**SYLLABUS** – A COURSE DESCRIPTION

**I. General informaion**

1. Course name: **MSc Project**
2. Course code: **01-BTA-MSCPROJ**
3. Course type (compulsory or optional): **compulsory**
4. Study programme name: **Biotechnology**
5. Cycle of studies (1st or 2nd cycle of studies or full master's programme): **2nd cycle of studies**
6. Educational profile (general academic profile or practical profile): **general academic profile**
7. Year of studies (if relevant):
8. Type of classes and number of contact hours (e.g. lectures: 15 hours; practical classes: 30 hours):

**laboratory classes: 195 hours**

9. Number of ECTS credits: **31**
10. Name, surname, academic degree/title of the course lecturer/other teaching staff:

**Prof. dr hab. Małgorzata Garnczarska**

11. Language of classes: **English**
12. Online learning – yes (partly – online / fully – online) / no:

II. Detailed information

A Master's Thesis provides opportunities for students to plan, complete, interpret, and report research

Course aim (aims):

.Develop the knowledge and skills necessary for conductiong research to solve problems on the verge of technology and contemprary biology/medicine

Develop knowledge and skills to select and use tools and methods for solving the complex biotechnolgy problems using multidisciplinary approach

Introduce step-by-step to methods of systematical analysis, appraising and using research findings

Demonstrate and practice different forms of biotechnological data presentation

Develop skills necessary for writing a publication / thesis describing issues related to biotechnology

Provide the knowledge on the process of describing and publishing the data connected with biotechnology

Develop the skills necessary for substantial discussion on topics related to biotechnology

2. Pre-requisites in terms of knowledge, skills and social competences (if relevant)

A background in biotechnology (current topics, problems, methodology) is necessary.

3. Course learning outcomes (EU) in terms of knowledge, skills and social competences and their reference to study programme learning outcomes (EK)

| Course learning outcome symbol (EU) | On successful completion of this course, a student will be able to: | Reference to study programme learning outcomes (EK) |
|---|---|---|
| EU_01 | apply the knowledge and skills obtained during the studies to solve a specific research problem | BT_W01, BT_W02, BT_W03, BT_W04, BT_W05, BT_W08, BT_W08, BT_U01, BT_U02, BT_U03, BT_U04, BT_U05, BT_U06, BT_U07 |
| EU_02 | use the right research methods for his/her purposes | BT_U01, BT_U02, BT_U03 |
| EU_03 | assess the appropriateness of the methods used in the reviewed literature | BT_K01, BT_K04 |
| EU_04 | find the literature useful for analysis of a particular scientific issue/problem | BT_U03, BT_K01, BT_K04 |

| | | |
|---|---|---|
| EU_05 | select the state-of-the-art literature including breakthrough and hot topics | BT_W09, BT_K01, BT_K04, BT_K02 |
| EU_06 | assess the adequateness of the conclusions with reference to results of Master project | BT_K01, BT_K04 |
| EU_07 | present the results of a study using various forms of scientific expression | BT_W05, BT_U04, BT_U05 |

4. Learning content with reference to course learning outcomes (EU)

| Course learning content | Course learning outcome symbol (EU) |
|---|---|
| Analyzing the problem or topic | EU_01, EU_04, EU_05 |
| Conducting extensive research | EU_02 |
| Summarizing findings from the research investigation | EU_01, EU_02 |
| Recommending additional research on the topic | EU_05 |
| Drawing conclusions and making recommendations | EU_06 |
| Documenting the results of the research | EU_05, EU_04 |
| Defending conclusions and recommendations | EU_07 |

5. Reading list

III. Additional information

1. Teaching and learning methods and activities to enable students to achieve the intended course learning outcomes (please indicate the appropriate methods and activities with a tick or/and suggest different methods)

| Teaching and learning methods and activities | |
|---|---|
| Lecture with a multimedia presentation | |
| Interactive lecture | |
| Problem – based lecture | |
| Discussions | X |
| Text-based work | X |
| Case study work | |
| Problem-based learning | X |
| Educational simulation/game | |
| Task – solving learning (eg. calculation, artistic, practical tasks) | |
| Experiential work | |
| Laboratory work | X |
| Scientific inquiry method | |
| Workshop method | |
| Project work | X |
| Demonstration and observation | X |
| Sound and/or video demonstration | |
| Creative methods (eg. brainstorming, SWOT analysis, decision tree method, snowball technique, concept maps) | |
| Assessment of the progress of the MSc thesis | X |

2. Assessment methods to test if learning outcomes have been achieved (please indicate with a tick the appropriate methods for each LO or/and suggest different methods)

| Assessment methods | Course learning outcome symbol | | | | | | |
|---|---|---|---|---|---|---|---|
| | EU_1 | EU_2 | EU_3 | EU_4 | EU_5 | EU_6 | EU_7 |
| Written exam | | | | | | | |
| Master thesis defence | X | X | X | X | X | X | X |
| Open book exam | | | | | | | |
| Written test | | | | | | | |
| Oral test | | | | | | | |
| Multiple choice test | | | | | | | |
| Project | | | | | | | |
| Essay | | | | | | | |
| Report/thesis | | | | | | | |
| Individual presentation | | | | | | | |
| Practical exam (performance observation) | X | X | | | | | |
| Portfolio | | | | | | | |
| Discussion activity | | | X | X | X | | X |

3. Student workload and ECTS credits

| Activity types | Mean number of hours spent on each activity type |
|---|---|
| Contact hours with the teacher as specified in the study programme | 195 |
| Preparation for classes | 30 |
| Reading for classes | 30 |
| Essay / report / presentation / demonstration preparation, etc. | 30 |
| Project preparation | 25 |
| Term paper preparation | |
| Master thesis defence preparation | 20 |
| Total hours | 330 |
| Total ECTS credits for the course | 31 |

4. Assessment criteria according to AMU in Poznan grade system

Very good (bdb; 5,0): all elements of the Master project prepared on time, in accordance with the given principles, excellent at theoretical and practical level,

Good plus (+db; 4,5): generally elements of the project/report prepared on time, in accordance with the given principles, excellent at theoretical level, very good at the practical level

Good (db; 4,0): generally elements of the project/report prepared on time, in accordance with the given principles, slight delays in time or non-compliance with the given rules, small knowledge gaps, good at theoretical and practical level

Satisfactory plus (+dst; 3,5): some elements of the project/report prepared with the significant delay or without accordance with the given principles, significant knowledge gaps, good enough at theoretical and practical level, however, with some failings, good enough at theoretical and practical level, however, with many failings

Satisfactory (dst; 3,0): some elements of the project/report prepared with the significant delay and without accordance with the given principles, significant knowledge gaps, knowledge not enough both at theoretical and practical level