



**CENTRAL EUROPEAN UNIVERSITY
DEPARTMENT OF ECONOMICS
AND BUSINESS**

**CAPSTONE PROJECT REGULATIONS
FOR THE MASTER OF SCIENCE IN BUSINESS ANALYTICS PROGRAM**

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1. The project

The goal of the final project is to expose the students in Business Analytics to a complete analytics workflow with a variety of tasks at a company or other organization (e.g. research institute, hospital, school, government office). They will use the full spectrum of skills acquired in the program, challenge themselves, have a valuable learning experience in the process and create value for the partner company. Throughout the project, students will interact with different stakeholders in the host organizations, including decision makers, functional experts, analysts, IT engineers, and vendors of analytics solutions.

Students will have to carry out a project that generates useful content for the partner organization. The partner may be the organization they currently work for or independent ones contacted by CEU. The project must be individual, for any kind of joint work the program director's approval is needed. The project should be analytics-related, challenging and should have a clear and valuable outcome for the partner.

A few typical examples for potential projects:

- Finding relationships between an outcome (e.g. sales, downloads, clicks) and client features
- Fraud detection on a sample dataset
- Designing a decision-support model based on data
- Developing a precision solution for agriculture
- Building a predictive model of customer behavior
- Designing a data-based smart solution for improving production, sales, logistics, healthcare, HR, etc.
- Model building to cluster clients by behavior and discovering new ways of market segmentation
- Designing the architecture of a new data warehouse
- Designing and evaluating experiments through data analysis
- Designing and evaluating a data intensive survey

2. Capstone project deliverables

Before the project kick-off the student needs to deliver a half page document describing the following:

- topic of the selected / assigned project
- the problem to be solved and the desired outcome including the acceptance methodology and criteria of success
- high-level project plan including the main activities and approach, highlighting the role and activities of the student

The **output** of the project should be three documents:

1. Project Presentation. While it may include some technical aspects, it is targeting the goals of stakeholders at the partner and should focus on the problem and the way to the solution. About 10-20 slides. It is expected that the project is indeed presented for fellow students and faculty unless
 - a. It is prohibited by non-disclosure agreement
 - b. The student is no longer located in Budapest.
2. Project Technical Discussion. This document contains all the details. It is targeted at data scientists, chief technological officers and peers. This technical paper (presentation or a document) should have a detailed description of all aspects of the work, including data description and methodology. It has no length constraint.
3. Public Project Summary. A three-page essay summarizing work. This may be shared publicly. It should be written in a content that anybody (not just technical people) would understand the main findings of the project, what is the business value that was perceived.

3. The process

The program director assigns each student with a *capstone project manager* from the faculty. The capstone project manager's task is

1. Assign an industry partner (a company/institution and an industry supervisor person)
2. Help the student through legal and administrative hurdles with her industry partner
3. Evaluates the reflection of the faculty supervisor and confirms the final grade

The program director assigns each student a faculty supervisor. The *faculty supervisor* can be permanent or visiting faculty. The supervisor's task is to

1. Help the student find a topic and approve the capstone project topic
2. Offer professional / technical advice during the process, have regular meetings (in person or online)
3. Assesses the outcome of the project by giving a written reflection of the results
4. After discussing the project's output with the partner organization, makes a recommendation for the final grade

All capstone project documents should be submitted to the faculty supervisor by the deadlines below.

In agreement with the industry partner, the student may work on site, as the activities require. The capstone project manager should be informed, but this does not require approval from faculty.

4. Expectations / Project grading

- **A:** All three documents are submitted as required. The project offers new insight and shows originality. It is carefully prepared, documents are clear and well written. The project discussion has a high technical quality.
- **A-:** All three documents are submitted as required. The project offers interesting insight. It is carefully prepared, documents are clear and well written. The project discussion has a high technical quality with minor flaws.
- **B+/B/B-:** All three documents are submitted as required. The project lacks originality and/or the execution is problematic.
- **Fail:** Not all documents are submitted. The goals and organization of the project are unclear or differ so much from the eventual output, that evaluation is impossible.

5. Deadlines

- Consultation between students and capstone project manager: February / March
- Appointing industry partner: March 31
- One-page project plan: April 15
- Appointing academic supervisor: April 30
- Draft project report: June 30 (Full time) // September 30 (Part time)
- Final project output delivery July 31 (Full time) // December 15 (Part time)

Additional milestones are set by the faculty supervisor. Final deadline delay must be approved by the program director.