



CAPSTONE PROJECT REGULATIONS
FOR THE
MS IN BUSINESS ANALYTICS
MS IN FINANCE
MS IN TECHNOLOGY MANAGEMENT AND INNOVATION
PROGRAMS

Last updated: February 14, 2019

1. MISSION AND OBJECTIVES

The capstone project is an individual consulting field assignment, which business Master of Science (MS) students undertake as professional consultants to a company or other client organization.

The project is a culminating and integrative element of the business MS programs. Students undertake the project towards the end of their studies. They must use the spectrum of knowledge and skills they have acquired, and have a valuable learning experience in the process. Throughout the project, they will interact with different stakeholders including decision makers, functional experts and analysts.

The client may be a company or any other host organization (e.g. advisory, research institute, government office, charity, school). It may be an organization that the student already works for, or an independent client solicited by the student or CEU. In agreement with the client, the student may work onsite or offsite as the activities require.

The project must be challenging and answer a real client need with clear and valuable outcomes. It must be feasible within the project timeline. It must be individual work; any kind of joint work requires approval of the respective MS program head.

2. DELEGATION OF RESPONSIBILITIES

The project is owned and governed by the student. As expected from a professional consultant, the student is responsible for all aspects of the project, including for

- establishing the client's needs, diagnose problems, develop and execute a realistic project plan
- maintaining a rich working relationship with the client, including through regular project updates
- providing clear actionable recommendations and assisting implementation as necessary.

The client assigns a project sponsor to serve as the student's main contact. They must be available to the student for professional and technical guidance. The time they spend on the project will depend on the project's nature and scope. We recommend weekly update meetings in person or online.

The client is asked to meet the student's expenses associated with the project, if any. The student should not incur expenses without the client's prior approval.

CEU assigns a faculty supervisor to serve as the student's academic contact and examiner. They can be permanent or visiting faculty. They must be available for professional and technical guidance. They are responsible for examining the project output and recommending a final grade.

All capstone projects are overseen by the capstone project manager appointed from CEU faculty. The capstone project manager is responsible for

- soliciting and approving high-level capstone project proposals from prospective clients
- matchmaking between clients and students as necessary
- guiding students through legal and administrative hurdles with their clients
- communicating project processes, requirements, deadlines and other operative issues.

3. PROJECT PROCESS

Getting Started

The student and project sponsor develop the project initiation document (PID). The MS program head and faculty supervisor are consulted and assist the process as necessary. The PID specifies

- the project's background and key objectives
- the desired outcomes including interim and final deliverables, the client's acceptance methodology and criteria of success
- a high-level project plan and schedule describing the main activities and approach, highlighting the role and activities of the student.

The project launches with submission of the following documents to the MS program head and capstone project manager:

- the PID, approved by the MS program head and signed by the student, project sponsor and faculty supervisor
- a letter of terms, signed by the project sponsor
- a non-disclosure agreement (NDA), signed by the student and faculty supervisor.

During the Project

The project sponsor and faculty supervisor must be available at all times for professional and technical guidance. Weekly update meetings in person or online are recommended.

The student may work onsite or offsite as the activities require. The faculty supervisor should be informed about the student's location.

The student must submit an interim progress report to the faculty supervisor midway through the project. The progress report should discuss the status of the project plan, any interim outcomes, work to be done, and any problems or issues.

Final Deliverables

1. Project presentation. The presentation is submitted to the project sponsor and faculty supervisor. It should have a slideshow format with 10-20 slides. While it may include some technical aspects, it should focus on the problems, way to the solutions, key outcomes and actionable recommendations. The student may be requested by the project sponsor, faculty supervisor or MS program head to do a presentation showcase. The showcase may be attended by other client stakeholders, as well as CEU faculty and students with the prior consent of the proposal sponsor.
2. Project technical discussion. This technical document (paper or presentation) is submitted to the project sponsor and faculty supervisor. It is designed to the client's requirements and held confidential by the faculty supervisor as per the NDA. It should deliver a detailed description of all aspects of the work, including data description and methodology. It has no length constraint but must be comprehensive, well-structured, and illustrated as necessary.
3. Public project summary. This three-page essay is submitted to CEU's [Electronic Theses and Dissertations](#) database. It is designed for a general audience with all confidential information, including the client's name if required, removed. It should summarize the work done, its benefits to the client, key outcomes, and the student's learning experience including lessons learnt.

