EXTENSION ACTIVITY: STIMULUS – SCHOOL TEACHING OPPORTUNITIES IN STEM

Open to students in all Engineering Areas

INTRODUCTION

This ExA provides an opportunity to gain hands-on experience with Science, Maths and Engineering education. Students will help with teaching a STEM subject in a local school, at any level from Primary to Sixth Form. A further objective is to reflect on how to improve awareness of Engineering and Technology, via the existing teaching of science and maths in schools.

School placements will be arranged via the STIMULUS student volunteer programme run by the Centre for Mathematical Sciences, and may run in the Michaelmas or Lent Terms (or both). Placements normally run for 5-6 weeks of a university term (and beyond if you wish, noting that one of our weeks is school half-term), spending 1.5 – 2 hours in school each week. For the ExA, a minimum of 8 hours in class should be logged, and signed off by your school contact at the end of the placement.

The second part of the ExA is open-ended and flexible, being an individual investigation into aspects of raising awareness of Engineering and Technology in school teaching. For example, this could involve:

- reviewing curriculum specifications and the teaching resources used in the subject and age-group of your placement, identifying existing links to Engineering, or (more likely) proposing and ‘storyboarding’ possible resources that set the current subject content in an applied Engineering context;
- using your placement to trial existing teaching resources that set school science in an Engineering context, and gathering feedback from teachers and pupils;
- running a questionnaire or face-to-face interviews with staff and pupils, to explore their awareness of Engineering and understanding of what engineers do.

All students will complete a short report, outlining what they did during their placement in a school, reflecting on what they learned, and summarizing their individual investigation into linking school teaching to Engineering.

The total time spent on the ExA, including training sessions with STIMULUS, class time and report writing, should be 20 hours.

ARRANGEMENTS

To undertake this ExA, students should:

1. Read the general information and joining instructions on the STIMULUS website: https://stimulus.maths.org/content/volunteers, https://stimulus.maths.org/content/volunteers/joining-stimulus and register online by the **deadline of midnight, Friday of week 1 in the Michaelmas Term**.

   [NB Late applicants will not be accepted on the ExA].

2. Confirm that they have registered with STIMULUS by **email to Dr Shercliff** (hrs@eng.cam.ac.uk), stating name and college, and confirming the intention to count this as their ExA. (Make sure to select it on COMET too).

3. Attend **compulsory training** with STIMULUS during the following calendar week (to comply with legal aspects of safeguarding, and to receive advice on best practice in working with schools) – outline timetable at: https://stimulus.maths.org/content/volunteers

During online registration with STIMULUS, you will need to indicate your preferences for:

- term: Michaelmas/Lent/both;
- subjects: Physics, Chemistry, Biology, Maths, Design/Technology, Coding, Computing;
- age groups: Primary, 11-16, 6th form;
- ability to travel within Cambridge: bike etc;
- availability: each weekday, 9am – 4.30pm (in most cases in IIA this will mean afternoons).

Please be **as flexible as possible** with your preferences, to make it easier for STIMULUS to match everyone to a school.

Once you have been notified of your placement, meetings will be arranged with Dr Shercliff to discuss possible options for your individual investigation (which may of course evolve, depending on your experience in school).

The deadline for the final report will be midnight on the Friday two weeks after the end of the term in which school placements are concluded (via Moodle).

Dr Hugh Shercliff (hrs@eng.cam.ac.uk)
October, 2018