

## **School of Electronic Engineering and Study Skills Centre - a case study of collaboration**

The School of Electronic Engineering approached the Study Skills Centre with a view to exploring ways of enhancing undergraduate progression into second year, and the standard of dissertations produced in the final year.

Initial discussions centred on the provision of one-off generic skills workshops and raised an immediate need to address exam performance amongst first year undergraduates. An exam-feedback workshop was designed as a response, providing a cohort of 40 students with an opportunity to discuss exam and problem-solving techniques through an analysis of their own approach to a recently sat exam. The workshop was co-taught by academic staff and Study Skills staff, and feedback from the school suggested that the workshop was valued by both staff and students. The workshop also provided Study Skills staff with deeper insight into student need and resulted in the setting up of a peer-support group headed by a PhD student from within the School.

In order to address the quality of final year dissertations, the Study Skills team analysed a sample of dissertation proposals for register, genre, argumentation, and use of source material, and it became clear at this juncture that the presenting issues needed a more fundamental intervention than a quick-fix workshop on writing skills. Discussion of a pre-existing 10-credit first year module suggested that this might provide an opportunity for addressing writing needs earlier in the degree award, and the School and Centre agreed to collaborate on a wholesale redesign of the module with a view to incorporating intensive writing exercises around the scaffold of a small-scale research project.

The module, which will run in 2013-14, is designed according to a blend of sociocultural and constructivist principles, in which the students are taught processes through content, and gradually introduced to the skills necessary for independent lifelong learning. Interactive, discussion-based sessions form the core of teaching/learning activity, and the module itself leads students through the development and production of a project of their own choosing, aiming thus to reinforce their own reasons for choosing to study electronic engineering, whilst at the same time developing the research-writing skills identified as being necessary for successful degree completion. The assessments (both formative and summative) combine individual and group work, in order to build professional skills that are both personal and team-based. Most sessions will be led Study Skills staff, with academic staff from the School leading data analysis work, and Library staff offering a session on the use of library resources. The data analysis tests will be graded by the school's academic staff, while SSC and EE staff will share responsibility for assessment of the portfolio and project. The following is an outline of the module.

## Professional Perspectives, IED1064

The module is designed to embed essential transferable skills (communication and presentational skills, information skills, basic data analysis, Higher Education (HE) study skills and employability awareness) in a subject specific context, and aims specifically to: (1) Assist students with their approach to other modules, and help them to develop the skills needed to succeed in Electronic Engineering courses, and (2) develop the transferable skills needed for employment as engineering professionals.

The module consists of 12 x 2-hour class sessions, with students expected to spend an additional 76 hours on assignments, self-study and group work. At the beginning of the module, students are randomly assigned to a small group of 3 or 4 students, in which they will work throughout the module. Students are assessed through the completion of four tasks:

### 1. Project (40 % of module grade)

The project will run through the whole module. Groups will be expected to select their own project topics according to their own interests. Each group will have to craft a clear research question, which will then be divided into three/four sub-questions (one per group member). By week 3, groups will need to produce a project brief, outlining their project, stating their research questions, and explaining how they will meet the requirements in the grading rubric. Each group member is then responsible for writing a report on his/her chosen sub-question. By week 7, individuals should have a draft version of their individual reports ready for submission and feedback. Final versions of the report should be submitted by week 10, and should include a section linking the individual's sub-question to the group's main research question.

### 2. Portfolio (20% of module grade)

The portfolio comprises a series of short tasks designed to reinforce good practice and to scaffold completion of the project. Portfolio elements include:

- A brief written reflection on time management successes and challenges;
- List of questions ( $\geq 5$ ) exploring one lecture;
- Two electronic engineering terms defined and explained for a lay audience;
- Brief summary of and references for two scientific reports related to topic of project work;
- Response to a data analysis task;
- Minutes from one group meeting, approved by all group members;
- One question posted to [PeerWise](#), two other questions rated and commented on;
- Module reflection.

### 3. Presentation (20% of module grade)

A 10 minute group presentation offering a synthesis of the group project. The presentations will be peer assessed using a rubric developed by the students in collaboration with teaching staff.

### 4. In-Class Test (20% of module grade)

Based on the Data Analysis Techniques section of the course.