

Course Specifications

Valid as from the academic year 2024-2025

Analytical Customer Relationship Management (F000881)

Course size				
Credits 8.0	Study time 240 h			
Course offerings and t	eaching methods in academic	year 2025-2026		
A (semester 1)	English	Gent	seminar lecture group work independent wor	'k
Lecturers in academic	year 2025-2026			
Van den Poel, Dirk EB23			lecturer-in-charge	
Offered in the following programmes in 2025-2026			crdts	offering
Master of Science in Data Science for Business			8	А
Teaching languages English				
Keywords				
Marketing model CRISP-DM, logisti	s, Quantitative methods in marke c regression, Python.	eting, CLV, LTV, Data Mining,		
Position of the course				
This course provi modeling. The main purpose quantitative mod high-level data n model constructi The program aim is to train and ed can support the r Emphasis is place company setting.	des a refresher of some basic ted e of this course is to learn to und els for analytics in CRM. Much at hanipulation and modeling langu on. s at providing a thorough scienti ucate marketing graduates spec narketing strategy and marketin ed on the practical use of these a	chniques required for marketing lerstand the most important tention will be paid on learning a lage as well as techniques of fic training. The overall objective ialised in marketing analysis, who g action plans of a company. malysis techniques within a		
Contents				
 Basic technique econometrics statistics (sta In-depth cover CRM modeling Customer Rel acquisition an Data Mining (C Feature Engine data. High-level data 	es for marketing modeling: (regression analysis) tistical tests) age of logistic regression and de ationship Management (CRM), a nalysis, growing customers, reter RISP-DM) methodology eering: models need variables to a manipulation and modeling lar	ccision trees for classification nalysis of CRM: customer ntion analysis. be computed based on existing nguage (Python software with		

- python packages) 7. Customer Lifetime Value (CLV) r
- 7 Customer Lifetime Value (CLV) modeling8 Data visualization for decision support

Initial competences

Introduction to statistics.

Final competences

- 1 Awareness of the most importants quantitative CRM models in marketing and their assumptions.
- 2 Building CRM models for customer acquisition/up- or cross-sell/customer churn.
- 3 Mastering a higher level programming language for data manipulation and modeling (Python).
- 4 Using the appropriate techniques for model building and developing creative approaches to solving real-life problems.
- 5 Taking appropriate business decisions based on the outcomes of analytical models and communicating results en conclusions towards professionals and laymen using complex data structures.
- 6 Feature Engineering: Creative construction of variables to be used in marketing models.
- 7 In-depth coverage of research methodology (logistic regression, classification models)
- 8 Applying a literature study in international, peer-reviewed journals to CRM problems.
- 9 Validating the results of one's own research with existing CRM literature
- 10 Executing a real-life business case study in an international and
- interdisciplinary team with different levels of experience.

11 Delivering a professional oral report on complex issues and their solutions.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Group work, Seminar, Lecture, Independent work

Extra information on the teaching methods

Interactive excercices about marketing models, using programming languages and /or software tools. Active class discussions of the different techniques and models.

Study material

Type: Slides

Name: Slides and papers Indicative price: Free or paid by faculty Optional: no Language : English Available on Ufora : Yes

References

Course content-related study coaching

Numerous exercises are being solved during sessions. In addition, assignments (to be solved in teams) are handed out. Students receive coaching in the process of solving the assignments and feedback afterwards (collectively, by team and individually). After the tests about the programming language Python and the content aCRM students will receive individual feedback & coaching.

Assessment moments

end-of-term and continuous assessment

Examination methods in case of periodic assessment during the first examination period

Examination methods in case of periodic assessment during the second examination period

Examination methods in case of permanent assessment

Oral assessment, Skills test, Written assessment with open-ended questions, Peer and/or self assessment, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

Written and oral to determine to what extent the student mastered (1) the principles of analytical CRM, (2) the higher programming language Python and Python Packages and (3) formulating business conclusions based on results optained by using marketing models.

The use of generative AI is not allowed during the programming exam.

Calculation of the examination mark

Exam in exam period (60%), permanent evaluation (40%)

The total grade is computed as follows:

 $60\% \ \mathrm{aCRM}$ programming exam in Python during the exam period

40% group assignment during the academic year (potentially adjusted by peer assessment).

To pass, a student should pass both parts of the evaluation. If a student does not pass for both parts and the score is 10/20 or more, the score will be reduced to 9/20.