## **BUILDING A MATHEMATICAL FOUNDATION FOR ENGINEERS**

### **THE PROBLEM:**

Service teaching in mathematics, in Engineering for example, faces a couple of major challenges such as:

- 1. **Retention of knowledge** students forget the information after only a few months.
- 2. **Transfer of knowledge** students may know the techniques but not how to translate it into the context of their discipline.

### **THE GOAL:**

We wish to create a Blackboard content area for each first-year service module with examples of how material gets applied in future modules. This will hopefully:

- 1. **Highlight the importance of mathematics** for students to encourage retention for future use.
- 2. Show how the **concepts they study can be transferred into their discipline** within relevant contexts.

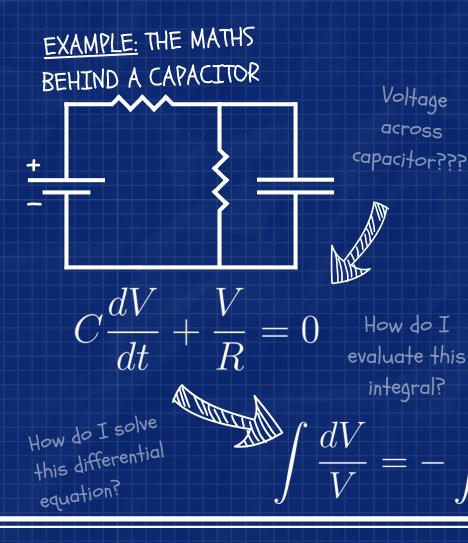
The content area will be ready in advance of Michaelmas term for incoming students to try it out.

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### **OUR SOLUTION:**

We began with MAU11E01: Engineering Mathematics I. After examining the engineering curriculum, we:

- Contacted lecturers in the School of Engineering.
- Collated online resources highlighting applications.
- Found examples of how the mathematics is applied in future modules, such as exam questions.
- **Created an interactive flowchart** which shows how the mathematics weaves through the course.



#### Institution:



**Trinity College Dublin** Coláiste na Tríonóide, Baile Átha Cliath The University of Dublin

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