INSTRUCTOR: Verónica G. Rodriguez Moncalvo, Ph.D.
Email: rodrigvg@mcmaster.ca  Location: Thode Library 306/308

TEACHING ASSISTANTS: TBA

Course Description:
In this course we will examine how a cell interacts with its microenvironment and its neighbouring cells. Using current techniques in cell imaging, we will begin with an examination of the biochemical and physical properties of the single cell and progress towards an understanding of tissue morphogenesis and development. The topics will be taken in the context of the impact of diseases, pathogens, and chemicals on diverse biological systems.

Pre-requisites: Biology 2B03 (or ISci 2A18 A/B), and Biology 2C03 or LifeSci 2G03; and registration in Level III or above of an Honours program in the Faculty of Science.

Class time:
Lectures: Tuesdays, Thursdays, and Fridays, 2:30pm - 3:20pm in DSB AB102.

Required Texts & Materials:
There is not required text for this course. The course outline, reading materials, and lecture notes (PDFs) will be posted on the course website (http://avenue.mcmaster.ca/). Please make sure you check the course website frequently!

Course Objectives:
- By the end of this course students will be able to:
  - Read, interpret, and concisely summarize current research in the field of cell biology
  - Understand chemical and physical principles that underlie cell behaviour
  - See the importance of understanding underlying principles and models in the study of human health

Format:
There are three 50 minute lectures per week. An online Discussion Board will be utilized to further discuss lecture content.

Evaluation:
Top 3 out of 4 tests (25% each) 75%
Group Research Proposal
  Outline 10%
  Final Research Proposal 15%
TOTAL 100%
Term Tests
There are a total of 4 term tests scheduled during regular class time (one test per Module; see course schedule). The scheduled tests will not be changed and you must write all 4 tests. The top 3 of 4 test marks will contribute to your final grade.
There are NO MAKE-UP TESTS in Life Science 3M03. There is no final exam in Life Science 3M03.

Research Proposal
Students will work in groups to take the theoretical microscopy and biological technology techniques presented in the course, and apply them towards proposing a research project that would be able to answer a fundamental question related to aspects of cellular dynamics and human health. The end goal will be to design a project that has the potential to contribute to the larger field of cellular and molecular biology.

Tentative Schedule:
For each module there will be 6 lectures plus one review lecture. The instructor reserves the right to modify elements of the course. Any changes to the tentative schedule below will be posted on Avenue to Learn and will notify students in class.

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<tr>
<th>WEEK</th>
<th>LECTURE TOPIC</th>
<th>IMPORTANT DATES</th>
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| I (Sept 5) | Introduction to course  
Overview of Research proposal  
Module 1: How do cells move? | |
| II (Sept 11) | Module 1: How do cells move? | |
| III (Sept 18) | Module 1: How do cells move?  
Review | |
| IV (Sept 25) | Module 2: Molecules Moving in the Living Cell | TEST 1: Tuesday Sept 26th (IN CLASS: 2:30-3:20pm) |
| V (Oct 2) | Module 2: Molecules Moving in the Living Cell | |
| Oct 9-15 | | MIDTERM RECESS |
| VI (Oct 16) | Module 2: Molecules Moving in the Living Cell  
Review | Research proposal outline due on Monday Oct 16th by 9 am  
TEST 2: Friday Oct 20th (IN CLASS) |
| VII (Oct 23) | Module 3: Cells contain molecular machines | |
| VIII (Oct 30) | Module 3: Cells contain molecular machines | |
| IX (Nov 6) | Module 4: Cell dynamics in a crowded environment  
Review | TEST 3: Friday Nov 10th (IN CLASS) |
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<td>X (Nov 13)</td>
<td>Module 4: Cell dynamics in a crowded environment</td>
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<tr>
<td>XI (Nov 20)</td>
<td>Module 4: Cell dynamics in a crowded environment Review</td>
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<td>XII (Nov 27)</td>
<td>TEST 4: Tuesday Nov 28th (IN CLASS)</td>
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<td>XIII (Dec 4)</td>
<td>Research proposal due by Monday December 4th, by 9 am</td>
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**Course Procedures**

**Absences & Missed Work:**

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar “Requests for Relief for Missed Academic Term Work”.

