Physics – Team and Group Work in Physics

The School has ran for many year a Group Project and Team Review exercise in senior honours years for all single honours Physics students where students work in teams on a joint project, prepare a joint report and joint presentation.

**School:** School of Physics and Astronomy

**Target Audience:**All Senior Honours years students

**Staff Involved:** Course Organiser, multiple academic staff being consultants to groups/teams and running support workshops

**Date**: Annually, 10pt course running over two semesters with support workshops

Key features

Throughout most of a student undergraduate education they work individually on course work, projects etc, while group and team work are essential skills for all science graduates whether entering employment continuing in research. To develop these skills, the School has ran for many year a Group Project and Team Review exercise in senior honours years for all single honours Physics students where students work in teams on a joint project, prepare a joint report and joint presentation. The aim is to develop, within a subject specific context, team/group working skills, organisation skills, peer evaluation skills, written and oral communications skills.

Activities

This is implemented at two 10pt courses with a similar focus but aimed at different student cohorts. These being:

**Group Project:**team exercise directed towards students on the MPhys programme, where a team of 5—6 students research a modern research topic in physics outwith the normal curriculum, write a common report or proposal and present their report is a group oral presentation. Here typical topics are “Has the Higgs been seen at the LHC”, and “Dark matter: has the invisible been seen?”.

**Team Review:**team exercise directed towards students on the BSc programme, where team of 5—6 students research a topic in typically applied physics, write a common review aimed at a general audience and present their report in a group oral presentation. Here typical topics are “Wave energy in Scotland”, and “Can cars ever be green?”.

In both exercises, the topics are proposed by a member of academic staff who then acts as a consultant to the group, offering technical and practical advice. The team are encouraged to arrange themselves into an operation team with chairman, secretary, etc., and arrange regular meetings with minutes, actions and reviews. They are expected to invite the supporting member of staff to meeting when required as a consultant, but they do not chair or lead meetings.

These courses are supported by a series of three workshops, being:

1. an introduction to the need and rationale for team work, and how to research and scope a project;
2. preparation of a joint report; and
3. presentation of a joint talk.

These are spaced throughout the two semesters to support students and also to provide a forum for general questions about the whole exercise. The assessment of both courses consist of the joint report, the joint presentation, the consultant’s evaluation of the team approach, minutes of meetings, and also peer assessment within the team.

Resources

The main resource is staff time as consultants, running workshops, and attending and accessing and student presentations. Typically 15 groups/teams are required to cover the whole cohort, which involves about one quarter of the staff. Staff consultants typically attend four meetings with the group, assess the report, and attend the presentations (which are scheduled over two days).

Evaluation

These two courses have been in operation for many years and have become an established part of the Physics programme. They are very well received by the students who put in considerable effort, often more effort that the 10 credits justify. It is particularly welcomed by the BSc cohort, who wish to investigate topics outwith the standards curriculum, and feedback from a number of such students was that it was an invaluable topic to discuss at job interviews.

The major feedback we get from students is that they would like this to occur earlier in their programme and that Senior Honours is rather late. We are currently reviewing our teaching programme and hope to be able in integrate this into to Junior Honours.

Key contact

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<http://www.ed.ac.uk/employability/staff-information/how-employability-addressed/good-practice/cse/team-and-group-work>