Course Syllabus
MBSB 514 Colloquia in Systems Biosciences
Academic Year 2022

Course ID and name: MBSB 514 Colloquia in Systems Biosciences
Course coordinator: Asst. Prof. Dr. Phatchariya Phannasil
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Instructors:

1. Assoc. Prof. Dr. Panat Anuracpreeda
2. Assoc. Prof. Dr. Patompon Wongtrakoongate
3. Assoc. Prof. Dr. Soraya Chaturongakul
4. Assoc. Prof. Dr. Surapon Piboonpocanun
5. Asst. Prof. Dr. Alisa Tubsuwan
6. Asst. Prof. Dr. Alita Kongchanagul
7. Asst. Prof. Dr. Duangrudee Tanramluk
8. Asst. Prof. Dr. Narisorn Kitiyanant
9. Asst. Prof. Dr. Natee Jearawiriyapaisarn
10. Asst. Prof. Dr. Phatchariya Phannasil
11. Asst. Prof. Dr. Poochit Nonejuie
12. Asst. Prof. Dr. Sirirat Kumarn
13. Dr. Chutima Thepparit
14. Dr. Duangnapa Kovanich
15. Dr. Ittipat Meewan
16. Dr. Kittiphong Paiboonsukwong
10. Dr. Noppon Petchyam
18. Dr. Promsin Masrinoul

Credits: 2(2-0-4)
Curriculum: Doctor of Philosophy Program in Systems Biosciences (Required course for Plan 2.2)
Semester offering: Year 2/ Semester 2
Prerequisite: None
Course level: Advanced

Course Description:
In-depth critique of research work; integration of foundation knowledge in systems biosciences and relevant ethics; analysis of cutting-edge research; developing skills in academic meeting organization

Course Learning Outcomes (CLOs)
Upon completion of this course, students are able to:

1. Develop research questions and systematically formulate hypotheses to answer the research questions
2. Search and review research articles supporting the hypotheses
3. Develop essential skills in analyzing, evaluating, discussing, and presenting research articles in molecular biosciences
4. Share research articles to public and develop scientific communication skills
5. Develop essential skills in academic meeting organization; leadership, teamwork, planning, and management

Constructive Alignment of Course Content to CLOs and Program ELOs

Activities	CLOs	PLOs
Generating research question and hypotheses	1	1-2, 4-5
Searching and reviewing literature	2	1-2, 7
Writing an abstract	3, 4	1-2, 8
Slide preparation	3, 4	1-2, 6
Presentation	3, 4	1-2, 6, 8
Question and Answer	3, 4	1-4, 6
Organizing academic symposium	4, 5	3, 6, 8

The MBSB514 is divided into two sections: seminar and symposium.

- Seminar; invited speakers and instructor-acquired webinars; thirty minutes of discussion following the seminar (for evaluation according to the rubric scores*).
- Symposium organized by the four students who registered this course (speakers include 4 registered students and 4 current MBSB students).

Presentation format for symposium day

1. Students have a relevant research question and hypotheses to explain the research question.
2. Students present for approximately 30 minutes, followed by approximately 15 minutes of questions from the audience.
3. Students must discuss the topic of the presentation with their advisor and submit the title of the presentation along with the advisor's signature to the course coordinator at least two weeks prior to the presentation date.
4. The abstract (250-300 words) must be submitted one week prior to the presentation date.

Course Schedule 2022

Course duration Jan 11, 2023 - May 3, 2023

Date	Time	Seminar No.	Topic	Room	Instructor
Jan 11, 23	9.00-9.30		Orientation		CT, PP
Jan 10, 23	10.00-11.00	1	Surgical aspects of gene therapy Prof. J. Timothy Stout, MD, PhD, MBA	Serene Piboonniyom Auditorium	AT, NJ, KP
Jan 10, 23	11.15-12.00	2	Outcome measures with respect to FDA guidance Mark Pennesi, MD, PhD	Serene Piboonniyom Auditorium	AT, NJ, KP
Jan 11, 23	10.00-12.00	3	Giving research presentations	A107	SK
Jan 20, 23	10.00-12.00	4	Biological systems in bacteria: from phenotypes to genotypes and vice versa	A107	SC
Feb 9, 23	13.00-15.00	5	Covid-19 vaccination in the real world Asst. Prof. Dr. Nawamin Pinpathomrat	A407	CT

