Final Exam 50 %

**Tentative Syllabus**

* Programming Languages concepts and paradigms, syntax, semantics, pragmatics, history
* Values and Types: primitive, composite, recursive types, type systems
* Expressions
* Variables and Storage
* Bindings
* Scope
* Procedural Abstraction
* Data Abstraction
* Functional Programming