**Instructions**

Before the course starts, a detailed plan is drawn up in consultation with the examiner. The plan must be approved by the Program manager / Master director before it is sent to the relevant program planner at the Program Service for course registration. For the Master's student, the application is sent to the LTH Office / International Office. Following an approved plan, a message is sent to the Ladok administrator at the relevant institution. The student is registered on the course by the department. A detailed plan must be written together with the examiner and it must be approved by the Board of Education. The course registration will be made on the course code tied to the chosen subject, not on KKK000.

**Prerequisites:** at least 160 credits B4 and K4 (at least 45 credits for master's students), basic course in the corresponding subject (s) and completed basic block. Course coordinator checks the prerequisite knowledge via Ladok (www.start.ladok.se).

**To be filled by course responsible/examiner:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course code**  KBTN15 | **Subject** | | **Semester (as the course is followed)**  Autumn 2020 |
| **Program**  Biotechnology | **Name** | | **Personal Number** |
| **Course responsible/Examiner** | | **Expected prior knowledge**  45 hp | |
| **Supervisor if other than examiner** | | | |

**Detailed plan**

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| --- |
| **Purpose**  **To provide in depth knowledge and skills in:** |
| **Goal**   * **Knowledge and understanding- For a passing grade the student must:** * **Skills and abilities- For a passing grade the student must:** * **Assessment ability and attitude- For a passing grade the student must:** |
| **Content** |
| **Literature** |
| **Examination**  **Oral and written reporting, Grading scale: G/UG** |

Program notes:

Detailed plan checked and approved

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|  |

Program Leader / Master Program Director Name Clarification Reported in Ladok

**Information about Advanced Course in one or more subjects**

KKK000 (15 credits) is an umbrella term for a number of advanced courses, in one or more subjects, which can be taken as an optional course in the civil engineering programs B and K as well as in the master’s programs MBio, MLiv and MWaterLU.

The course is at an advanced level and can be taken from year 4 or within the master's programs from year 2. Prerequisites are the basic course in the corresponding subject (s) and the completed basic block. For B4 and K4, at least 160 credits must be completed. For the Master programs, at least 45 credits must be completed.

*See the list of course codes for advanced courses in different subjects at the end of the document.*

**Please note that the specialization courses cannot be credited within the program's specialization.**

**General syllabus**

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| **Purpose:**  To provide in-depth knowledge and skills in selected / chosen science areas |
| **Goal**  **Knowledge and understanding**For an approved course, the student should:   * have in-depth knowledge of the chosen subject area (s). * have insight into the workflow of a research project. * have insight into how a research group works.   **Skills and Abilities**  For an approved course, the student should:   * be able to independently plan, implement and report the intended project. * independently search, process and compile relevant information. * be able to consciously integrate and use knowledge acquired during courses within the current educational program.   **Valuation and attitude**  For an approved course, the student should:   * be in a research group carrying out a research project. * be able to critically review, assess and draw conclusions from scientific literature. |
| **Contents**   * Supervised independent literature studies through databases and libraries. * Supervised independent work in close connection with ongoing research projects. * Written report in Swedish or English according to standard from internationally reviewed journals and oral reporting at a publicly announced seminar in Swedish or English. |
| **Literature**  Scientific original articles or other literature related to the chosen work. |
| **Examination**  Oral and written reporting, Grading scale: G/UG |

**Course codes**

|  |  |  |  |
| --- | --- | --- | --- |
| KAKN01 | Advanced course in Analytical chemistry | KIMN05 | Advanced course in Immunotechnology |
| KASN30 | Advanced course in organic chemistry | KLGN40 | Advanced course in Food Technology |
| KASN35 | Advanced course in Material Chemistry | KLGN45 | Advanced course in Pharmaceutical Technology |
| KBKN15 | Advanced course in Biochemistry | KLTN01 | Advanced course in Food Technology, Engineering and Nutrition |
| KBTN15 | Advanced course in Biotechnology | KMBN10 | Advanced course in Applied Microbiology |
| KETN35 | Advanced course in Chemical Engineering | KNLN05 | Advanced course in Nutrition |
| KFKN15 | Advanced course in Biophysical Chemistry |  |  |

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