Feb 27, 23	13.00-15.00	6	Arts, Academia, and AI: A Scientist's Life in Structural Bioinformatics	A107	DT
Mar 27, 23	10.00-12.00	7	Towards a single-cell antibiotic discovery platform via high-resolution bacterial cytological profiling	A107	PN
Apr 7, 23	13.30-15.30	8	Structures and Functions of copper nitrite reductase in denitrifying bacteria	A107	NP
Apr 24, 23	10.00-12.00	9	How to make mRNA vaccine prototypes in 90 days	A107	PW
Apr 28, 23	10.00-12.00	10	Designing and Repurposing of Multi-target Protease Inhibitors of Infectious Viruses: From Computational Docking to Cell-Based Validation	A107	IM
May 3, 23	9.00-16.00	11	Symposium	MB Library 3rd floor	All staffs

Note

1. Assoc. Prof. Dr. Panat Anuracpreeda (PA)
2. Assoc. Prof. Dr. Patompon Wongtrakoongate (PW)
3. Assoc. Prof. Dr. Soraya Chaturongakul (SC)
4. Assoc. Prof. Dr. Surapon Piboonpocanun (SP)
5. Asst. Prof. Dr. Alisa Tubsuwan (AT)
6. Asst. Prof. Dr. Alita Kongchanagul (AK)
7. Asst. Prof. Dr. Duangrudee Tanramluk (DT)
8. Asst. Prof. Dr. Narisorn Kitiyanant (NK)
9. Asst. Prof. Dr. Natee Jearawiriyapaisarn (NJ)
10. Asst. Prof. Dr. Phatchariya Phannasil (PP)
11. Asst. Prof. Dr. Poochit Nonejuie (PN)
12. Asst. Prof. Dr. Sirirat Kumarn (SK)
13. Dr. Chutima Thepparit (CT)
14. Dr. Duangnapa Kovanich (DK)
15. Dr. Ittipat Meewan (IM)
16. Dr. Kittiphong Paiboonsukwong (KP)
10. Dr. Noppon Petchyam (NP)
18. Dr. Promsin Masrinoul (PM)

Teaching & Learning Strategy
Seminar no.1-10

1) Attending the seminar
2) Group discussion

Symposium

1) Presenting research articles in molecular biosciences
2) Academic meeting organization

Assessment Criteria

Seminar section

Attending seminars (40 %)		
Assessment Criteria	**Assessment Method**	**Scoring Rubric**
Participation and punctuality (20 %)	1) Direct observation 2) Through student evaluation form submission	1) Attendance and punctuality 2) Participation; question-asking, discussion, and comments
Comprehension and knowledge (80 %)	1) Direct observation 2) In-class discussion	1) Comprehension of scientific content

	3) By means of student evaluation form	2) Asking logical questions. 3) Making logical comments or discussions

Symposium section

Presentation (30 %)		
Assessment Criteria	**Assessment Method**	**Scoring Rubric**
Abstract (10%)	1) Written abstract	1) Introductory Statement 2) Purpose 3) Methodological Approach 4) Finding 5) Contribution to Discipline 6) Professional Writing 7) Length 8) Originality
Oral Presentation (80%)	1) Presentation 2) Answering the questions	1) Organization 2) Scientific content comprehension 3) Presentation technique and use of visual aids 4) The ability to respond to questions 5) Time management
Participation (10%)	1) Direct observation 2) Class participation and question-asking	1) Attendance and punctuality 2) Participation; question-asking, discussion, and comments

Symposium organization (30 %)		
Assessment Criteria	**Assessment Method**	**Scoring Rubric**
Organizing an academic symposium	1) Direct observation 2) By means of participant evaluation form	1) Leadership (Decision making, planning, management) 2) Communication

Students must receive a score of 60% or more to pass the course. Student's achievement will be graded using symbols: A, B+, B, C+, C and F based on the following criteria;

Percentage	**Grade**	**Description**
≥ 80%	A	Excellent
75-79.99%	B^+	Good
70-74.99%	B	Fairly good
65-69.99%	C^+	Fair
60-64.99%	C	Poor

< 60%	F	Fail

However, the final grade will be adjusted based on the frequency distribution of the students' course-wide scores.

Appeal Procedure

If a student wishes to appeal an assessment or grade, he or she can contact the instructors and/or course coordinator immediately via direct contact, telephone, or email.

General Inquiry

Ms. Siriporn Monkasemsiri e-mail: siriporn.mon@mahidol.edu; Tel. 02-441-9003-7 ext. 1314

Date revised: Mar 18, 2023