Full Syllabus

Course Title

Programming for Physicist Using Python and Matlab

Lecturer

Dr. Yoav Lahini

Semester

A

Course requirements

Final grade components

Online courses (30%) final project (30%) final exam (40%)

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
Week 1	Introduction to programming and computing as a scientific tool
Week 2	Python: Variables and Identifiers, Statements, List Basics
Week 3	Operators, Arithmetic and Precedence, Operators Relational, Logical and Membership, Conditionals
Week 4	Loops, Nested Loops, Functions, Modules
Week 5	List Manipulation, List slicing, List Slicing with Steps, List Exercises
Week 6	Strings, String Methods, Strings Practice, Multidimensional Lists, Dictionaries
Week 7	File I/O, Tuples, Formatting
Week 8	Namespaces and Scope of Variables, Recursion, Error Handling
Week 9	Matlab: Quick Conversion from Python: The Matlab environment, Matlab Help, simple commands and calculations, variables, Vectors and Matrices, importing and exporting Data, array calculations Writing scripts in Matlab: Functions, logical arrays, decision branching, loops. Plotting, graphics, fitting.
Week 10-13	Final Project

Required course reading

Optional course reading

Comments