4. DEADLINES

- Student consults with capstone project manager and respective MS program head as necessary on project ideas, processes, requirements and other related issues: February / first half of March
- Student is assigned to client organization: March 14
- Student submits PID developed with project sponsor to MS program head and capstone manager for approval: April 5
- CEU appoints faculty supervisor, project begins with submission of project kickoff documents (PID, letter of terms and NDA): April 25
- Student submits interim progress report to faculty supervisor: May 24
- Student submits final deliverables to faculty supervisor: June 19.

Additional milestones may be set by the faculty supervisor.

Students may request a deadline extension to complete their capstone project. Any deadline extension must be requested from and approved by the MS program head. The maximum length of extension is 24 months. During the extension the student will no longer be in an enrolled status at CEU.

The final capstone project completion deadline of June 19, 2019 is binding and mandatory for

- all students (full-time and part-time) who seek to earn the Hungarian Postgraduate Non-degree Specialization Program certificate as part of the MS in Finance program
- all non-EU/EEA students who seek to apply for a Hungarian [Residence Permit for the Purpose of Job-searching or Entrepreneurship](#).

5. EXPECTATIONS / PROJECT GRADING

The project is graded by the MS program head on the recommendation of the faculty supervisor, who

- discusses the project output with the project sponsor
- gives a short written reflection on the final outcomes, the potential benefits for the client, the quality of the output, and their opinion on the student's professional performance
- makes a recommendation for the final grade.

Grading scale:

- **A:** The work shows genuine flair, insight and originality. All final deliverables are completed, and are professionally prepared, comprehensive, clear and well-written. The technical discussion has a high technical quality. The presentation showcase, if required, is well-rehearsed and professional.
- **A-:** The work shows considerable depth, insight and originality. All final deliverables are completed and professionally prepared. The technical discussion has a high technical quality with minor flaws. The presentation showcase, if required, is reasonably well-rehearsed, effective and professional.
- **B+/B/B-:** The work is competent, but has shortcomings in depth, insight and originality and/or the execution is problematic. All final deliverables are completed.
- **Fail:** Chronic weaknesses in the work submitted. The project output is poor, unclear, or differs so much from the project outcomes desired by the client that evaluation is impossible. Not all final deliverables are completed as required.

6. MORE INFORMATION

For more information please visit the capstone project's [CEU e-learning page](#) regularly.

7. TYPICAL PROJECT EXAMPLES

MS in Business Analytics

The student must be exposed to a complete analytics workflow with a variety of tasks. Throughout the project, the student will interact with different client stakeholders such as decision makers, functional experts, analysts, IT engineers, and vendors of analytics solutions. Typical project examples:

- 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 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

MS in Finance

The student must undertake a finance-related consulting project. Throughout the project, the student will interact as necessary with different client stakeholders such as decision makers, functional experts, analysts and advisors. Typical project examples:

- Financial review, market survey and strategy for a company, business unit or product
- Financial planning and valuation for a new venture
- Financial markets advisory including fundraising, optimizing funding structures
- Transaction advisory and due diligence for a company or private equity firm
- Improving financial management or financial reporting processes
- Risk management benchmarking and best practice analysis
- Analysis of complex financial instruments
- Investment consulting and portfolio management
- Real estate valuation and transaction advisory
- Exploring opportunities for fintech innovation, uses of technology to improve financial services
- Preparing a business plan or (digital) marketing strategy for a new fintech venture

MS in Technology Management and Innovation

The student must undertake an IT and/or innovation-related project. Throughout the project, the student will interact with different client stakeholders such as decision makers, functional experts, analysts, IT specialists, and IT and innovation vendors. Typical project examples:

- Preparing a project plan for a new IT service
- Conducting an IT leadership analysis and preparing a plan for improvement
- Organizational audit of the IT unit and IT processes; generating ideas for reducing costs and improving the controlling system; preparing a security audit and ideas for improvement
- Strategic and financial analysis of large-scale IT investment options
- Preparing a plan with a business case for IT outsourcing / insourcing; preparing a plan for improving vendor selection and the complete technology buying process
- Preparing a project plan for a digital marketing campaign; designing a new e-commerce marketing and sales channel
- Generating a data strategy or IoT strategy with implementation plan
- Designing a new smart system with implementation plan
- Preparing a detailed business plan for a new technology venture.