WELCOME TO BIOD30!
The knowledge you learn in this course is valuable for understanding the relationship of basic research to applications that help society. Students who make a strong effort can expect to become better problem solvers and critical readers of scientific literature, and can also expect to develop the ability to identify what intellectual resources and techniques are required to attack a particular problem. BIOD30 can also help you be a better science-literate citizen in a complex world. If you keep up with the learning activities of this course it also can be fun!

INTERACTION TIMES AND COMMUNICATION METHODS

<table>
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<tr>
<th>The two meetings per week for this class are both essential and participation and attendance is required; either session might be lecture-like or tutorial-like. Class meets 3-5 on Tuesday (in MW 130) and Thursday (IC120). Tuesday and Thursday class meetings start in the first week of classes and occur every week.</th>
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<td>Office hours are Wednesdays 4-6 in SY246</td>
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<td>Please address all questions to Dr. Hasenkampf at <a href="mailto:hasenkampf@utsc.utoronto.ca">hasenkampf@utsc.utoronto.ca</a>. Please use your U of T email account. Allow 2 working days for a response (but often response times will be quicker than that).</td>
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Dr. Patti Stronghill will be the TA for the course.

This course is about reading the primary literature in Plant Science and developing strategies and skills to fully appreciate the research undertaken by these plant scientists. There is no textbook; readings will be placed on the blackboard site. To accomplish this, the first week will be an overview, then we will have three guest speaker cycles; prior to each speaker’s presentation we will read the articles and develop the background knowledge necessary to appreciate and critique their work. Toward the end of the course students will give presentations on an area of plant biotechnology of their choice.

**First Research Presentation Cycle Jan 12, 17,19,24, 26 and 31**

- **Jan 26th**
  - Jacqueline Monaghan from Queen’s University; her presentation is on Jan 26th and is titled, “Mechanisms regulating immune signaling and homeostasis in plants”

**Second Research Presentation Cycle February 2,7,9,14,16 and 28**

- **Feb 16th**
  - Keshav Dahal from University of Toronto Scarborough; his presentation is on Feb 16th and is titled, “Improving Crop Productivity under Future Sub-optimal Growth Conditions”

**Third Research Presentation Cycle March 2,7,9,14,16 and 28**

- **March 16th**
  - Dario Bonetta, University of Ontario Institute of Technology; his presentation is on March 16th and is entitled “TBA”

LEARNING GOALS FOR STUDENTS

**LO1**: Students will be able to identify distinctive features of plants and plant cells and systems that allow them to be used for translational research that addresses global problems.

**LO2**: Students will be able to identify essential features of testable hypotheses and develop skill in developing and assessing experiments that test hypotheses.
LO3: Students will improve their ability to analyze complex problems by identifying the key terms, concepts and techniques they need to solve a specific problem and gain experience in how to develop strategies/experiments to address these problems.

LO4: Students will improve their skill in scientific communication with peers and professional scientists and in presenting and defending hypotheses.

LO5: Students will learn to efficiently find and use library and internet resources and cite articles correctly.

LO6: Students will become more proficient at working collaboratively as part of a team to accomplish personal and group learning goals. This includes learning to distribute a task’s workload equitably and to give each other constructive active feedback in a professional and constructive manner.

LO7: Students will practice their leadership skills within the context of team discussions and assignments.

LO8: Students will practice communicating as a professional in all correspondence for this course including: emails to team mates, TAs and instructor, organization of project notes, and oral and written assignments.

DATES, DEADLINES AND ACTIVITIES ON THESE DATES
January 3, 5  Review of macromolecules, respiration and photosynthesis, Dr. Hasenkampf

For class on Jan 10: read articles on 1) ‘How to Read Scientific Articles” 62123 and 62124 2) ‘Team Effectiveness’ 62334 and 3) Current Challenges ....Plant Biotechnology 63127 for the following week.

