**Course Syllabus**

**SCBE 499 Independent Research Project in Bioresources and Environmental Biology**

**Wednesday: 1.30-4.30 PM.**

**Location: Online and/or onsite SC1-154 Google classroom code: mqcliev**

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| --- | --- | --- | --- | --- | --- |
| **Week** | **Month** | **DATE** | **TOPIC** | **LOCATION** | **LECTURER** |
| 1 | January | 20 | Introduction | Online | PJS |
| 2-14 | February | 3 | Scope of research and proposal development | Online | PJS |
| February | 26 | Submit the first research progress (identify Title) | Google classroom | advisors |
| March | 29 | Submit the second research progress | Google classroom | advisors |
| April | 30 | Submit the third research progress | Google classroom | advisors |
| May | 3 | Officially submit a proposal draft to advisor and to course coordinator | Google classroom | advisors |
| 15 | May | 19 | Proposal defense and proposal submission | SC1 154 and  Google classroom | PJS/advisors |

**Important information:**

1. Students may choose research advisor (s) based on their interest.
2. This class only focus on the ability of students to develop a 1-year research proposal with a limited budget of 600,000 baht to test their research questions. The student must submit a completed proposal as well as defend their proposal by oral presentation. Students will be evaluated based on their knowledge on the topic, experimental design, expected outcome, budget justification, proper citations as well as their overall performance in both writing and presenting skills.
3. Research progress submission: Each research progress submission must explicitly state and demonstrate the development and improvement of the proposal. Each progress must be approved by a major advisor (electronically sign) before uploading to google classroom.
4. At the proposal defense, students will have 15 min to present and 5 min to defend their proposal.
5. All students are required to attend the presentation and must ask at least 1 question in the defend day.

**Evaluation:**

The students will be evaluated by the course coordinator as well as their chosen research advisor. The scores are divided as the following.

1. Advisor 70%
2. Course coordinator 10%; proposal format and punctuation of submission
3. Proposal defense 15%
4. Class participation 5%

**Grading:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Score** | **Grade** | **Score** | **Grade** |
| 85-100 | A | 65-69 | C |
| 80-84 | B+ | 60-65 | D+ |
| 75-79 | B | 55-59 | D |
| 70-74 | C+ | <55 | F |

**Course Coordinator**

Asst. Prof. Patompong Johns Saengwilai

Department of Biology, Faculty of Science, Mahidol University

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\*\* All communication can be done directly through course coordinator via email or google classroom post.

**Proposal components:**

1. Cover page
2. Inner cover page with student’s and advisor’s signature
3. Executive summary
4. Rationale and Significance
5. Literature review
6. Preliminary results (optional)
7. Objectives
8. Scope of research
9. Hypothesis
10. Materials and methods
11. References
12. Budget justification
13. Expected outcomes

**Page setup**

* Top 2.5 cm
* Bottom 2.5 cm
* Left 3 cm
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**Font**

* Title: TH SarabunPSK 18 and bold style
* Content: TH SarabunPSK 16
* Scientific names must be shown correctly.
* Figures and tables that are not made by yourself must be accompanied by proper citations.