

## **NUS Business Analytics Capstone Project**

The Business Analytics capstone project is a multifaceted culminating experience, allowing students to hone their technical and soft skills. Students who are pursuing their Bachelor of Science in Business Analytics will work in teams of 5 or 6 to design and develop solutions for real-world projects, which adds value to partnering organizations.

In this capstone project module, students are required to complete a real-world business analytics project based on principles that they have acquired throughout the degree program. The key emphasis of the project is on understanding the objectives of the analytics exercise, and applying appropriate analytic methods and techniques to deliver impactful solutions to real-life clients.

Students are also expected to deliver effective presentations of the findings through visualization techniques, oral presentations, and written communication, and exhibit important project management and teamwork skills to be effective in professional settings.

The analytic project may comprise a common back-end, analytical models (e.g. econometrics, machine learning, data mining, text mining) with two or more front-end applications/dashboards (any combination of desktop, web, or mobile applications). The project scope and complexity should be around 720-1200 man-hours and companies should ensure that all data and resources required for students to conduct the project is ready by the first week of the semester.

Companies may submit their proposal here (<https://app.comp.nus.edu.sg/app/capstone>).

Instructions to submit a project:

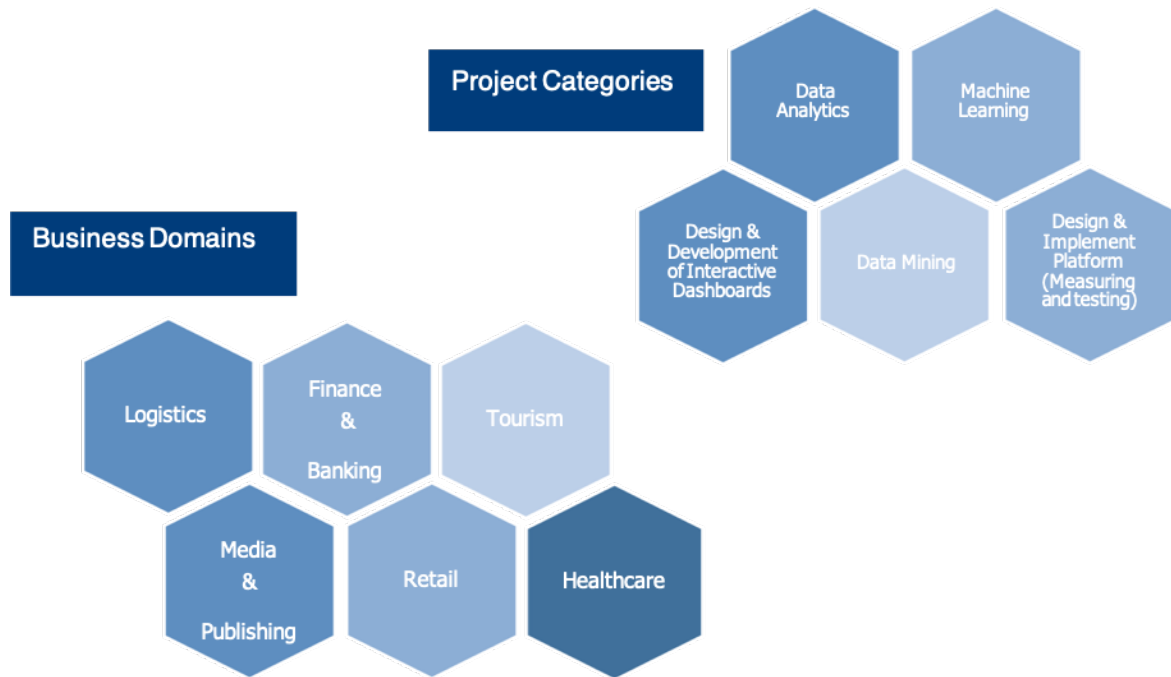
1. First register your company in the system and obtain login credentials. You will receive an activation email.
2. Once your account is activated, we will approve your registration in the system.
3. Then you can login to the system and submit your projects.
4. Based on the project scope, we will accept the project and you will receive an email invitation to submit the recorded presentation.

More details can be found in the FAQ page. If you have any further questions, you may contact the module instructors Dr. Shalinda Adikari: [shalinda@comp.nus.edu.sg](mailto:shalinda@comp.nus.edu.sg).

## FAQ

- What does it mean by a business analytics project?

The project is about solving a business analytics problem proposed by the company. This involves using the analytic skills that the students have learned in their degree program. The type of projects and business domains the previous teams have worked on are as follows:



- What is the program timeline?
  - **20/12/2024:** Deadline for online submission of project description
  - **21/12 – 22/12/2024:** Companies to be informed of selection for project briefing
  - **08/01/2025:** Companies to submit a recorded presentation about the company and the project
  - **15/01 – 16/01/2025:** Students bid for projects based on preference; companies to be informed of bidding results
  - **17/01 – 28/01/2025:** Project kickoff; students have visited the company and project supervisors
- How does a company can register in the Capstone system?

