Capstone Objectives

- Experience problem solving using a combination of tools and techniques in analytics.

- Learn practical implementation of various analytical techniques and choose the one which gives results most appropriate for business.

- Understand the trade-offs that need to be made when solving a problem in real life.

- Develop better presentation and report-writing skills

Capstone Project Timelines

Capstone Timelines		
Activities	**Scheduled Dates**	**Day**
Elective Project submission link live	Jan 14	Saturday
Capstone Project Briefing Session	Jan 16	Monday
Elective Project submission deadline	Jan 19	Thursday
Milestone 1 submission link live	Jan 19	Thursday
Milestone 2 submission link live	Jan 23	Monday
Elective Project score release	Jan 24	Tuesday
Milestone 1 submission deadline	Jan 26	Thursday
Milestone 1 session	Jan 29	Sunday
Milestone 1 score release	Jan 30	Monday
Final Submission & Live Presentation submission link live	Jan 30	Monday
Milestone 2 submission deadline	Feb 2	Thursday
Milestone 2 session	Feb 5	Sunday
Milestone 2 score release	Feb 6	Monday
Final Submission deadline	Feb 9	Thursday
Live Presentation	Feb 11 & 12	Saturday & Sunday
Hackathon Registrations	Feb 13 - 17	Monday to Friday
Hackathon	Feb 18 - 21	Saturday to Tuesday
Closing Ceremony + Hackathon Winners	Feb 25	Saturday
Results and Grades	Feb 27	Monday
Final Certificates	Mar 15	Wednesday

Capstone Project

02 REGRESSION

01 UNSUPERVISED LEARNING

03 CLASSIFICATION

04 DEEP LEARNING

05 RECOMMENDATION SYSTEMS

Capstone Project

STAGES

1	**2**	**3**	**4**	**5**
Project Overview & Selection	**Project Release**	**Milestone 1**	**Milestone 2**	**Final Submission & Presentation**

MILESTONE 1

The first submission should focus on the following three aspects.

1. Problem Definition
   a. The context – Why is this problem important to solve?
   b. The objectives – What is the intended goal?
   c. The key questions – What are the key questions that need to be answered?
   d. The problem formulation – What is that we are trying to solve using data science?
2. Data Exploration
   a. Data Description – What is the background of this data? What does it contain?
   b. Observations & Insights – What are some key patterns in the data? What does it mean for the problem formulation? Are there any data treatments or pre-processing required?
3. Proposed approach
   a. Potential techniques – What different techniques should be explored?
   b. Overall solution design – What is the potential solution design?
   c. Measures of success – What are the key measures of success?

Please note that submission consists of two parts.

1. Report – Slides or a PDF. The expectation is for this submission to be crisp and to the point, highlighting the key takeaways so far. Generally, it is not more than 3-5 pages long
2. Solution code – Please attach your Python code in HTML format.

- The milestone sessions are similar to mentored learning sessions. There will only be one session per weekend.
- The milestone submissions are to be submitted before 2 days of the milestone session.

CAPSTONE SCORING

Milestone 1	
Review Parameters	**Review points**
Problem Definition	2
The context	
The objectives	
The key questions	
The problem formulation	
Data Exploration	4
Data Description	
Observations and Insights	
Proposed Approach	4
Potential techniques	
Overall solution design	
Measures of success	
Total	**10**

MILESTONE 2

The second submission should focus on the following aspects:

1. Refined insights – What are the most meaningful insights from the data relevant to the problem?
2. Comparison of various techniques and their relative performance – How do different techniques perform? Which one is performing relatively better? Is there scope to improve the performance further?
3. Proposal for the final solution design – What model do you propose to be adopted? Why is this the best solution to adopt?

Please note that submission consists of two parts.

1. Report – Slides or a PDF. The expectation is for this submission to be crisp and to the point, highlighting the key takeaways so far. Generally, it is not more than 3–5 pages long
2. Solution code – Please attach your Python code in HTML format.
- The milestone sessions are similar to mentored learning sessions. There will only be one session per weekend.
- The milestone submissions are to be submitted before 2 days of the milestone session.

