

CAPSTONE PROJECT REGULATIONS

FOR THE

MS IN BUSINESS ANALYTICS

MS IN FINANCE

2021-2022

Last updated: September, 2021

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 client organization.

- **The project runs March to early June.** CEU provides matchmaking January to early March. The timeline is flexible as per the client's needs. See Section 4 for the project timeline and process.
- **The client may be any organization** e.g. corporate, advisory, startup, investor, research institute, government, charity.
- **Students must apply the spectrum of skills they have acquired.** They should interact with different stakeholders including decision makers, analysts, functional experts and vendors.
- **Students may work as an external consultant, intern or employee.** They may work onsite or remotely. The work must be individual; joint work requires approval of the program head.
- **The project must answer a real client need with clear and valuable outcomes.** It must be feasible within the project timeline.
- **The project is confidential.** Rights to the work and deliverables produced vest in the client.

2. STUDENT SKILLS AND POSSIBLE PROJECTS

Students are professionally and internationally diverse and have a broad range of preexisting skills.

MS in Business Analytics: Students must participate in a complete analytics workflow. They have covered a broad mix of coding, data analytics, data science, data engineering, data visualization and analytics management.

MS in Finance: Students complete a finance-related project. They have covered a broad mix of financial management, investments and banking, innovation and fintech, coding, data analytics and data visualization.

See Appendix 1 for typical project examples, and the [capstone website](#) for the program curricula.

3. RESPONSIBILITIES

The student owns and governs the project as a professional consultant. They

- establish the client's needs, diagnose problems, develop and execute a realistic project plan
- maintain a rich working relationship with the client throughout the project
- provide clear actionable recommendations and assist implementation as necessary.

The client assigns a project sponsor to serve as the student's main client contact. They

- are available for professional and technical guidance. The time they spend on the project will depend on its nature and scope. We recommend weekly update meetings in person or online
- discuss the student's project performance with the capstone project manager as necessary
- complete the client feedback form on the project's conclusion.

CEU appoints senior faculty as capstone project manager(s). They

- solicit and approve high-level project proposals, do matchmaking between clients and students
- communicate project processes, requirements, deadlines and other operative issues
- guide students and clients through any legal and administrative hurdles
- discuss the student's project performance with the project sponsor as necessary.

The student may request a faculty supervisor for professional and technical guidance. CEU can only commit to providing faculty supervision between March and June.

4. PROJECT PROCESS AND TIMELINE

The project timeline is flexible, the client may request earlier dates and additional milestones. The below dates are final administrative deadlines for students who wish to graduate in June 2022.

- **January-early March:** Client submits high-level project proposal(s) [here](#). Student contacts capstone project manager with expressions of interest, any preferences, or requests. The capstone project manager must be informed of any direct client-student communication.
- **March 15:** Capstone project manager assigns student to project. Client assigns project sponsor.
- **April 6:** Student submits Project Initiation Document, any request for faculty supervision to program coordinator. The student works with the project sponsor to develop the draft PID.
- **April 20:** Project begins. The project kickoff documents (PID, letter of terms, NDA) are finalized and signed. The Program Head appoints the faculty supervisor (if any) based on the suggestion of the Capstone Project Manager.
- **May 15:** Student submits interim progress report to program coordinator. The report should discuss the project's status, interim outcomes, work to be done, any problems or issues.
- **June 13:** Student submits final deliverables to project sponsor and program coordinator.

If the student cannot complete the capstone project by June 13, 2022, he/she may request an extension by notifying the Program Head, Program Co-Head, Capstone Project Manager, and the Program Coordinator. The default length of extension is 12 months, with the student reassigned to the next year project cycle with similar deadlines for graduation in June next year. The extension of the capstone project cannot be a basis for extending enrollment at CEU; on June 30, CEU status of students postponing their capstone project will be changed from "Enrolled" to "Absolutorium, thesis due".

Students cannot seek an extension and must complete the capstone project by June 13, 2022 if:

- They seek to earn the Hungarian Postgraduate Non-degree Specialization Program certificate
- They are a non-EU/EEA national and seek to apply for a [Residence Permit for the Purpose of Job-searching or Entrepreneurship](#).

5. FINAL DELIVERABLES

1. **Project presentation.** A presentation in a slideshow format with 10-20 slides. While it may include some technical aspects, it should focus on the problems, way to the solutions, actionable outcomes and recommendations.

