

## Content

| Course Code | Course Name        | Semester | Theory | Practice | Lab | Credit | ECTS |
|-------------|--------------------|----------|--------|----------|-----|--------|------|
| G318        | Business Analytics | 6        | 3      | 0        | 0   | 3      | 5    |

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| Prerequisites          |  |
| Admission Requirements |  |

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| Language of Instruction | English         |
| Course Type             | Elective        |
| Course Level            | Bachelor Degree |

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| Objective | The aim of this course is to equip students with the analytical skills required to make data-driven decisions in business environments. The course introduces key concepts in data science, including descriptive, predictive, and prescriptive analytics, alongside optimization techniques and big data technologies. By integrating real-world examples, business tools, and ethical considerations, the course aims to build analytical literacy and foster strategic thinking in the age of digital transformation. |
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| Content | <p>Week 1 Review on Data and Business Data and AI</p> <p>Week 2 Introduction to Business Analytics and Data Ethics and Assignments of Semester-Beginning Presentations</p> <p>Week 3 Presentation of Semester-Beginning Assignments – Introduction to Excel and Descriptive Analytics (1)</p> <p>Week 4 Descriptive Analytics and Applications (2)</p> <p>Week 5 Predictive Analytics (1)</p> <p>Week 6 Predictive Analytics and Applications (2): Using AI for predictive Analytics</p> <p>Week 7 Wrap-up for midterm exam and Case Studies</p> <p>Week 8 MIDTERM EXAM (Final Project Topics will be provided)</p> <p>Week 9 Prescriptive Analytics (1)</p> <p>Week 10 Prescriptive Analytics and Applications (2)</p> <p>Week 11 Linear Optimization and Decision Analysis</p> <p>Week 12 Nonlinear Optimization and Decision Analysis</p> <p>Week 13 Big Data Technologies and Analytics /course wrap-up and Case Studies</p> <p>Week 14 Final Project Presentations</p> |
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| References | <p>Camm, J. D., Cochran, J. J., Fry, M. J., &amp; Ohlmann, J. W. (2024). Business analytics: Descriptive, predictive, prescriptive. Cengage Learning.</p> <p>Provost, Foster, and Tom Fawcett. Data Science for Business: What You Need to Know About Data Mining and Data-Analytic Thinking. O'Reilly Media, 2013.</p> <p>Mayer-Schönberger, Viktor, and Kenneth Cukier. Big Data: A Revolution That Will Transform How We Live, Work, and Think. Houghton Mifflin Harcourt, 2013.</p> <p>Readings and case studies will be provided throughout the course. The beginning and end-of-semester assignments are mandatory and must be completed to pass the course.</p> |
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## Theory Topics

| Week | Weekly Contents |
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