CAPSTONE SCORING

Milestone 2	
Review Parameters	Review Points
Refined Insights	3
Comparison of various techniques and their relative performance	4
Proposal for the final solution design	3
Total	10

FINAL SUBMISSION

Please note that submission consists of two parts.

- Report – PDF. The expectation is for this submission to be crisp and to the point. It could vary from a 7 pager report to a 10 pager report depending on the findings from the analysis. Anything longer than this is likely to be too detailed. All the 'good to have' pages should be moved to appendix
- Live Presentation (pdf/ppt) – This will be the slide deck which can be used for the final stage of the presentation. This should be the concise version of the report suitable for the live presentation.
- Solution code – Please attach your full and final Python code / notebook in HTML format.

The final submission should focus on the key takeaways from the project.

The final report should have three key parts:

1. Executive Summary – What are the key takeaways? What are the key next steps?
2. Problem and solution summary – What problem was being solved? What are the key points that describe the final proposed solution design? Why is this a 'valid' solution that is likely to solve the problem?
3. Recommendations for implementation – What are the key actionables? What is the expected benefit and/or costs? What are the key risks and challenges? What other problems need to be explored and in what priority order?

CAPSTONE SCORING

Final Submission & Report	
Review Parameters	Review Points
Executive summary	15
Problem and solution summary	10
Recommendations for implementation	15
Total	40

LIVE PRESENTATION

This is the final stage of the Capstone journey.

Key points to note:

1. Structure the presentation well – It is good to start with key takeaways – overview of the problem, approach for the solution, key findings & insights, and recommendations & next steps. Inclusion of the potential benefits of implementing the solution will give you the edge.
2. You will be given 7.5 minutes to present and there will be a hard stop after 9 minutes; so practice well to present within the time limit.
3. This will be followed by 4-5 minutes of question & answer. Questions can be from a business or academic perspective (sometimes there might be a Subject Matter Expert sitting in the room alongside your business leader)
4. Focus on explaining the takeaways in an easy to understand manner (business leader wouldn't know about 'confusion matrix' but might understand '% of events (1s) predicted correctly by the model')
5. The final presentation should be submitted before the session.
6. The date & time will not change once finalized.

CAPSTONE SCORING

Live Presentation	
Review Parameters	**Review Points**
Quality of Slides - Structure, flow, and neatness	10
Understanding of the solution - Ability to explain concepts	15
Depth of analysis - Methodology & rigor	15
Total	**40**

SUPPORT SYSTEM

Role of a Mentor

A mentor is a guide who will enable you to achieve your project outcomes.

Here is a look at the four different hats that a mentor might be balancing throughout the project journey:

- **Consultant:** Share his/her own industry experience and provide direction with his/her expertise.
- **Guru/Mentor:** Provide knowledge, hacks, insights, guidance, identify resources to learn, and stay updated.
- **Leader:** Motivate and build confidence, offer encouragement, and help you move out of your comfort zone.
- **Devil's advocate:** Provide the tough feedback that you may need to hear in order to move forward, push you to take risks whenever appropriate.

What hats you should not expect a Mentor to wear during this Capstone Project:

- **Superhuman with turn-around times:** A mentor will take a couple of days to review your milestone submissions. Please submit within the timelines communicated by Program Office to receive timely feedback.

In order to get support during the Capstone journey you could resort to the following two options.

1. We shall create new group channels on slack on the basis of your project selection. You could engage in discussions with your peers.

2. We request that you kindly check the FAQ document for your project for any queries/questions. Additionally, our academic team shall guide you as in when you need them, too. You could raise support tickets through Olympus to seek their assistance for the queries unresolved through FAQ documents.

Please reach out to your Program Manager in case you require any further assistance.

ANY QUESTIONS?