

Individual courses in Project work

Student instructions

This information applies to students enrolled in

- Master programme in Biology (1BG366/367/368)
- Master programme in Bioinformatics (1MB820/822)

General information about the course can be found on the Biology Education department website <http://ibg.uu.se/education/courses-programmes/individual-courses/>. This is also where you will find other documents you need to complete the project work, such as title page template and supervisor certificate.

Start with this

Before applying, ensure that you fulfil the formal requirements to be eligible. Read the course plan and the general information provided on the website. Note that application, admission and registration for the course, all need to be cleared and finished before you may commence the course. Important! See to it that your prospective supervisor early on gets hold of instructions and other relevant information about the course. These instructions for the supervisor can be downloaded from the website.

It is never possible to register a holiday work or similar as Project work at a later time. The courses *can not* be combined into a more extensive course. It is considered part of the work to plan according to the course extent. On the other hand it is in principle possible to do more than one project on different occasions and at different workplaces but you can only do one of the courses once. It is, however, possible to change a longer course to a shorter should the project not be doable as planned. If so, please contact the coordinator as soon as possible.

Purpose of the course

The aim of the course/courses is to give insight into and basic knowledge about how project work is pursued. You get the opportunity to, under supervision, as far as possible independently plan, implement and present a delimited work in project format. During the course you are expected to

- 1) delimit and plan for the intended project,
- 2) search for, evaluate and critically compile already available information in the field,
- 3) chose appropriate methods for your survey,
- 4) carry out your investigation as well as interpret and evaluate the obtained results,
- 5) in a relevant way, orally and in writing, present the obtained results.

If instead, you are mostly interested to see how research and development is organized and carried out in practice – both with respect to how knowledge and theory is built and experiments performed rather than carrying out your own project, please look into the courses in Research Training.

How to find a good place for Project work

Choose something you are interested in. There are no explicit “Project work places”. Instead it is up to your own interest to take necessary initiatives and personal contacts to find a good place for your work. If you are not sure about your own interests, talk to teachers/researchers and contact companies and see what they may be able to offer. You may check our project database (<https://www.ibg.uu.se/student-en/project-offers/>) and possible other relevant collections of offered projects. See also information about biology research at Uppsala University (<https://www.ibg.uu.se/research/research/>).

There are lots of periodicals in the library, or on-line via the library web pages, with scientific publications from academic institutions and departments as well as companies. There you may also find direct contact information, with names and addresses to interesting researchers and groups. You can also search in databases such as Medline, other literature databases or the Internet.

Project work can be performed at academic institutions and departments, companies or authorities and agencies provided that they have biology or bioinformatics as part of their sphere of activities.

If you apply for Project work abroad

Write a letter to a responsible person at the intended workplace where you introduce yourself and tell them who you are, what you have studied, what it is you want to do, when you want to do it and who pays for e.g. travel, accommodation and boarding. Also tell them who coordinates the research training at Uppsala University. It is also a good idea to attach a portrait photo of yourself.

Be sure to attach a list of qualifications, resume or Curriculum vitae. If you are not sure what it should contain, search for “curriculum vitae” on the web. Describe the education programme you are taking at Uppsala University, e.g. as “Master programme in biology” or “...in bioinformatics”.

Important! Make sure you have an insurance that covers also your time abroad. Consult the information on this website: <https://www.kammarkollegiet.se/en/insurance-students-and-state-employees/student-insurance>

Good and clear communication

It is very important that the student and supervisor try to be as clear as possible in their communication while discussing a possible project work – in order to avoid misunderstandings. Even if you should not necessarily choose “the first one”, be open and clear to alternative supervisors about your commitment, so nobody believes you have decided if you in fact have not. Expect and ask for the same clarity and transparency from the supervisor!

Once you have found a good workplace/supervisor

The course can in principle be carried out any time of the year but application and registration need to be done during spring or fall term/semester times (or at least in close connection with them). You apply for the course on a specific application form that you can get from the webpage.

Fill out the application form along with your proposed supervisor. The supervisor must have become acquainted with the specific information for supervisors but preferably also with the

additional general information about the course that is available on the course web page. Note! Along with the application should be attached a plan for the proposed project. The plan is written in consultation with the supervisor, but the more you get involved already at this stage, the better. The plan should contain a short theory background for the field, specifics about what you intend to do during the present project as well as a time plan for the project; for instance as a graphical illustration in the form of a Gantt-scheme or similar.

Please observe that there are on the web "Instructions for supervisors" as well as "Supervisors certificate and opinions". Give both of these in good time to your supervisor! They should be read and filled out by the supervisor, respectively. The latter should be sent to the course coordinator once the Project work is finished, together with the approved report.

When a complete and correctly filled out application with all supplements has been handed in you are admitted to the course (provided of course that you are eligible). The coordinator will then register you for the course and you may commence your Project work.

