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Data Analytics with Python

By Prof. A Ramesh | IIT Roorkee

Learners enrolled: 23477

Data Analytics with Python



We are looking forward to sharing many exciting stories and examples of analytics with all of you using python programming language. This course includes examples of analytics in a wide variety of industries, and we hope that students will learn how you can use analytics in their career and life. One of the most important aspects of this course is that you, the student, are getting hands-on experience creating analytics models; we, the course team, urge you to participate in the discussion forums and to use all the tools available to you while you are in the course!

INTENDED AUDIENCE : Management, Industrial Engineering and Computer Science Engineering Students

PREREQUISITES : Nill

INDUSTRY SUPPORT : Any analytics company

Summary

Course Status :	Completed
Course Type :	 (https://swayam.gov.in/) Elective  (https://swayam.gov.in/nc_details/NPTEL)
Duration :	About Swayam (https://swayam.gov.in/about) All Courses 0
Category :	<ul style="list-style-type: none"> ◦ Computer Science and Engineering ◦ Data Science
Credit Points :	3
Level :	Undergraduate/Postgraduate
Start Date :	18 Jan 2021
End Date :	09 Apr 2021
Enrollment Ends :	01 Feb 2021
Exam Date :	24 Apr 2021 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%2Fnoc21_cs45%2Fpreview&title=Data%20Analytics%20with%20Python%20Course

Course layout

Week 1 : Introduction to data analytics and Python fundamentals

Week 2 : Introduction to probability

Week 3 : Sampling and sampling distributions

Week 4 : Hypothesis testing

Week 5 : Two sample testing and introduction to ANOVA

Week 6 : Two way ANOVA and linear regression

Week 7 : Linear regression and multiple regression

Week 8 : Concepts of MLE and Logistic regression

Week 9 : ROC and Regression Analysis Model Building

Week 10 : χ^2 Test and introduction to cluster analysis

Week 11 : Clustering analysis

Week 12 : Classification and Regression Trees (CART)

Books and resources



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1. McKinney, W. (2012). Python for data analysis: Data wrangling with Pandas, NumPy, and IPython. " O'Reilly Media, Inc.".
2. Swaroop, C. H. (2003). A Byte of Python. Python Tutorial.
3. Ken Black, sixth Editing. Business Statistics for Contemporary Decision Making. "John Wiley & Sons, Inc".
4. Anderson Sweeney Williams (2011). Statistics for Business and Economics. "Cengage Learning".
5. Douglas C. Montgomery, George C. Runger (2002). Applied Statistics & Probability for Engineering. "John Wiley & Sons, Inc"
6. Jay L. Devore (2011). Probability and Statistics for Engineering and the Sciences. "Cengage Learning".
7. David W. Hosmer, Stanley Lemeshow (2000). Applied logistic regression (Wiley Series in probability and statistics). "Wiley-Interscience Publication".
8. Jiawei Han and Micheline Kamber (2006). Data Mining: Concepts and Techniques. "
9. Leonard Kaufman, Peter J. Rousseeuw (1990). Finding Groups in Data: An Introduction to Cluster Analysis. "John Wiley & Sons, Inc".

Instructor bio



Prof. A Ramesh

IIT Roorkee

Ramesh Anbanandam graduated in Production Engineering from Madras University, Chennai. He did his post-graduation from National Institute of Technology, Trichy. He later earned his Ph.D. in Supply Chain Management from Indian Institute of Technology Delhi. His professional interest includes Humanitarian Supply Chain Management, Operations Management, Operations Research, Healthcare Waste Management, Sustainable Multi-model & Freight Transportation, Transportation Asset Management and Advanced Data Analytics using Python and R- programming. He has guided Ph.D. thesis in the area of Humanitarian Supply Chain Management, Healthcare waste management, and Reverse Logistics. He has published various research articles in reputed journals. He was also awarded Emerald Literati Award for Excellence under Highly Commended Research Paper in the Year 2011 and 2016 in the field of Supply Chain Management.

Course certificate

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: **24 April 2021** 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

Average assignment

Exam score = 75% o



verage of best 8 assignments out of the total 12 assignments given in the course.

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Final score = Average assignment score + Exam score

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YOU WILL BE ELIGIBLE FOR A CERTIFICATE ONLY IF AVERAGE ASSIGNMENT SCORE >=10/25 AND EXAM SCORE >= 30/75. If one of the 2 criteria is not met, you will not get 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 Roorkee. It will be e-verifiable 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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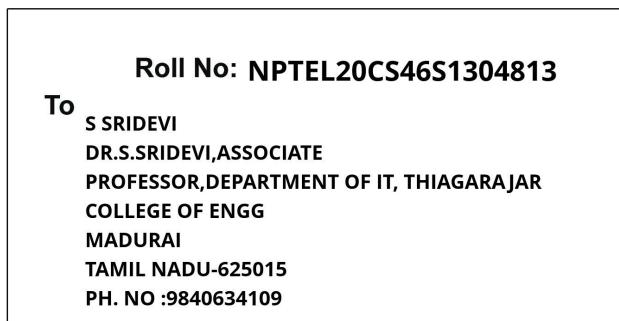
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Data Analytics with Python

Covid-19
impacted
January 2020
semester

with Score* **86** %

Prof. V. C. Srivastava
Coordinator, Continuing Education Centre
IIT Roorkee

Prof. Inderdeep Singh
NPTEL Coordinator
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Coordinator, Continuing Education Centre
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