

BIOD17 Seminars in Cellular Microbiology

Course Outline

Winter 2015

BIOD17 offers an overview of the basic and most significant advances in cellular microbiology. This discipline studies the interplays between pathogenic bacteria and mammalian cells, combining knowledge and techniques from cell biology and microbiology. The curricula of BIOD17 includes the study of bacterial pathogenic mechanisms, specially those related to bacteria invasion and replication in mammalian host cells.

Students will be provided with research papers and reviews on pathogenic microorganism and attend to lectures in selected topics relevant to the field. Students will work in teams to present seminars on research papers and to debate in class. Also, students will have to write, individually, 3 assignments on scientific papers.

At the end of the term, it is expected that students will be able to understand and critically analyze scientific literature in the field of cellular microbiology.

Course structure and grading:

1- Lectures

Lectures will be provided during the first 2 weeks of class, total time: 6h . The lectures are aimed to introduce the students theoretical and methodological concepts on Cellular Microbiology. Lecture slides will be uploaded to the intranet 24h in advance.

2- Assignments

You will have to answer 3 questioners on research articles. The assignments will consist on 10-15 questions that must be answered individually and e-mailed to your T.A as a PDF file by the announced deadline.

📌 Each assignment will contribute to 10% of your final grade

3- Seminar Presentations

📌 Attendance to the seminar presentations is mandatory!

Students divided in groups have to present one research article twice. The first presentation is a 10 min introductory seminar. The second presentation is a “full

paper” presentation of 45 min, followed by a questioning and discussion period of 45 min.

Presentation modality: power point slides. Papers for presentation will be assigned to each team in the first week of class. Every integrant of the presenting team must participate in the preparation of the seminar, in the presentations and answering Q's from the audience.

Short presentation:

Each group presents a 10 minutes power point presentation (8 power point slides) on their seminar paper. The presentation must include an introduction to the paper and its hypothesis and main objectives.

Each presentation is followed by 2 minutes of questions from the students in the audience

Full paper presentation:

Each group has to deliver a **45 min** presentation on their seminar paper. The presentation will be followed by a **45 min** period of questions and discussion with the students in the audience.

The Friday prior to the seminar, **the presenting group has to mail** to the TA:

- 1- PDF handouts of the power point presentation
- 2- A summary on the paper of 2 pages, single space, + figures in separate pages. The summary should be very, very, very clearly written and proof-read. I will be upload it to blackboard for your classmates to study.
- 3- eight questions based on the paper to interrogate the students in the audience.

The presenting group must arrive in to the classroom in advance to load in the computer and set up their presentation.

 **The seminar presentations will contribute 25% of the final grade**

What do I expect from the audience groups?

All the students in the audience must read the seminar paper!

Each seminar group in the audience team will prepare 5 questions to interrogate the presenting group and will email to the TA the Friday prior to the presentation.

Audience groups will ask as many questions as time allows, in rounds of 1 question per group.

 **The 5 questions will count in the final group participation mark.**

4- Participation

This is a seminar course. You have to participate in class!

Discussions are crucial for the dynamics of a seminar. **You must ask questions and speak up your opinion in class!** Audience and presenting groups will receive a participation mark based in questions asked in class and contribution to class discussion. I will ask questions to both the audience and the presenting groups.

 **Participation will contribute to 15% of your final mark**

5- Final Exam

Modality: Short answer questions on a research paper.

Duration: 3h

A research paper will be assigned and posted in blackboard 3 days prior to the day of the exam. You will be able to read and discuss it with your course mates or family. You can bring and consult your notes on the paper during the exam.

However, students have to write the exam individually.

 **The final exam will contribute to 30% of you final grades**

6- In summary

- Assignments will contribute to 10% of your final grade (total 30%)**
- The seminar presentations will contribute 25 of your final grade**
- Participation will contribute to 15% of your final mark**
- The final exam will contribute to 30% of you final grades**

Office hours: in Room SW-535 (Science building) or by e-mail
terebiznik@utsc.utoronto.ca.

Some directions and considerations for the presentations.

adapted from http://130.15.90.245/tips_for_a_great.htm

Scoring Rubric for Seminar Presentation

Clarity (20%)

- Well thought out
- Use of proper language
- Significance clearly stated
- Subject properly introduced

Poor 1 2 3 4 5 excellent

Style and delivery (20%)

- Proper use of the time
- Good pacing
- Doesn't read
- Logic flow of the speech

Poor 1 2 3 4 5 excellent

Use of visual aids (20%)

- Size and labels are clear
- Very little text
- Figures and imaging are described correctly
- Well placed images

Poor 1 2 3 4 5 excellent

Content (20%)

- Correctly identifies the hypothesis
- Has understanding of the experimental approach and significance
- Critically evaluates results, methodologies and conclusions
- Integrates results to a broader context
- Identifies future avenues of investigation

Poor 1 2 3 4 5 excellent

Ability to answer questions (20%)

- Understand audience questions
- Anticipates audience questions
- Can integrate knowledge to answer question
- Thoroughly responds to most questions

Poor 1 2 3 4 5 excellent

Speak slow, loud and clear. Keep it entertaining. It is important to seek for a logical flow of the material presented.

Be creative and critical. Remember that you are not only presenting to me, you are presenting to the class. You will discuss the paper with your fellows; and a little bit with me too.

Notice that you will be dealing with real science not with textbook material. Therefore, speculation, controversy, discussion, challenging of ideas are part of science and science and papers are not absolute.

Be open-minded and friendly when discussing with your pairs. Listen to the questions and try to answer in a clear way. Make cartoons and use models to help people understand. Keep it simple. The Force will be with you!

Sections in your presentation

Introduction. Don't jump right the way into the research. Show the big picture in the intro. Introduce the relevance and history of the problem to the audience. Clearly explain the rationale behind the hypothesis of the paper. Use the paper's intro as a guide, use PubMed and internet for material.

Hypothesis and objectives. Make it clear to the audience, It is usually enunciated in the title.

Methodology. You must understand the methodology. Comment on the methodological approaches used in the paper and if necessary, explain new techniques that are introduced in the paper, take your time for this. You can have a separate section for the methods or present it as required during the discussion of the results. Give your opinion about the appropriateness of the author's chosen methodology and think of alternative approaches.

Results. You have to do a good job here. Sometimes papers include a large number of figures and supplementary material. Select the most relevant results for the presentation, considering the time. Present the figures clearly. Use an appropriate size for the graphs and figures. Decompose the original figures in order to keep slides simple and easy to understand and follow. Make annotations and draw on the figures to highlight what you consider important and will be commented in your speech. Discuss the results being critical, but in a constructive way, so we can learn from it. You can doubt and complain about the results and rationale behind each experiment but try to propose alternatives. Pay attention to experimental controls.

Conclusion. Remark on the most important findings and general conclusions brought by the paper; the take home message. Discuss the impact of the paper comparing it with other relevant papers in the field. Always give the team impression. Bow to the class and applause.