Background
The ability to write about science is a core skill of a physicist. As professional physicists we are always writing. Examples include the obvious publication presenting the results of a research activity, but also include writing review articles, material for web pages, proposals for grants for funding, find reports on completed projects, referee reports on manuscripts and grant proposals, and documents for our colleagues and for students. We need to be able to write in a way that presents information clearly, and frequently in a persuasive manner.

Essays
Each student is required to write one essay selected from a provided list. Each essay will be of size 3000 ± 250 words, plus (and not included within the word limit) both a technical abstract and an abstract for the general reader. The titles are quite general and wide ranging, and in all cases the students will need to do some research. This research can be from the library, the internet (Wikipedia does sometimes have a lot of useful information that can form the basis of an essay), or from papers. Advisors may be able to provide sources of information for essay topics that they themselves are interested in. The skill to learn is the ability to digest new information and to repackage it in an original manner.

The nominal deadline for completing the essays is the end of week 10, with hand-in of the paper copies in Meeting 3 of the advisee group. The exact deadline will be set by the advisory group itself, with agreement from advisor and students. Paper copies should include the student name and the word count.

Marking
The essays will be marked by other students in the advisee group, with advice from the advisor and according to a mark sheet that will be made available.

Plagiarism
One of the skills you need to learn is how to avoid plagiarism. We are sympathetic with the student when they read a source and cannot easily see how to rephrase it without making it worse; after all, the sources they read were typically written by established writers. So you have to learn how to process information from a source, and then write from their notes rather than directly from the source. Thus any plagiarism in this case is less a crime and more a lost opportunity to learn about handling sources.

Meeting schedule
The idea is to have hour-long group meetings with advisor and all her/his students together at several points during the semester. The exact times should be chosen by the advisor and students.

Meeting 1, during weeks 3 and 4
In this meeting students will discuss titles with their advisor and agree a title each (it is more interesting if no two students in the group chose the same title). The second lecture in the study skills course (11 am Wednesday) will focus on the essay and some practical issues
associated with it, to form the basis for the discussions with advisors. The advisors will need to spend some time in this session discussing how to find information, for example by showing them the library web site, how to find scientific papers online using Google (we recommend Google Scholar at this stage), and how to use search tools in general. It could be useful for advisors to prepare some sources for one essay title for illustration.

Meeting 2, during weeks 6 and 7

The purpose of this meeting is for the students to present their plans, having done a good part of the research. The advisor and other advisees can offer useful comments on their plans as part of a group discussion.

Meeting 3, during weeks 9 and 10

The students bring two hard copies of their essay to the session. Each student takes another student’s essay, and the second copy goes to the advisor. The group looks at the marking scheme with a discussion led by the advisor. Students may be interested to see each other’s essays, particularly if the titles catch their imagination. So within the session students can agree to mail their essays to each other.

Meeting 4, during weeks 11 and 12

In this meeting students give feedback on each other’s essay. Students can discuss how easy or difficult they found it to find information, convert information into original prose, and how to avoid plagiarism; this is part of the learning exercise.

Credits

Whilst the student markers will allocate a grade to the essay they mark, these grades are not used in the final assessment. Instead, the Study Skills module has a pass or fail grade, and failure to attend the meetings without proper reason and failure to produce an essay that gets a pass grade will automatically trigger a fail mark for the module.