# DATA SCIENCE BY PYTHON

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| 1 | Course Title: | DATA SCIENCE BY PYTHON |
| 2 | Course Code: | IYZ4218 |
| 3 | Type of Course: | Compulsory |
| 4 | Level of Course: | First Cycle |
| 5 | Year of Study: | 4 |
| 6 | Semester: | 8 |
| 7 | ECTS Credits Allocated: | 3.00 |
| 8 | Theoretical (hour/week): | 3.00 |
| 9 | Practice (hour/week): | 0.00 |
| 10 | Laboratory (hour/week): | 0 |
| 11 | Prerequisites: | |
| 12 | Language: | Turkish |
| 13 | Mode of Delivery: | Face to face |
| 14 | Course Coordinator: | Doç. Dr. MELİH ENGİN |
| 15 | Course Lecturers: | Doç.Dr. Melih ENGİN |
| 16 | Contact information of the Course Coordinator: | Doç.Dr. Melih ENGİN<br>melihengin@uludag.edu.tr<br>Uludağ Üniversitesi İnegöl İşletme Fakültesi<br>İnegöl Yerleşkesi Cerrah Yolu 16400 İnegöl /BURSA TÜRKİYE<br>0224 294 26 95 |
| 17 | Website: | |
| 18 | Objective of the Course: | Getting to know different platforms with Python, doing basic coding with Python and developing data science applications |
| 19 | Contribution of the Course to Professional Development: | Python Programming Language; Python data types; Python data entry; Regression applications with Python; Python discrete variables and tests; Logit with Python; Bayesian statistics with Python; Applications |
| 20 | Learning Outcomes: | |

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| | 1 | Makes Python installation |
| | 2 | Recognize platform running Python |
| | 3 | Python uses the basic commands |
| | 4 | Create projects Python |
| | 5 | Develops Data Science Applications with Python |
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| | 9 | |
| | 10 | |

| 21 | Course Content: | |
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| Course Content: | |
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| Week | Theoretical | Practice |
|---|---|---|
| 1 | Python Introduction | |
| 2 | Python Installation | |
| 3 | Python variables | |
| 4 | Python print command strings | |

| 5 | Save and Run Project | |
|---|---|---|
| 6 | security | |
| 7 | Series | |
| 8 | Decision Tree | |
| 9 | Logistic Regression | |
| 10 | Support Vector Machines | |
| 11 | K-Nearlest Neighbor | |
| 12 | Hierarchical Clustering | |
| 13 | Hidden Markov Model | |
| 14 | The project implementation | |

| 22 | Textbooks, References and/or Other Materials: | "An Introduction to Statistics with Python", Thomas Halswater, Springer-Verlag, 2016.<br>Think Stats 2e Allen B. Downey<br>Ders Notları |
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| 23 | Assesment |
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| TERM LEARNING ACTIVITIES | NUMBER | WEIGHT |
|---|---|---|
| Midterm Exam | 1 | 40.00 |
| Quiz | 0 | 0.00 |
| Home work-project | 0 | 0.00 |
| Final Exam | 1 | 60.00 |

| Activites | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|
| Theoretical  Contribution of Final Exam to Success Grade | 14  60.00 | 3.00 | 42.00 |
| Practicals/Labs | 0 | 0.00 | 0.00 |
| Self study and preperation  Measurement and Evaluation Techniques Used in the Relative Evaluation | 0 | 0.00 | 0.00 |
| Homeworks | 0 | 0.00 | 0.00 |
| Projects  **24 ECTS / WORK LOAD TABLE** | 0 | 0.00 | 0.00 |
| Field Studies | 0 | 0.00 | 0.00 |
| Midterm exams | 1 | 20.00 | 20.00 |
| Others | 0 | 0.00 | 0.00 |
| Final Exams | 1 | 35.00 | 35.00 |
| Total Work Load | | | 97.00 |
| Total work load/ 30 hr | | | 3.23 |
| ECTS Credit of the Course | | | 3.00 |

| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |
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| | PQ1 | PQ2 | PQ3 | PQ4 | PQ5 | PQ6 | PQ7 | PQ8 | PQ9 | PQ10 | PQ11 | PQ12 | PQ13 | PQ14 | PQ15 | PQ16 |
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| ÖK1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| ÖK5 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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**LO: Learning Objectives    PQ: Program Qualifications**

| Contribution Level: | 1 very low | 2 low | 3  Medium | 4 High | 5 Very High |
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