

Semester	AUG 2023
Open to semester	1
Course code	TD1113
Course title	Introduction to computing
Credits	3 /
Course Coordinator & participating faculty (if any)	Sourabh Dube
Nature of Course	Lectures and Lab
Pre-requisites	None.
Objectives (goals, type of students for whom useful, outcome etc)	This is an introductory course in programming and algorithms. The course will use the python programming language to impart basic coding skills. The students will get some experience in breaking up a problem into programmable steps, and then converting them into executable codes. Some basic algorithms and useful skills, like plotting a graph, will also be covered.
Course contents (details of topics /sections with no. of lectures for each)	<p>Basic introduction to a computer, and basic operating system commands to communicate with the computer. Using an editor (e.g. gedit) and ipython.</p> <p>Input/Output from the screen and a file</p> <p>Conditional branching: if...then...elif...else</p> <p>Loops: for, do while, while. Functions. Recursion</p> <p>Introduction to Numpy and Matplotlib (for plotting graphs and other plots)</p> <p>Data manipulation. Some basic algorithms, eg bubble and/or merge sort, definite integration, methods of finding roots of an equation</p>
Evaluation /assessment	<p>End-Sem Examination-40%</p> <p>Mid-Sem Examination--%</p> <p>Others-Two quizzes 30% each%</p>
Suggested readings (with full list of authors, publisher, year, edn etc.)	<p>1. https://www.w3schools.com/python/python_intro.asp</p> <p>2. http://scipy-lectures.org/index.html</p> <p>3. Introduction to Computation and Programming Using Python, John Guttag</p>