Course coordinator: Prof. Andrade  
E-mail: mandrade@utsc.utoronto.ca  
Office: SW 551

Class Meetings:

<table>
<thead>
<tr>
<th>Fall 2014: Wednesdays, 14:00 - 16:00, IC328</th>
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<tr>
<td>Winter 2015: Mondays, 15:00 - 17:00, IC328</td>
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This class will **NOT** meet every week. Time and location may change to accommodate research schedules, this will be discussed in class.

Other important support people:  
  i) your faculty supervisor  
  ii) your group TA

**WHAT IS BIOC99?**

This course provides an introduction to academic research and collaboration. A group of 3-5 students work together to develop a research proposal and/or implement a research project under the general guidance of a faculty researcher and the direct supervision of a teaching assistant. In addition to learning about the process of scientific investigation, students learn to work as part of a team, and about the stages in research design, implementation and communication.

**REQUIRED PREPATORY TRAINING**

Students working in a lab or doing field research must complete WHMIS & Lab Safety Training. Students must contact Human Resources for this training (**416-287-7073**). Students working with animals must undergo animal care training. Students working with biohazards must undergo biosafety training. All students should consult with their TA and supervisor regarding the training that is required.

**COURSE OVERVIEW**

This course typically combines a few sessions of in-class discussion and presentations with intensive time in the laboratory. Classes are taught by Prof. Andrade and research time is facilitated and directed by your group TA, in consultation with your faculty supervisor.

Questions regarding research challenges/issues are best directed to your TA and faculty supervisor. Questions regarding collaboration, scientific communication, accessing library resources etc. are best directed to Prof. Andrade.

**OBJECTIVES:**

By the end of the term students should be able to:

1) Efficiently search for and critically read the primary literature.  
2) Identify underlying assumptions in research papers.  
3) Understand methodologies of research papers.
4) Evaluate data and assess the validity of inferences based on these data.
5) Synthesize information from a variety of sources to support an argument.
6) Explain and discuss the relative merits of conflicting hypotheses in their field.
7) Propose new investigations that could extend knowledge in their field.
8) Understand their own strengths and weaknesses when doing team work.

Your research supervisor may have other learning goals that centre around the theory and methodologies specific to their discipline.

**COURSE STRUCTURE**

- Each team will meet weekly with the Teaching Assistant, and periodically (typically 1x per month) with the faculty supervisor on a schedule worked out at the beginning of the term.
- All teams will participate in 2-4 class meetings with the course coordinator in a time set by the course-coordinator at the beginning of the term.
- Online tools for communication within and between groups, and between the course coordinator and student groups will be enabled on a Blackboard homepage. Library resources will also be provided. Access the Blackboard page with your UTorID via the portal (https://portal.utoronto.ca/).

**MARKING SCHEME**

10% Based on participation & presentations in meetings (2-4) with course coordinator. This will include a final oral presentation of your project which your faculty supervisor, TA, and labmates will be invited to attend.

90% determined by your faculty supervisor as outlined on the ‘Permission for BIOC99 Team research’ form. This will typically involve some portion of your mark for laboratory work and collaboration and the bulk of your mark for a written paper.

Class Schedule (Tentative)

<table>
<thead>
<tr>
<th>Fall 2014</th>
<th>Winter 2015</th>
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<tr>
<td><strong>Meeting purpose</strong></td>
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<tr>
<td>Wed. Sept 3</td>
<td>Determine class meeting days, discuss course organization</td>
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<tr>
<td>Week of 8 Sept</td>
<td>Meet with TA &amp; research supervisor</td>
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<tr>
<td>Wed. Sept 10</td>
<td>Discuss paper on collaborative work &amp; ‘talk bootcamp’</td>
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<tr>
<td>Wed. Sept 17</td>
<td><strong>Informal talk: Research proposal &amp; research work plan (~15-20 min)</strong></td>
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<tr>
<td>Week of 13 Oct</td>
<td>Holiday, reading week</td>
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<tr>
<td>Week of 20 Oct</td>
<td><strong>Research update &amp; writing plan (~10 min talk)</strong></td>
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<tr>
<td>Mon. Dec 1</td>
<td>Research paper due (to faculty supervisor)</td>
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<tr>
<td>Dec 2 - 4 (TBD)</td>
<td><strong>Formal Research talk (~20 - 45 min)</strong></td>
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