Introduction to Molecular Cell Biology and Genetics (MCBG)

Course Leadership

Kim Foreman, Ph.D.  Course Director
Bill Simmons, Ph.D.  Assistant Course Director
Maureen Locklund  Course Coordinator
Room 310

Interdisciplinary Course

Biochemistry – proteins, building blocks of proteins
Molecular Biology – DNA, transcription, translation, gene expression
Genetics – single gene mutations, genetics of individuals & populations
Cell Biology – membranes, vesicular transport, signal transduction, etc.
Cancer Biology – summary of topics
Why Are We Learning This?

Foundation of clinical medicine
Brings everyone to the same level
Covered on Step 1

Course Organization

- Small group problem solving sessions (1 hour 45 minutes)
- Recap session (30-45 minutes)
- Lecture (1-2 hours)
- Genetics Project

Resources

- Course Description – Lumen (MCBO website), Sakai
Resources

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Resources

- Lecture notes – LUMEN Calendar
- Key Concepts and Learning Objectives
- Lecture slides
- Explanation of most important concepts

Resources

- Course Description – LUMEN (MCBG website), Sakai
- Lecture notes – LUMEN Calendar
- Key Concepts and Learning Objectives
- Most lecture slides
- Explanation of slides
- Lecture slide set – LUMEN Calendar
- Videos – LUMEN Calendar

Resources

Textbooks

- Molecular Cell Biology
  - Molecular Biology of the Cell (Alberts et. al; 5th edition)*

- Biochemistry
  - Textbook of Biochemistry with Clinical Correlations (Devlin)*
  - Medical Biochemistry, the Big Picture (Jernan and Tischler)
  - Principles of Medical Biochemistry (Meisenberg and Simmons)

- Medical Genetics
  - Thompson and Thompson Genetics in Medicine (9th edition)*
  - Human Genetics from Molecules to Medicine (Schafal et. al.)
### MCBG Grading – Pass / Fail

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>~54</td>
<td>96%</td>
</tr>
<tr>
<td>Exam 2 (cumulative)</td>
<td>~71</td>
<td></td>
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<tr>
<td>Exam 3 (cumulative)</td>
<td>~70</td>
<td></td>
</tr>
<tr>
<td>Medical Genetics Project</td>
<td>8</td>
<td>4%</td>
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</tbody>
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**Pass:** >70%  
**Fail:** <70%  
Scores are not rounded

### Evaluated Competencies

- Medical Knowledge – exams
- Interpersonal and Communication Skills – small group
- Professionalism – small group, interactions with faculty
- Practice-based learning and improvement – genetics project

### Small Group Sessions: Purpose

- Review and apply knowledge from previous lecture
- Build team-based problem solving skills
- Student-centered learning
Small Group Sessions: New Aspects

- White boards for focused discussion
- Problem sets available on Sakai
  Available on Friday for the following week’s sessions

Small Group Sessions: Your Responsibilities

- Attendance is mandatory
- 8:00 a.m.
- Download the problem set; bring to small group
- Participate in discussion
- Minimize use of notes and computers, whenever possible
- Minimize side conversations
Small Group Sessions: Challenges

- Your personality
- Your background/knowledge base
- Know your strengths
- Acknowledge your weaknesses
- Demonstrate an eagerness to learn

Important Dates

- August 5: Submit Form 1
- August 14: Deadline to sign up for SG individual meetings
- August 16: Deadline to submit Genetics Projects topic
- August 19: Exam 1
- August 22: Special library lecture (mandatory)
- August 26: Submit Form 2
- September 4: Exam 2
- September 13: Genetics Project Presentations
- September 13: Submit Genetics Project abstract and bibliography
- September 23: Exam 3
Final Thoughts

➢ We are here for you!

➢ If you have questions, ask!
  ➢ Interrupting lecture with a question is OK.
  ➢ Q&A sessions on Friday afternoons
  ➢ Online questions posted to Sakai
  ➢ E-mail questions
  ➢ Schedule an appointment with the faculty.

➢ If you are struggling, ask for help.
  ➢ Don’t delay!
  ➢ Join a study group
  ➢ Contact ACE – time management and study skills
  ➢ Contact ACE – tutors