Go to the [Capstone system \(https://app.comp.nus.edu.sg/app/capstone/company/\)](https://app.comp.nus.edu.sg/app/capstone/company/) and enter your company details.

- What skills do students have for this project?

Our students are equipped with data management, data visualization, data modeling, and statistical skills, including developing predictive and optimization models using machine-learning concepts. In addition, they are competent in R and python.

- Does NUS provide access to different tools (Power BI, Tableau, etc.), or will the company need to grant internal access for students?

Students do have access to some tools at NUS like R, python, tableau, which they can use for their work. However, if there is any software required by the company that students do not have access to, then companies will need to provide access.

- What are the key deliverables required from industry partners in addition to the project descriptions, recorded company presentation upon selection, and assigning of project supervisors?

The other important deliverable from the company would be to provide students with access to the data and resources required to do the project, especially if there are specialized software that the students do not own, or NUS does not provide for them. As the project duration is short, it is important that all data and resources are made available to the students by August so.

- How often are supervisors expected to meet the students?

Supervisors generally meet with students once a week. This is necessary, as the project duration is short, and it would be helpful for students to get feedback weekly to be sure they are on the right track.

If multiple groups are assigned to a project, the company can decide whether to meet all the groups in one meeting or separate meetings.

- What are the expectations from the supervisors?

Be the point of contact between students and your company, facilitate and provide access to data and resources required for students to do the project, provide feedback to students to ensure their project is on track and meet business requirements, be available for final presentation and provide feedback/assessment of students' performance.

- How long should a weekly meeting be?

It depends. There is no fixed time duration. Based on the students' questions and feedback from the supervisors, it can be varied. During weekly meetings, supervisors can set milestones, assign tasks, provide technical advice, and any other relevant feedback.

- How many teams will be working on each project?

Usually, one team per project, but we may assign a project to multiple groups based on the student enrolment for the semester. At the time of project submission, the company can indicate whether they are willing to work with multiple groups.

- How many supervisors are needed per project?

The company can decide the number of supervisors to be assigned for each project and also they can decide if the same or different supervisors will supervise different projects.

- How many members per team?

Usually, there are 4-5 members. This depends on the module enrolment for the semester.

- Can multiple student groups be assigned the same project?

Yes, we're able to assign the same project to multiple groups. However, please indicate, as shown in the figure below (project submission form in Capstone System), how many project groups you would like to supervise for each project.

Can multiple student groups be assigned to this project?

Yes

If multiple groups are OK, how many **Student Groups** would you like to supervise for this project?

2

- Does the company select the students for the projects, or will they be assigned by NUS?

Students will bid for the projects based on their preferences, and projects are then assigned by the module instructors.

- Will all the proposed projects be assigned to student teams?

No, first module instructors will check the project scope, decide whether the scope is suitable for the module, and approve it. Once the project is approved, it is available for students to bid. Then based on the bidding results, module coordinators will assign the projects to students' teams.

However, if the student enrolment is low for the semester, not all approved projects will be assigned. The projects that are not assigned can be re-proposed for the next semester via the Capstone system.

- Where will students carry out this project? Will they be working on it remotely?

Yes, the company will host the students for the kickoff meeting. Thereafter, the students will work mostly remotely since they have to attend classes on campus. If there is a need for them to work on-site due to data security issues, arrangements will have to be made with the students. Some companies have provided remote access for students. It would be good if you could let students know the mode of work in your introduction presentation.

- What is the expected time commitment per week?

The students are working on this project as part of a module. So, their workload is equivalent to doing two normal modules, which is about a 20 hours workload per week per student. The project's duration is about 13 weeks, so the project scope and complexity should be around 720-1200 hours of work.

- What is IMPORTANT about DATA?

All data and resources required for the projects must be available by the kickoff meeting so the students can start their work right after the kickoff meeting. We do not encourage projects that expect students to collect publicly available data wholly – gathering publicly available data to complement company data is preferred. The students can do some preprocessing to transform the data such that it is useful for the analyses.

- Does the company need to pay any stipend for the students?

No, it is not required.

- What happens at the end of the project?

The students will do a final presentation where the supervisor would be invited to attend. Supervisors will also be given a rating form to provide their feedback and assessment on their performance. Students will also hand over all required deliverables to the company.

- Is it possible to sign an NDA with the students and module coordinators who assigned to the project?

Yes, it would not be a problem.

- Can we see some examples of successful projects from prior semesters?

We are unable to share specific examples and companies as all our projects are bounded by NDAs. However, we have done many projects involving various domains, including finance, healthcare, transportation, technology, entertainment, marketing, education, etc. The completed projects have involved developing dashboards applications (e.g., for customer-facing agents/staff, senior management, or analyst), trend analyses from mining and analyzing data (both company data and publicly available data), developing prediction models on demand and sales, and developing and implementing optimization models for resource allocations.