

SYLLABUS

1. Information regarding the program

1.1 Higher education institution	University of Oradea
1.2 Faculty	Faculty of Economic Sciences
1.3 Department	Management-Marketing Department
1.4 Field of study	Management
1.5 Cycle of study	Cycle II – Master
1.6 Program of study /Degree	Advanced Management Master Degree

2. Information regarding the discipline

2.1 Name of discipline	Modeling and Data Analysis						
2.2 Course titleholder	Lecturer Adela-Laura POPA, Ph.D.						
2.3 Seminar titleholder	Lecturer Adela-Laura POPA, Ph.D.						
2.4 Year of study	I	2.5 Semester	2	2.6 Type of assessment	Cv.	2.7 Type of discipline	I

(I) Compulsory; (O) Elective; (F) Facultative

3. Estimated total time (hours/semester of activities)

3.1 Number of hours/week	1	out of which: 3.2 course	1	3.3 seminar	1
3.4 Total of hours in the Curriculum	28	out of which: 3.5 course	14	3.6 seminar	14
Distribution of hours:					97
Studying the workbook, course book, bibliography and notes					20
Supplementary documentation in the library, on electronic specialty sites and in the field					20
Preparing seminars/laboratories, themes, projects, portfolios and essays					14
Tutorship					4
Assessment activities					4
Other activities. Software application analysis, personal project preparation					35
3.7 Total hours of individual study	97				
3.9 Total hours/semester	125				
3.10 Number of credits	5				

4. Pre-requisites (if applicable)

4.1 Curriculum	Marketing Management
4.2 Skills	-

5. Conditions (if applicable)

5.1. concerning the course activities	Projector, whiteboard
5.2. concerning the seminar/laboratory activities	whiteboard

6.1 Specific skills acquired	
Professional skills	C2
Transversal Skills	CT1

ESCO Competencies	• Skill to analyse business performance, apply strategic models, evaluate data • Competence in advising improvement, recommending strategies • Problem-solving
--------------------------	--

6. 2. Learning Outcomes

Knowledge	▪ The student/graduate explains and integrates advanced research methodologies, ethical principles, and social responsibility into management practice. ▪ The student/graduate is familiar with methods and techniques for collecting and processing data using statistical tools.
Skills	▪ The student/graduate uses ICT and data analysis tools to support evidence-based managerial decision-making. ▪ The student/graduate understands the role of data in supporting the decision-making process.
Responsibility & Autonomy	▪ The student/graduate assumes responsibility for managerial decisions and their impact on teams, resources, and long-term organizational performance.

7. Objectives of discipline (resulting from the grid of specific skills acquired)

7.1 General objective of discipline	• To provide students the basic data analysis and modeling concepts and techniques
7.2 Specific objectives	• To understand role of data within an organization and its importance in the decision-making process • To collect, review and transform the data to prepare for data analysis process • To understand the difference between the quantitative and qualitative data when it comes to data analysis

8. Contents

8. Contents		
8.1 Course (C)	Teaching methods	Observations
8.1.1. Data analytics and modelling overview. The Data Ecosystem	Lecture, case studies, problem-solving, debate, deduction, illustration	
8.1.2. Qualitative data analysis vs. quantitative data analysis		
8.1.3. Descriptive analysis		
8.1.4. Differences analysis		
8.1.5. Associative analysis		
8.1.6. Predictive analysis		
8.1.7. Evaluation of activity		
Bibliography		
1. Burns, A. C., Veeck, A., & Bush, R. F. (2017). <i>Marketing research</i> (8th ed.). Pearson Education Limited. ISBN 978-0134167404. 2. Burns, A. C., & Veeck, A. F. (2020). <i>Marketing research</i> (9th ed.). Pearson. ISBN 978-0135636503. 3. Macquarie University. (n.d.). <i>Statistics and data analysis with Excel specialization</i>. Coursera. https://www.coursera.org/specializations/excel-for-statistics-and-data-analysis 4. Ngai, E. W. T., Xiu, L., & Chau, D. C. K. (2009). Application of data mining techniques in customer relationship management: A literature review and classification. <i>Expert Systems with Applications</i>, 36(2), 2592–2602. https://doi.org/10.1016/j.eswa.2008.02.021 5. Popa, A. L. (2013). <i>Cercetări de marketing – Note de curs</i>. Editura Universității din Oradea. ISBN 978-606-10-1074-5.		