If you are absent from the university for a minor medical reason, lasting up to 3 calendar days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (MSAF). Absences for a longer duration or for other reasons must be reported to your Faculty office, with documentation, and relief from term work may not necessarily be granted.

When using the MSAF, report your absence to the Instructor immediately after using the online tool (normally within 2 working days) regarding to the nature of the relief. Failure to do so may negate the opportunity for relief. The instructor will indicate what relief may be granted for the work you have missed.

**Checking Your Grades:**

All grade concerns and discrepancies must be reported to the TA and/or Dr. Rodriguez Moncalvo within a week of receiving the grade.

**Re-mark Policy:**

Requests for re-evaluation of tests or assignments must be made in writing to Dr. Rodriguez Moncalvo within one week of return of the marked term test or assignment. Please be aware that an approval for a remark can result in an increase, decrease or no change to the original mark.

**Communication between Students and Faculty:**

The University’s official method of correspondence with students is through a valid McMaster University e-mail account. It is the student’s responsibility to keep his/her @mcmaster.ca account active and check it on a regular basis. All emails from students must include your full name and course code. Emails will be replied to within 72 hours.

**Student Responsibilities:**

To get the most out of the course, you must be prepared to:
• attend all sessions, make up all missed work, and provide documentation for authorized absences;
• interact frequently with faculty, students, TAs, and other support staff;
• plan and manage your own time;
• complete preparatory tasks (such as reading, writing assignments, and initial research) in advance of sessions;
• develop and use reflective learning skills (for example identifying learning objectives, planning and carrying out research tasks, acting on academic feedback);
• work as an effective, efficient, and responsive team member on group assignments;
• follow all the guidelines as outlined in the Introduction section of the Laboratory Manual;
• check the course Avenue site, and your McMaster and Avenue e-mail daily for updates; and,
• follow all university policies and guidelines, and in all ways be a responsible university member.

**Senate Student Policies**


Senate Policy Statements are also available from the Senate Secretariat Office, Room 104, and Gilmour Hall.

**Academic Integrity** - [http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf](http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf)

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty.

The following illustrate only four of many forms of academic dishonesty:

• plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained;
• copying or using unauthorized aids in laboratory exercises
• improper collaboration in group work; and
• copying or using unauthorized aids in quizzes, tests and examinations

All students are reminded of the importance of academic integrity, and the serious consequences of academic dishonesty.


You acknowledge that your behavior in all aspects of this course should meet the standards of the McMaster University Student Code of Conduct. You understand that any inappropriate behavior directed against any of your colleagues, teaching assistants, or the instructional team will not be tolerated. Disruptive behavior during any session (e.g. lecture, seminar, lab, tutorial) such as talking, sleeping or non-class computing while an individual presents information, or constantly being late, will also not be tolerated. Abuse, ridicule, slander, inappropriate language, and discrimination towards instructors teaching staff, teaching assistants and other students will not be tolerated in any capacity. Shared spaces including e-spaces such as the Avenue to Learn course discussion board are to be considered inclusive and safe.
**Plagiarism Detection**
In this course, we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com and in hard copy so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., online search, etc.). To see the Turnitin.com Policy, please go to [www.mcmaster.ca/academicintegrity](http://www.mcmaster.ca/academicintegrity).

**Copyright Policy**
In this course you will have access to material that is subject to copyright laws. This includes (but is not limited to) textbooks and all resources developed by the instructors such as lab manuals, demonstration videos, quizzes, assignments, tests, class notes and class slides. Under no circumstance are you allowed to share or redistribute this material in any printed or electronic form without the explicit written consent of the copyright holder. This includes posting any course material on Internet bulletin boards, course repositories, social networks, etc.

**The instructors and the university reserve the right to alter this outline if necessary.**
The instructors and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.