



THE JOY OF COMPUTING USING PYTHON

PROF. SUDARSHAN IYENGAR

Department of Computer Science and Engineering
IIT Ropar

TYPE OF COURSE : Rerun | Elective | UG/PG

COURSE DURATION : 12 weeks (24 Jan' 22 - 15 Apr' 22)

EXAM DATE : 23 Apr 2022

INTENDED AUDIENCE : Any interested audience

PREREQUISITES : 10th standard/high school

INDUSTRY SUPPORT : Every software company is aware of the potential of a first course in computer science. Especially of a first course in computing, done right.

COURSE OUTLINE : A fun filled whirlwind tour of 30 hrs, covering everything you need to know to fall in love with the most sought after skill of the 21st century. The course brings programming to your desk with anecdotes, analogies and illustrious examples. Turning abstractions to insights and engineering to art, the course focuses primarily to inspire the learner's mind to think logically and arrive at a solution programmatically. As part of the course, you will be learning how to practice and culture the art of programming with Python as a language. At the end of the course, we introduce some of the current advances in computing to motivate the enthusiastic learner to pursue further directions.

ABOUT INSTRUCTOR :

Prof. Sudarshan Iyengar has a PhD from the Indian Institute of Science and is currently working as an Assistant Professor at IIT Ropar and has been teaching this course from the past 4 years.

COURSE PLAN :

Week 1: Motivation for Computing

Week 2: Welcome to Programming!!

Week 3: Variables and Expressions : Design your own calculator

Week 4: Loops and Conditionals : Hopscotch once again

Week 5: Lists, Tuples and Conditionals : Lets go on a trip

Week 6: Abstraction Everywhere : Apps in your phone

Week 7: Counting Candies : Crowd to the rescue

Week 8: Birthday Paradox : Find your twin

Week 9: Google Translate : Speak in any Language

Week 10: Currency Converter : Count your foreign trip expenses

Week 11: Monte Hall : 3 doors and a twist

Week 12: Sorting : Arrange the books