Differences between the 10 hp-, 15 hp- 20- and 30 hp courses

For approval and passing of all courses, an active participation in the planning and follow-up of the project as well as an oral presentation at your workplace and a written report are required. The student input, scope and extent for all of the above items is of course influenced by where the training is done, the interests of student and supervisor, the subject and topic as well as the varying lengths of the courses. The more you can contribute to all of these things the better, and the more you will learn! - not only about the field you are studying but also about general aspects on how project work is pursued. The report of the Project work should be:

- 10 hp: 5 - 8 pages (max 8 pages of text)
- 15 hp: 6 - 10 pages (max 10 pages of text)
- 20 hp: 8 - 15 pages (max 15 pages of text)
- 30 hp: 10 - 20 pages (max 20 pages of text)

The theoretical foundation

You and your supervisor agree on suitable literature. The literature could be for instance 5-10 scientific articles, book chapters or similar. The amount and scope of the material is of course influenced by for instance the topic, where the work is performed and by the length of the Project work. It is recommended that you also take the opportunity to search and survey the literature on your own, at least to some extent (the earlier in the project the better!). This may bring in external views on the project and provide valuable training on searching for information and critically evaluating it.

Remember to take notes during you project, regarding both experiments and general things. This makes the writing of the report and preparation for the seminar much easier. The supervisor also appreciates if you take notes and keep a tidy record of your experiments and results.

You are expected to, in addition to the subject related literature, also read some general text about working in project format. The course literature is either "Handbook for small projects" (Joakim Lilliesköld & Mikael Eriksson, Liber AB, Stockholm, ISBN: 978-91-47-09965-8) or specified chapters from "Project Management" (Bo Tonnquist, Bonnier Utbildning AB, Stockholm, ISBN: 978-91-622-8916-4). More information about this part is given by the coordinator.

Presentation and follow ups

You must present your project work in the form of a seminar at your workplace. The form for the seminar is jointly decided by you and your supervisor.

In the process of applying for the course you agree with your supervisor and the coordinator on a suitable schedule for the follow ups during the project. Depending on where the project is done and its form it can be more or less important with follow ups, not only with your supervisor but also with the course coordinator. The latter is particularly important for the longer project work. So decide together with the coordinator on how best to do the follow ups already when you apply for the course! Once the project is running, you are then expected to get in touch with the coordinator for possible follow-ups according to the agreement you have made!

The written report

Start writing well in time! Leads and good general instructions can be found in the IBG booklets "Presenting science" (http://www.ibg.uu.se/digitalAssets/515/a_515518-f_presenting-science-2016-en-webb.pdf) and "How to avoid plagiarism" (http://ibg.uu.se/digitalAssets/331/c_331420-l_1-k_ibg-antiplagiat-en.pdf).

Important! Ask for the supervision you need, also during the process of writing the report. You may write the report in Swedish or in English. Keep in mind that the language is very much your tool while writing the report. Therefore, take good care of the disposition, wording, grammar and spelling. The report should be written following a generally accepted format for a scientific report within the field under study. Possible suitable subdivisions could be:

- A title
- Names of student and supervisor, their affiliations, where the work was performed and which course it was part of
- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Acknowledgements
- References
- Appendix
 - § Popular science summary
 - § Project evaluation

or similar. It is sometimes adequate and appropriate to have a joint Results and Discussion section for instance. Use the title page template from the website and include page numbers except for the title page.

Take good care with references, figures and tables. Note that you are expected to explicitly refer to all figures and tables in the running text. In addition, the figures should have legends with figure number (below figure), a title and explaining text. Tables should likewise have a title and possible explanations (above table) to make them easily intelligible.

Be consistent about how you give references, both when cited in the running text as well as how they are given in the reference list! State the source for each figure and table that you did not make yourself. Citing is allowed but not plagiarism. Sources for electronic media should be given stating type of media, address and date when the information was retrieved. Apart from this, see to it that they fit into the general way the references are given in the reference list as closely as possible.

Note! Your supervisor will read and give feedback/comments on your report. It is important to rework the report with appropriate consideration to the comments from your supervisor.

In addition to the scientific report, a popular scientific summary should be added as an appendix to the formal report. Around one page maximum is sufficient – making it short, intelligible and informative for the public is an important task in itself. Write as if you were addressing biology students who just started their Bachelor studies.

As an appendix in the report, an analysis and evaluation of the project itself is also required (think in terms of questions like: were the goals of the project appropriate?, ... realistic?, ... fulfilled?, etc.). About 1-2 pages will suffice. It should contain a short overall description of the project, how the continual follow-ups were performed, if/how the project plan was developed/revised, overall recommendations about how the project could be pursued and improved in the future, etc. In this part of your report you should try to set your thoughts and observations in relation to things you read about in the course literature about project work (see course literature under the heading "The theoretical foundation").

Reporting

The supervisor fills out the certificate about when the various course items are approved and along with this gives detailed opinions about your performance. After that, the supervisor sends it directly to the coordinator at Biology Education Centre (IBG), Uppsala University together with the approved report. Scanned copies by email are accepted. Make clear in this email and in the report if any material therein is confidential so that the coordinator does not send it to Urkund for plagiarism control.

When both report and signed certificate has been sent to the coordinator, s/he will read the report and may ask for additional revision. Once the coordinator approves of your report, you are considered having passed the course. The coordinator reports the result to LADOK.

The course as a whole is assessed with either of the two final judgements not passed or passed.