The Hebrew University of Jerusalem

Syllabus

python for physicists - 76639

Last update 05-04-2020

<u>HU Credits:</u> 2

<u>Degree/Cycle:</u> *1st degree (Bachelor)*

<u>Responsible Department:</u> *Programming Instruction Unit*

<u>Academic year:</u> *0*

<u>Semester:</u> *2nd Semester*

<u>Teaching Languages:</u> *Hebrew*

<u>Campus:</u> *E. Safra*

<u>Course/Module Coordinator:</u> *gadi kassir*

<u>Coordinator Email:</u> gadi@hadassah.org.il

<u>Coordinator Office Hours:</u>

<u>Teaching Staff:</u>

Mr. Gadi Kassir

Course/Module description:
*Study object oriented programming basics
thru Python*

Course/Module aims:
Acquiring programming knowledge

*Learning outcomes - On successful completion of this module, students should be
able to:*
Programming with Pyton

Attendance requirements(%):
0

Teaching arrangement and method of instruction:

Course/Module Content:
*Python 3 interpreter, IDLE, basic data types: numbers,characters ,
Expressions, variables, I/O, type converters
Sequential data containers: string, list, tuple, range; Mutability
Boolean expressions, comparison ops; and, or, not, if statement
Iterability, loops: for, while
User functions, algorithms design for simple computational problems
Hashability,Unordered data containers: set, frozenset, dictionary, Counter,
Files, modules: string, math, random, Collections, itertools
Comprehension: lists, sets, dictionaries
Iterators: zip, enumerate, generators, genexpressions
Basics of oop: classes, objects, methods.
Tentative:
Functional programming: map, reduce, filter
Recursion*

Required Reading:
No

<u>Additional Reading Material:</u>
  Recommended:
Google python course : https://developers.google.com/edu/python/

Python official documentation:
http://www.python.org/doc/

http://interactivepython.org/courselib/static/thinkcspy/index.html
http://cscircles.cemc.uwaterloo.ca/
http://www.greenteapress.com/thinkpython/thinkpython.pdf
http://en.wikibooks.org/wiki/Think_Python
http://files.swaroopch.com/python/byteofpython_120.pdf
http://www.itmaybeahack.com/book/python-2.6/html/index.html
http://learnpythonthehardway.org/book/
http://pymbook.readthedocs.org/en/latest

 <u>Course/Module evaluation:</u>
  End of year written/oral examination 100 %
  Presentation 0 %
  Participation in Tutorials 0 %
  Project work 0 %
  Assignments 0 %
  Reports 0 %
  Research project 0 %
  Quizzes 0 %
  Other 0 %
 In case a class exam is not possible, a

<u>Additional information:</u>
  It is required to hand in 2/3 of the programming exercises.

 In case a class exam is not possible, a home exam or online exam will be given.