CELLS AND MOLECULAR BIOLOGY 3(3-0-6)
MD 567 712
First semester, Academic Year 2021

Academic Affairs,
Faculty of Medicine,
Khon Kaen University
Course coordinators

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Course instructors
Login to KKU e-learning
Using KKU Single Sign On
Please join the group
Course description

- Biomolecules and molecular organization within cells
- **Cellular energy and metabolisms**
- Genome structure and gene regulation
- **Molecular structures of the cell and their functions**
- Cell cycle, growth and differentiation
- **Cellular interactions and communication**
- The immune system
- **Molecular and cellular basis of diseases**
- Cancer biology
- **Maintenance of life and control mechanisms**
Course organization

**Language**
- English

**Lectures**
- 12 lecture topics
- Questions & Answers (Q&A)

**Current topic discussions**
- 2 sessions
- Group Working

**Examinations**
- 3 examination sessions

**Grading**
- Passing level for B is 50% of raw score

9 WK course

On-line & On-site

On-site
<table>
<thead>
<tr>
<th>Week</th>
<th>Event</th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>Topic discussion I</td>
<td>TH 29th July 2021 (9-12 am)</td>
</tr>
<tr>
<td>4th</td>
<td>EXAM I</td>
<td>M 2nd August 2021 (1-4 pm)</td>
</tr>
<tr>
<td>6th</td>
<td>Topic discussion II</td>
<td>TH 19th August 2021 (9-12 am)</td>
</tr>
<tr>
<td>7th</td>
<td>EXAM II</td>
<td>M 23rd August 2021 (1-4 pm)</td>
</tr>
<tr>
<td>9th</td>
<td>EXAM III</td>
<td>W 8th September 2021 (9-12 am)</td>
</tr>
</tbody>
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Written examinations

- Exam I
  55 points = 24.14%
- Exam II
  70 points = 30.72%
- Exam III
  55 points = 24.14%

Total: 79%

Topic discussions

- Topic discussion I
  = 10%
- Topic discussion II
  = 10%
- 20%

Total: 20%

Instructor & course evaluations

- 1%

Total: 50% = B

*Written Examination scores worth 5 points per one-hour lecture.

**Your answers must be written in English.
Learning method:

• You will be divided into **groups of 10-12 persons**. In a group, you may be divided into **sub-groups of 3-4 persons** and work as a team.

• A selected **scientific article** related to the lecture topics will be provided to students **a week prior** to the scheduled date.

• All students are expected to **understand** the given article and encouraged to **actively participate** in the session.

• A set of **questions for the short answer** will be provided and there will be an **end-of-session quiz (20 min)**.
Current topic discussion evaluation form  
(Last updated, ACY2019)

### Evaluation form

**Rating scale:** 3 = Excellent  
2 = Average  
1 = Poor  

**Assessor:** ☐ Assoc. Prof. Chaisiri Wongkham or ☐ Dr. Weerapon Sangartit

<table>
<thead>
<tr>
<th>No.</th>
<th>ID</th>
<th>Name</th>
<th>Program</th>
<th>Sub-group</th>
<th>Punctuality (3)</th>
<th>Participation and communication skills (3)</th>
<th>Knowledge/Ability to response questions (6*)</th>
<th>Critical thinking/Providing further information (3)</th>
<th>Total (15)</th>
</tr>
</thead>
</table>

- 1% Punctuality (3 scores)
- 1% Active participation and communication skills (3 scores)
- 2% Knowledge/Ability to response questions (6 scores)
- 1% Critical thinking/Providing further information (3 scores)

= 5% grading score

Guideline notes: For the marking of participation and communication skills, participants are expected to show up on time or no later than 10 min late and 1 - showing up on time or no later than 15 min late. Participation and communication skills: scaling the extent to which one can communicate orally, listen and ask questions, work as a team and express effectively his/her ideas. Knowledge/Ability to response questions: scaling the extent to which one can demonstrate his/her understating of the assigned scientific paper and respond guiding questions effectively. Critical thinking/Providing further information: scaling the extent to which one can demonstrates an ability to understand the content and go further, accommodate new ideas or viewpoints and link present content to the background knowledge gained in the classroom or from other sources.

* Score of 6 – the given score x 2
A set of questions for the short answer
(20 min)

2. [2 Marks] Compare the structural features of proteins and glycans. Why are carbohydrate structures on the outer surface of membrane ideal for carrying the information necessary for cell-cell recognition?