The student *may* be requested to do a presentation showcase by the project sponsor, capstone project manager or program head. The showcase may be attended by other client stakeholders, as well as CEU faculty and students subject to the prior consent of the proposal sponsor.

2. **Project technical discussion.** A complete consulting-style report of at least 20-25 normal A4 pages of text or McKinsey-style slides (two slides per page), plus screenshots, data tables, graphs and other visuals as necessary integrated with the text or presented as appendices. It must be designed to the client's needs and requirements. It must be comprehensive and deliver a detailed description of all aspects of the work.

3. **Public project summary.** A three-page essay summarizing the project and uploaded to CEU's [Electronic Theses and Dissertations](#) database. It must be designed for a general audience with any 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. *See Appendix 2 on how to submit the public project summary.*

6. EXPECTATIONS / PROJECT GRADING

The project is worth a total of eight (8) CEU credits. It is assessed in two steps:

- **Capstone Project Writing (4 cr):** graded on the student's initial plans, progress and professional performance, including the interim project report to be submitted by May 15.
- **Capstone Project (4 cr):** graded on the quality of the final project output and the student's professional performance.

The assessment is performed by the Capstone Project Manager(s). They

- request the project sponsor to complete the client feedback form
- give a short, written reflection on the quality of the final deliverables, the project output's relevance and potential benefits for the client, and the student's professional performance
- make a recommendation for the final grade.

The project is graded by the Program Head or Program Co-Head, based on the Capstone Project Manager's and the Client's assessments.

7. CONTACT

- Clients: Please submit project proposals on the [capstone project website](#), or contact György Bőgel (bogelgy@ceu.edu), Ibolya Schindele (schindelei@ceu.edu) or Szarvas Krisztina (szarvask@ceu.edu).
- Students: For materials and more information please visit the CEULearning (Moodle) page.

	MS in Business Analytics	MS in Finance
Capstone Project Manager	György Bőgel Visiting Professor	Ibolya Schindele Visiting Professor, Program Co-Head
Program Coordinator	Eszter Fuchs	Anita Apor
Program Head	Miklós Koren Professor	András Danis Associate Professor
Program Manager	Krisztina Szarvas	

APPENDIX 1: CAPSTONE PROJECT EXAMPLES

MS in Business Analytics. Students must participate in a complete analytics workflow. They have covered a broad mix of analytics, data science, data engineering, visualization, analytics management.

coding • data analysis • ML • visualization • architecture • big data & cloud computing • text mining • web scraping • deep learning • product analytics • data management • agile • banking IT • fintech

- 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. Students must complete a finance-related project. They have covered a broad mix of financial management, investments and banking, innovation, fintech, coding, analytics and visualization.

planning • valuation • funding • treasury • risk • M&A • banking • investment banking • PE/VC • asset management • pricing • trading • coding • analytics • ML • visualization • banking IT • fintech • startup

- 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
- Preparing a detailed business plan for a new technology venture.

APPENDIX 2: SUBMISSION OF PUBLIC PROJECT SUMMARY

The student submits this three-page essay to CEU's [Electronic Theses and Dissertations](#) database. It is designed for a general audience with 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.

Notes:

- Please consult [this website](#) with important information before uploading the summary.
- Please make it clear on the front page that this is a capstone public project summary.
- Please ensure that the project title is relevant, properly demonstrates the work done, and is spelled correctly without any mistakes. What you see in SITS will appear on your transcript.

- ETD cannot handle documents that are shorter than ten (10) pages. Therefore, please submit the summary with any necessary empty pages at the end, otherwise you will not be able to proceed.
- ETD only accepts bookmarked PDF files. Please follow these instructions to avoid the missing bookmarks error message when uploading:
 - The title(s) in the MS Word document should be formatted with Heading styles, then proper PDF conversion settings are needed to get the PDF bookmarked.
 - If the document has a single title, it should be set to Heading 1 style; subtitles (if any) should be set to Heading 2 style etc. (Heading 1 is normally used for chapter titles.)
 - If default Heading style font settings do not fit the requirements they can be modified. (They definitely do not fit the general CEU thesis formatting requirements.)
 - In necessary please consult [How to get a bookmarked PDF from MS Word document](#).
- When uploading the summary, please choose Economics as the department.
- Once you have uploaded the summary, please inform your program coordinator. They will check and move data including the project title to SITS. You will then be asked to open SITS and check your thesis data and thesis credits in the Thesis Info section. It is critically important that the project title in ETD and SITS are identical.
- Please contact your program coordinator in case you need further information or assistance.