

Course Information-Introduction to Data Science

- [Subject Outline](#)
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summary

With the advent of the age of knowledge and information, the role of data scientists who can grasp the value of data and use it correctly is very important. In this course, students will explore the concepts of data and data science, and learn the basic skills that a data analyst should have. The objective of this course is to cultivate the basic ability to become a data scientist who wants society by conceptually arranging how to understand and analyze data and learning through examples.

Medium name

- Multimedia lesson

Service schedule

- Additional updates every Monday during the semester.

lecture content

- Multimedia lesson

| Count | Lecture Topic | The details | Textbook Pages | Professor in charge |
|-------|--|--|----------------|---------------------|
| 1 | Data and Data Mining | 1.1 Data. | 1-16 | |
| 2 | Big Data and Data Science | 1.2 Data science, data scientists. | 16-30 | |
| 3 | A convenient world created by data scientists | 2.1 Introduction.2.2 Convenient Society. | 31-43 | |
| 4 | A safe and secure society created by data scientists | 2.3 A healthy society.2.4 Safe Society. | 44-60 | |

| Count | Lecture Topic | The details | Textbook Pages | Professor in charge |
|--------------|-------------------------------------|---|-----------------------|----------------------------|
| 5 | Data structure and storage | 3.1 Structure of the Data. | 61-69 | Youngjae Jang |
| 6 | Database | 3.2 Storage of Data. | 70-92 | Youngjae Jang |
| 7 | Data quality management | 4.1 Data Quality Management. | 93-106 | Youngjae Jang |
| 8 | Data analysis | 4.2 Data Analysis. | 107-122 | Youngjae Jang |
| 9 | Data Driven Decision Making | 5.1 Data Driven Decision Making. | 123-139 | Youngjae Jang |
| 10 | Data and Presentations | 5.2 Data and Presentations. | 140-154 | Youngjae Jang |
| 11 | Data Visualization I | 6.1 Data Visualization | 155-162 | Youngjae Jang |
| 12 | Data Visualization II | 6.2 Implement Data Visualization.6.3 Successful data visualization. | 163-206 | Youngjae Jang |
| 13 | Data Mining I | 7.1 The role of data mining in data science.7.2 The concept of data mining.7.3 Areas of Data Mining. | 207-218 | Youngjae Jang |
| 14 | Data Mining II | 7.4 Data Mining Techniques and Tools.7.5 Data Mining Application Examples. | 219-248 | Youngjae Jang |
| 15 | Role and prospect of data scientist | 8.1 Required Capabilities of Data Scientists.8.2 Ethics of Data Scientists.8.3 Prospects of Data Science and Data Scientists. | 249-265 | Youngjae Jang |

• Attendance class

| division | Lecture Topic | The details | Textbook Pages | Lecture |
|-----------------|-----------------------|--------------------|-----------------------|----------------|
| 1 | Data and data science | Book 1.1 | 1-10 | lecture |
| 2 | Data scientist | Book 1.2 | 17-25 | lecture |

| division | Lecture Topic | The details | Textbook Pages | Lecture |
|-----------------|---|----------------------|-----------------------|----------------|
| 3 | Convenient society created by data scientists | Textbooks 2.1 ~ 2.2 | 31-39 | lecture |
| 4 | A healthy society / safe society created by data scientists | Textbooks 2.3 to 2.4 | 44-55 | lecture |
| 5 | Data structure and storage | Textbooks 3.1 ~ 3.2 | 61-83 | lecture |
| 6 | Data quality management | Book 4.1 | 93-103 | lecture |

Evaluation method and question range

| Evaluation Type | Assessment Methods | Scope of question | Remarks |
|------------------------|---------------------------|------------------------------|----------------|
| Attendance class | Short answer | No test on attendance class. | |

Note: The above information is subject to change, so please refer to the academic bulletin.

references

- Signature: Doing data science / Author: by Cathy O`Neil, Rachel Schutt / Publisher: O`Reilly / Year of publication: 2014
Signature: Expert guide of data analysis = The guide for advanced data analytics professional / Author: [Korea Database Agency] / Publisher: Korea Database Agency / Publication Year: 2014
Signature: Data Mining / Author: Koo Ja Yong;/ Publisher: Korea National Open University Press / Year of Publication: 2011

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