For class on Jan 12 - read Dr. Monaghan’s first research article assignment 63129, complete the ANT ‘article notetaking template’, and take the online quiz on first reading assignment before Jan 12th class meeting.

January 10  Plant Biotechnology perspective, team work exercises, critical Reading of Scientific Articles and concept mapping and visit by Ms Maggie Roberts re: critical reading of literature and concept mapping.

January 12  First Dr. Monaghan research paper assignment: Have read article, taken online quiz, bring completed article notes to class (using the ANT article note taking template). Visit by librarian Sarah Guay on using library resources.

For the class on Jan 17th get your presentation ready (if you have one); For the class on Jan 19th class read second primary research article assignment 63131 and 63134, take online quiz, and bring completed ANT notes to class Jan 19th.

January 17th  Student presentations on key techniques and terms used for research paper assignment 1.
January 19th  Second Dr. Monaghan research paper assignment: Have read articles, taken online quiz, bring completed ANT notes to class.

For the class on Jan 24th get your presentation ready (if you have one). For the class on Jan 26th review your ANT sheets and notes from student presentations. Think about what questions you may have for Professor Monaghan, suggestions etc.

January 24th  Student presentations on key techniques and terms used for research paper assignment 1.
January 26th  Professor Monaghan’s presentation and Q&A.
For January 31st Complete your summary of Dr. Monaghan’s body of work and concept map, bring your residual questions to class.
For February 2nd class - read Dr. Dahal’s first primary research article assignment (# provided later), complete the ANT ‘article notetaking template’, and take the online quiz on first reading assignment before Feb 2nd class meeting.

January 31st ‘Monaghan’ summary assignment due; Class debrief on Professor Monaghan’s presentation and Plant Immunity Concept Map
February 2 First Dr. Dahal research paper assignment: Have read article, have taken online quiz, bring completed ANT notes to class.

For the class on Feb 7th get your presentation ready (if you have one);
For the class on Feb 9th class read second Dahal research article (# provided later), take online quiz, and bring completed ANT notes to class Jan 19th.

February 7th Student presentations on key techniques and terms used for research paper assignment 1.
February 9th Dr. Dahal’s Second research paper assignment: Have read articles, have taken online quiz, bring completed ANT notes to class.

For the class on Feb 14th get your presentation ready (if you have one).
For the class on Feb 16th review your ANT sheets and notes from student presentations. Think about what questions you may have for Dr. Dahal, suggestions etc.

February 14th Student presentations on key techniques and terms used for research paper assignment 1.
February 16th Dr. Dahal’s presentation and Q&A.

February 21, 23 Reading Week get your presentation topics selected

For Feb 28th Complete your summary of Dr. Dahal’s body of work and concept map, bring your residual questions to class. Bring your team’s Plant Biotechnology Topic and the selected review article and two primary research articles to class.

For March 2nd class - read Dr. Bonetta’s first primary research article assignment, complete the ANT ‘article notetaking template’, and take the online quiz on first reading assignment before March 2nd class meeting.

February 28th Summary assignment due; Class debrief on Dr. Dahal’s presentation and Concept Map. Team’s bring their Plant Biotechnology topic selection to class with one review article and two research papers that will be considered.
March 2 First Professor.Bonetta research paper assignment: have read article, have taken online quiz, bring completed ANT notes to class.

For the class on March 7th get your presentation ready (if you have one);
For the class on March 9th class read Dr. Bonetta’s second research article assignment, take online quiz, and bring completed ANT notes to class March 9th.

March 7th Student presentations on key techniques and terms used for research paper assignment 1.
March 9th  Dr. Bonetta’s second research paper assignment: Have read articles, have taken online quiz, bring completed ANT notes to class.

For the class on March 14th get your presentation ready (if you have one). 
For the class on March 16th review your ANT sheets and notes from student presentations. Think about what questions you may have for Professor Bonetta, suggestions etc.

March 14th  Student presentations on key techniques and terms used for research paper assignment 1.
March 16th  Professor Bonetta’s presentation and Q&A.