6. Popa, A. L. (2026). <i>Cercetări de marketing: Suport de studiu individual</i>. Departamentul ID, Universitatea din Oradea. 7. Provalis Research. (n.d.). <i>QDA Miner: Qualitative data analysis software</i>. https://provalisresearch.com/products/qualitative-data-analysis-software/ 8. The Open University. (n.d.). <i>Data analysis: Visualisations in Excel</i>. OpenLearn. https://www.open.edu/openlearn/science-maths-technology/data-analysis-visualisations-excel		
8.2 Seminar (S)	Teaching methods	Observations
8.2.1. Week 1 – Intro	Problem-solving, case studies, debate, deduction, applications, examples	
8.2.2. Week 2 – The project framework. The SERVQUAL Model. The Dataset of responses.		
8.2.3. Week 3 – Construction of SERVQUAL Scores		
8.2.4. Week 4 – GAP Analysis (E – P)		
8.2.5. Week 5 – Differences Between Segments		
8.2.6. Week 6 – Correlation Analysis: Identify associations between variables		
8.2.7. Week 7 – Regression Analysis		
8.2.8. Week 8 – Digitalization Impact		
8.2.9. Week 9 – Sustainability Analysis		
8.2.10. Week 10 – Managerial Report (main observations and managerial implications). Presentations		
8.2.11. Week 11 – Presentations		
8.2.12. Week 12 – Presentations		
8.2.13. Week 13 – Presentations		
8.2.14. Week 14 – Conclusions		
Bibliography:		
1. Burns, A. C., Veeck, A., & Bush, R. F. (2017). <i>Marketing research</i> (8th ed.). Pearson Education Limited. ISBN 978-0134167404. 2. Burns, A. C., & Veeck, A. F. (2020). <i>Marketing research</i> (9th ed.). Pearson. ISBN 978-0135636503. 3. Macquarie University. (n.d.). <i>Statistics and data analysis with Excel specialization</i>. Coursera. https://www.coursera.org/specializations/excel-for-statistics-and-data-analysis 4. Ngai, E. W. T., Xiu, L., & Chau, D. C. K. (2009). Application of data mining techniques in customer relationship management: A literature review and classification. <i>Expert Systems with Applications</i>, 36(2), 2592–2602. https://doi.org/10.1016/j.eswa.2008.02.021 5. Popa, A. L. (2013). <i>Cercetări de marketing – Note de curs</i>. Editura Universității din Oradea. ISBN 978-606-10-1074-5. 6. Popa, A. L. (2026). <i>Cercetări de marketing: Suport de studiu individual</i>. Departamentul ID, Universitatea din Oradea. 7. Provalis Research. (n.d.). <i>QDA Miner: Qualitative data analysis software</i>. https://provalisresearch.com/products/qualitative-data-analysis-software/ 8. The Open University. (n.d.). <i>Data analysis: Visualisations in Excel</i>. OpenLearn. https://www.open.edu/openlearn/science-maths-technology/data-analysis-visualisations-excel		

9. Corroboration of the contents of the discipline with the expectations of the epistemic community, professional associations and employers representing the field of study of the program

The students will be provided with examples and study cases regarding how companies' data could be turned into valuable insights through appropriate data analytics tools and techniques.

10. Use of Generative Artificial Intelligence-Based Tools

For this course:

- **students may use *Generative Artificial Intelligence (GenAI)* tools for:**
 - A support tool in the learning process
 - Generating ideas in the context of developing projects
 - The process of editing and/or revising the final documents to be uploaded to the platform
- **Students may NOT use *Generative Artificial Intelligence (GenAI)* tools to generate text, images, sections of the documents required for assessment, data analysis, or the generation of graphs without stating that these were created using *GenAI* (including the name of the tool used).**

Among the most widely used tools of this type are, but are not limited to, ChatGPT, Google Gemini, Copilot for text drafting, and MidJourney for image generation.

Each student is required to state, through a separate declaration prepared for each assignment, in accordance with the template provided in Annex 2 of the Regulation on the Use of Generative Artificial Intelligence in Teaching and Scientific Activities at the Faculty of Economic Sciences, University of Oradea, the tool used, the specific way in which it was used, and the section in which it was used. The declaration shall be inserted at the beginning of the work corresponding to the respective assignment.

11. Assessment

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Percentage of the final grade
10.4 Course (C)			
10.5 Seminar (S)			
10.6 Laboratory (L)	- Completion of the 14 assignments - Participation to the seminar classes including the presentation of the project	Continuous assessment/ project elaboration	80%
10.7 Project (P)	- Knowledge and understanding of the course content - Demonstration of creative and original ideas	Project presentation	20%
10.8 Practical works (P)			
10.9 Minimum performance standard Knowledge and understanding of course content to the essential ideas Obtaining at least 5 points (out of 10) for the seminar activity Obtaining at least 5 points (out of 10) at final test			

Date

15.09.2026

Course titleholder:

Lecturer Adela-Laura POPA, Ph.D.
E-mail address: apopa@uoradea.ro

Seminar titleholder:

Lecturer Adela-Laura POPA, Ph.D.
E-mail address: apopa@uoradea.ro

**Director of Department,
Professor habil. Maria-Madela ABRUDAN, PhD**

Date of approval in the Department:

25.09.2026

Contact data:

University of Oradea, Faculty of Economic Sciences, Management-Marketing Department
Universității 1, Building Corp E, floor 1, room E118
Zip code 410087, Oradea, Bihor, Romania
Tel.: 0259-408796;
E-mail: steconomice@uoradea.ro
Web page: <http://steconomiceuoradea.ro>

**Dean,
Professor habil. Diana SABĂU-POPA, PhD**

Date of approval in The Council of the Faculty of Economic Sciences:

28.09.2026

Contact data:

University of Oradea, Faculty of Economic Sciences
Universității 1
Zip code 410087, Oradea, Bihor, Romania
Tel.: 0259-408109; Fax: 0259-408409
E-mail: steconomice@uoradea.ro
Web page: <http://steconomiceuoradea.ro>