

PRINCIPAL
G. Narayanamma Institute of
Technology & Science (for woman)
(AUTONOMOUS)

Shaikpet, Hyderabad - 500 104

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The Joy of Computing using Python

By Prof. Sudarshan Iyengar, Prof. Yayati Gupta | IIT Ropar

Learners enrolled: 38659

Introduction Joy of Computing



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.

INTENDED AUDIENCE: Any interested audience PREREQUISITES: 10th standard/high school

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INDUSTRY SUPPORT: Ever

computing, done right.



ny is aware of the potential of a first course in computer science. Especially of a first course in (https://swayam.gov.in/n) (https://swayam.gov.in/nc_details/NPTEL)

Summary

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Course Status:

Completed

Course Type:

Elective

Duration:

12 weeks

Category:

· Computer Science and Engineering

Credit Points:

3

Level:

Undergraduate/Postgraduate

Start Date:

14 Sep 2020

End Date:

04 Dec 2020

Enrollment Ends:

25 Sep 2020

Exam Date:

19 Dec 2020 IST

Note: This exam date is subjected to change based on seat availability. You can check final exam date on your hall ticket.

This is an AICTE approved FDP course

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(https://www.addtoany.com/share#url=https%3A%2F%2Fonlinecourses.nptel.ac.in%2Fnoc20_cs83%2Fpreview&title=The%20Joy%20of%20Computing%20using%20Python%20%20Course)

Course layout

- Motivation for Computing
- · Welcome to Programming!!
- · Variables and Expressions: Design your own calculator
- · Loops and Conditionals: Hopscotch once again
- · Lists, Tuples and Conditionals: Lets go on a trip
- · Abstraction Everywhere: Apps in your phone
- · Counting Candies: Crowd to the rescue
- · Birthday Paradox : Find your twin
- Google Translate: Speak in any Language
- · Currency Converter: Count your foreign trip expenses
- · Monte Hall: 3 doors and a twist

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· 20 questions game: I can read your mind

- · Permutations : Jumbled Words
- · Spot the similarities : Dobble game
- · Count the words: Hundreds, Thousands or Millions.
- · Rock, Paper and Scissor: Cheating not allowed!!
- · Lie detector: No lies, only TRUTH
- · Calculation of the Area: Don't measure.
- · Six degrees of separation : Meet your favourites
- · Image Processing: Fun with images
- · Tic tac toe: Let's play
- · Snakes and Ladders : Down the memory lane.
- · Recursion: Tower of Hanoi
- · Page Rank: How Google Works!!

Books and references

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Instructor bio



Prof. Sudarshan Iyengar

IIT Ropar

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.



Prof. Yayati Gupta

Dr. Yayati Gupta is an assistant professor at IIIT Dharwad, Hubli. She completed her PhD from IIT Ropar in 2017 after which she did two postdocs at IIT Madras and IIT Delhi respectively. Her areas of interest include complex networks and social network analysis Shaikpet, Hyderabad - 500 104

Course certificate





Swavam (https://swayam.gov.in/) (https://swayam.gov.in/nc_details/NPTEL)

The course is free to enroll and learn from. But if you want a certificate, you have to register and write the proctored exam conducted by us in person at any of the designated exam centres.

The exam is optional for a fee of Rs 1000/- (Rupees one thousand only).

Date and Time of Exams: 19 December 2020 Morning session 9am to 12 noon; Afternoon Session 2pm to 5pm.

Registration url: Announcements will be made when the registration form is open for registrations,

The online registration form has to be filled and the certification exam fee needs to be paid. More details will be made available when the exam registration form is published. If there are any changes, it will be mentioned then.

Please check the form for more details on the cities where the exams will be held, the conditions you agree to when you fill the form etc.

CRITERIA TO GET A CERTIFICATE

This course will have an unproctored programming exam also apart from the Proctored exam whose, please check announcement section for date and time. The programming exam will have a weightage of 25% towards the Final score.

Final score = Assignment score + Unproctored programming exam score + Proctored Exam score

- Assignment score = 25% of average of best 8 assignments out of the total 12 assignments given in the course.
- (All assignments in a particular week will be counted towards final scoring quizzes and programming assignments).
- Unproctored programming exam score = 25% of the average scores obtained as part of Unproctored programming exam out of 100
- Proctored Exam score =50% of the proctored certification exam score out of 100

YOU WILL BE ELIGIBLE FOR A CERTIFICATE ONLY IF ASSIGNMENT SCORE >=10/25 AND UNPROCTORED PROGRAMMING EXAM SCORE >= 10/25 AND PROCTORED EXAM SCORE >= 20/50.

If any one of the 3 criteria is not met, you will not be eligible for the certificate even if the Final score >= 40/100.

Certificate will have your name, photograph and the score in the final exam with the breakup. It will have the logos of NPTEL and IIT Madras. It will be everifiable at nptel.ac.in/noc (http://nptel.ac.in/noc).

Only the e-certificate will be made available. Hard copies will not be dispatched.

Once again, thanks for your interest in our online courses and certification. Happy learning.

- NPTEL team

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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Global Navigation Satellite Systems And Applications (course)



Course outline

How to access the portal ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

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Global Navigation Satellite Systems And Applications

The proposed course provides basic understanding about digital elevation models (DEMs) and their applications in Civil Engineering and Earth Sciences. Further, in the proposed course various DEMs, their source, generation techniques, derivatives, errors and limitations would be discussed extensively. Surface Hydrologic Modelling using DEMs, modelling derivatives and their applications would also be discussed.

INTENDED AUDIENCE: Under and post-graduate engineering and post graduate science students/Faculty

PRE-REQUISITES: Current students of engineering, post graduate science students and PhD students should have basic knowledge of GIS and Remote Sensing INDUSTRY SUPPORT: Geoinformatics companies, e.g NIIT, ESRI India, Leica Geoinformatics, MapmyIndia, ISRO, etc.

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