4E2 BAI Project [15 credits]

**Lecturer(s):** Assoc. Prof. Brian Caulfield [brian.caulfield@tcd.ie]

**Module organisation**
This module will span both semester one and two.

**Module description, aims and contribution to programme**
Projects are allocated in the areas of research expertise and interest of members of the academic staff in the Department of Civil, Structural and Environmental Engineering. Students will be provided with a list of projects and asked to choose a project from this list. The nature and content of the project is then discussed with the supervisor in the following weeks of the first semester.

**Learning outcomes**
On completion of this module the student will be able to:

1. Contribute individually to the development of scientific/technological knowledge in one or more areas of Civil Engineering.

2. Identify, assess and synthesize existing literature and research findings on an unfamiliar problem.

3. Apply a range of standard and specialised research tools and techniques to provide innovative and appropriate solutions to engineering problems of significant complexity.

4. Develop and apply theoretical, scientific and mathematical principles to effectively solve the research problem.

5. Design and conduct unsupervised experiments and to analyse and interpret data.

6. Apply and develop software to model engineering systems.

7. Discuss and critically evaluate the research findings and reflect on the strength and limitations of the research.

8. Assess the implications of the project outcomes for engineering practice.

9. Write a research dissertation to professional and academic standards using appropriate graphics and references.

10. Present complex ideas and material to peers and respond effectively to questions and criticism.
Teaching strategies
There are no formal timetabled hours associated with the project but students are expected to spend the time it takes to make reasonable progress and to keep in regular contact with their supervisors. It is recommended that students make formal arrangements with their supervisors.

Assessment
Interim project report (due 30th November 2018): 5%
Oral project presentation (Reading week in the second semester): 5%
Final project dissertation: 90%

Two copies of each dissertation, A and B, are submitted by the student to the Departmental Office on or before the 12th of April 2019. Unless otherwise agreed with the project supervisor, the dissertation should not exceed 80 pages plus appendices.

The following are the brief guidelines, which will be considered in assessing the final project reports.

1. **Presentation:** The project should be well structured, written in clear technical language with diagrams, well referenced and annotated. (25 %)
2. **Amount of own work done:** This includes laboratory testing, literature surveys, computer program, collection of information etc. as well as own work put into the methods of analysis. (25 %)
3. **Understanding and difficulty:** The basic principle behind the subject and behind the conclusions reached must be clearly understood. Consideration will be given to the difficulty of the subject and the amount of study required outside the normal curriculum. (25%)
4. **Conclusions:** Conclusions should be clearly and concisely set out and read directly from the work contained in the project. Overall achievement is also taken into consideration. (25 %)

The A copy is read and marked by the project supervisor, while a second marker reads and marks the B copy. The marks from both are reported independently to the coordinator. If these marks do not agree within limits set by the Faculty, a third examiner may be asked to assess the project independently.

Prior to the dissertation submission, the students are encouraged to submit 1 chapter of their thesis to the project supervisor for comments and suggestions. However, the supervisors are not obliged to read this chapter.

Late Submission
All students should submit their projects by **4pm on 12th April 2019**, and a record of the date of submission will be kept.
Students **must** have the prior written permission of their supervisors if they intend to submit after the deadline. If students are submitting late and do not have the prior permission of their supervisors, they may be penalised by a reduced mark in their SS project.

**Further information**

**Plagiarism**

The college’s policy on plagiarism is outlined in section H of the College Calendar). There is no substitute to reading the regulations but here are a few of the key points:

Plagiarism arises from:
- Copying another student’s work
- Enlisting another person or persons to complete an assignment on the student’s behalf
- Quoting directly, without acknowledgement, from books, articles or other sources, either in printed, recorded or electronic format
- Paraphrasing, without acknowledgement, the writings of other authors

It is the responsibility of the student to ensure that he/she does not commit plagiarism.

Plagiarism is serious whether the plagiarism is deliberate or has arisen through carelessness. Remember, the project dissertation must be your own piece of work and written in your own words. Where material is being repeated verbatim from published, web or other sources, you should use inverted commas, italics and/or present the material in a separate paragraph, to make it clear to the reader that you are quoting directly (and you must reference the source).