



## Course Syllabus

|                         |                                      |                                |
|-------------------------|--------------------------------------|--------------------------------|
| <b>Course Code</b>      | <b>Course Title</b>                  | <b>ECTS Credits</b>            |
| MIS-270                 | Statistical Applications in Business | 6                              |
| <b>Prerequisites</b>    | <b>Department</b>                    | <b>Semester</b>                |
| MATH-220                | Management and MIS                   | Fall, Spring                   |
| <b>Type of Course</b>   | <b>Field</b>                         | <b>Language of Instruction</b> |
| Required                | MIS                                  | English                        |
| <b>Level of Course</b>  | <b>Lecturer(s)</b>                   | <b>Year of Study</b>           |
| 1 <sup>st</sup> Cycle   | Harry Kogetsidis                     | 2 <sup>nd</sup>                |
| <b>Mode of Delivery</b> | <b>Work Placement</b>                | <b>Corequisites</b>            |
| Face to Face            | N/A                                  | None                           |

### Course Objectives:

The main objectives of the course are to:

- introduce students to the basic principles of statistical modelling and to familiarise them with its basic concepts
- introduce students to a range of statistical methods
- develop students' ability to build statistical models
- develop students' analytical skills
- develop students' ability to summarise and present data in a professional way
- develop students' skills in practical decision making
- develop students' ability to communicate effectively with non-technical managers
- provide a conceptual understanding of the role of statistical modelling in decision making
- help students appreciate the limitations of statistical methods in decision making.

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. recognise the importance of statistical modelling in problem solving and decision making
2. select appropriate statistical methods to address particular types of business and management problems
3. apply appropriate statistical methods to solve business and management problems
4. formulate statistical models to help propose policy alternatives
5. summarise and present data in a professional way
6. appreciate the limitations of statistical methods in decision making

7. communicate effectively with non-technical managers.

### Course Content:

The course covers the following topics:

- Graphical data analysis
- Correlation analysis
- Linear regression
- Non-linear regression
- Data transformations
- Identifying trend patterns using statistical tests
- Time series forecasting
- Averaging forecasting methods
- Exponential smoothing forecasting methods
- Measuring forecasting accuracy

### Learning Activities and Teaching Methods:

Lectures, group work, case studies, computer workshops, solving problems in class and in the computer lab, guest speakers, homework and background reading.

### Assessment Methods:

Tests, homework activities, student projects, mid-term examination, final examination.

### Recommended Textbooks / Readings:

| Title   | Author(s)   | Publisher        | Year | ISBN          |
|---|---|------------------|------|---------------|
| Essentials of Statistics for Business and Economics (8 <sup>th</sup> ed.) | D. R. Anderson, D. J. Sweeney, T. A. Williams, J. D. Camm and J. J. Cochran | Cengage Learning | 2018 | 9781337114189 |
| Business Forecasting (9 <sup>th</sup> ed.)                                | J. E. Hanke and D. Wichern  | Pearson          | 2013 | 9781292036182 |