These instructions are in effect from 170101

Degree Project (Självständigt arbete) at the Department of Biochemistry and Biophysics (DBB),

15 hp and 30 hp First cycle (grundnivå). 30 hp, 45 hp, and 60 hp, Second cycle (avancerad nivå)

The Degree project can be done at the Department in one of the research groups, with one of the teachers/scientists as supervisor, or as an external project. The choice of research group is made by the student, prior to the beginning of the project. The best way to do this is to contact the scientists at the Department and discuss possible projects. If the project is performed "outside" DBB, an external supervisor, as well as an internal, must be appointed.

Registration

Before the student can be registered in LADOK, the supervisor should submit a project plan (a specific form should be used) to the person in charge of the Degree Project = the examiner (see list at the end of this document). When the project plan is approved, the person in charge of the Degree Project will inform the supervisor and also see to that the student is registered. The student cannot begin the study until being registered.

Examination

To pass the course the student has to present the studies at a seminar **and** in a written report. Students should also attend and take active part in *all* degree project seminars, in Biochemistry, Biophysics and Bioinformatics respectively, during the project period. In addition the student has to submit a *Reflection document* to the Department examiner.

Evaluation form

The evaluation (on a form that will be provided by the Department examiner to the supervisor) should be done by the supervisor, taking the seminar, the written report and the student´s performance in the lab into consideration. The final grade will be decided by the departmental examiner, based on the evaluation, the written report and the oral presentation.

Seminar

The presentation should be 20 min followed by a 5 min discussion. Great effort should be put into the preparation of the presentation, with respect to both science and form of presentation, i.e. PowerPoint. The presentation should include an introduction to the research area to make it possible for the other participants in the seminar to understand.
All students are expected to take *active* part in the discussions following other presentations, but one student will be appointed for each of the students presenting, to specifically ask questions.

Two weeks before the seminar, at the latest, the title and a half-page abstract should be given to Lotta (charlotta.sturell@dbb.su.se) by those expected to present at the seminar. These students will also get a request for an abstract from Lotta. The abstract will be distributed to those attending the seminar. Those students registered but not presenting will get the abstracts and a reminder to be present at the seminar.

The seminar should be given in English!!
The seminars are usually held at the end of the second to last week of every 9 week period. Supervisor(s) are expected to be present at the seminar.

Written report
A *paper copy* (as well as a pdf file) of the written report should be submitted to the Department examiner before the seminar or *within 7 days after the seminar*, alternatively on the last day of the period, which ever is the later. Before giving the report to the departmental examiner, the report must be approved by the supervisor, with respect both to the science presented *and* the general layout, language etc. The supervisor should fill out the evaluation form and email it to the departmental examiner.

The format of the report should be as a scientific paper in an international journal and be written according to the following specifications:

- The first page should have the title, the name of the student, the supervisor(s) and Department of Biochemistry and Biophysics, Stockholm University (and for external projects, the name of the institution where the work was done), the year when the seminar was given and the number of credits (*hp*). You will get a file from the Department examiner that should be used as a template for the first page, *do not change or add anything!*
- It should be written in a font 12 with 1.5 line spacing and with 2 cm margins.
- The length of the report including figures, tables and references, **should be** 20-25 A4 pages for 15 hp, 25-30 for 30 hp, 30-35 for 45 hp and 35-40 for 60 hp.
- The report should be organized in Abstract, Introduction, Materials & Methods, Results, Discussion, References. Results and Discussion may be combined when appropriate.
- Tables and figures should be included in the text.
- When needed a more detailed description of the method(s) used, including a background, can be given as an Appendix, not included in the page limits given above.
- References should be ordered alphabetically in the list, and referred to in the text in ( ) or [ ] by numbers or author + year. References should be written in a style that includes the title of the paper referred to. The following is an example (For those of you that use EndNote it is the "J. Bacteriology." style):

  1. Anagnostopoulos, C., and J. Spizizen. 1961. Requirements for transformation in *Bacillus subtilis*. J. Bacteriol. **81**:741–746.

  2. Berry, L. J., R. N. Moore, K. J. Goodrum, and R. E. Couch, Jr. 1977. Cellular requirements for enzyme inhibition by endotoxin in mice, p.321–325. In D. Schlessinger (ed.), Microbiology—1977. American Society for Microbiology, Washington, D.C.

References should be to publications in international peer-reviewed journals, Wikipedia is *not* allowed!
The report should not be written as a tale about the purification of an enzyme, cloning of a gene, writing an algorithm etc. You will get a good idea of the format from any scientific paper or if you look in *Instructions for Authors*, which most journals publish on their home page.

☞ The report should be written by *you*. If you want to quote a sentence or so, you must put that sentence within quotation marks and give the reference. The use of quotes should however be a minimum. If you copy figures from publications, this

should be *clearly* stated in the figure captions. Using text or figures from any publication without giving the reference is plagiarism, which obviously is not allowed, and can lead to that you are expelled from the university for some time period. The report will be run through specific programs to identify any text from published documents.

Reflection document

This document should be 2 A4 pages in total, written in a font 12 with 1.5 line spacing and with 2 cm margins. The following subsections should be included:

- What did I learn
- What did I expect to learn
- In retrospect, what would/should I have done differently, other methods etc
- Suggest a next step in the project
- In what way would the results of your project be beneficial to society, any possible application(s)
- A 0.5 page popular science description of your project, written in Swedish (for those mastering Swedish) or English.

☞ Grading of the Degree Project will only be done if this document also has been submitted.

☞ All grading will be done by the examiner and any transfer/translation/certificates to other grading systems (Erasmus students) should also go through the examiner.

Scientific Method

This course is an obligatory part of all Degree Projects at the Basic Level (1st Cycle) and it is up to the student to apply. More information can be found at two web pages; (http://www.science.su.se/english/education/courses/scientific-method-1-5-hp-1.216885) and http://www.science.su.se/utbildning/kurser/vetenskaplighet-1-5-hp-1.35230

Department examiners

Biochemistry

1st and 2nd Cycle (Basic level and advanced level respectiviely)

Prof Martin Högbom (Martin.Hogbom@dbb.su.se), phone 08 - 16 2110

Bioinformatics

1st and 2nd Cycle (Basic level and advanced level respectiviely)

Prof Arne Elofsson (arne@bioinfo.se), phone 08 - 524 81531

Biophysics

1st and 2nd Cycle (Basic level and advanced level respectiviely)

Dr Jakob Dogan (jakob.dogan@dbb.su.se), phone 073 705 7571