For March 21st Complete your summary of Dr. Bonetta’s body of work and concept map, bring your residual questions to class.

March 21st  Summary assignment due; Class debrief on Dr. Bonetta’s presentation and Concept Map
March 23rd  No class, students preparing their oral and written summary and concept map of a Plant Biology research/ Biotechnology topic of their choosing.

March 28, 30  Student team oral presentations.

**MARKING SCHEME**

| Part 1 | Research article Reading Assignment Quizzes | 6 quizzes, two pts each | 12 pts |
| Part 1 | Research article Reading Article summary sheet | 6 summaries, 3 pts each | 18 pts |
| Part 2 | Class Presentation on key article techniques & definitions | 6 presentations, 2pts each | 12 pts |
| Part 2 | Research presentation summary and analyses, | 3 summaries 6 pts each | 18 pts |
| | Team plans for their presentation (topic and selected articles) | | 1 pt |
| | Team oral presentations on a plant biology research topic (2-3 articles) | | 4 pts |
| | Individual article summaries (same articles as oral presentation), analysis and concept map | | 10 pts |
| Part 3 | Comprehensive exam (open book allowed materials include one’s own submitted work, and Dr. H’s posted lecture slides (not her notes) and assigned reading articles. | | 25 pts |

Some of you may be taking this course credit/no credit. That is fine, you are welcome in this course. But please realize that everyone’s learning in this course is interconnected to the work done by other students. The more different students there are that take the readings and work seriously, the more learning will occur. **Therefore to pass this course a student must pass Part 1 and Part 2, in addition to having an overall passing grade on the combined work of Parts 1,2 & 3.**

**COMMUNICATION INFORMATION**

Course announcements, communications and lecture notes will be available on the BIOD30 Blackboard course site. Be sure you have a Utorid and know how to access the Blackboard sites.

Check the Blackboard site regularly for important, time-sensitive announcements.

Normally, students will be required to submit their major assignments to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their writings to be included
as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of
detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on
the Turnitin.com web site. The TA will give you instructions on how to submit your assignment to TurnItIn
in advance of the submission deadline.

Course evaluations for this course and all UTSC courses will be done on-line; please participate. Your
assessments and insights are important to me in particular and the university in general!

ABSENCE POLICY

If you are prevented from attending or completing a course requirement due to any illness or other
circumstance of a grave nature, contact Dr.Hasenkampf by email within three days of the missed
requirement, clearly stating the reason. This explanation should be accompanied by a completed ‘Verification
of illness or injury’- form or other official documentation of the grave circumstance. These documents will
be used to determine eligibility to recover any lost marks.

The ‘verification of illness or injury’ form can be found at
http://www.illnessverification.utoronto.ca/getattachment/index/Verification-of-Illness-or-Injury-form-Jan-22-
2013.pdf.aspx A copy of the form is provided on the last page of the syllabus. Acquaint yourself with
its content such that in case of an emergency you can obtain the essential information required, even in the
absence of the official form.

Remember this course is about learning. When you are well, work hard and engage! If you are sick, take
care of yourself, do what you can from home and get back into the swing of the course once you are well.
Feel free to contact me for help strategizing for getting caught up.

The University of Toronto is dedicated to fostering an academic community in which the learning and
scholarship of every member may flourish, with vigilant protection for individual human rights, and a
resolute commitment to the principles of equal opportunity, equity and justice. The instructor and Teaching
Assistants of BIOD30 fully endorse this policy.

ACADEMIC INTEGRITY

The University treats cases of cheating and plagiarism very seriously. The University of Toronto’s Code of
Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines
the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences in papers and assignments include using someone else’s ideas or words without
appropriate acknowledgement, submitting your own work in more than one course without the permission of
the instructor, making up sources or facts, obtaining or providing unauthorized assistance on any assignment.
On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else’s
answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation
required by the University, including (but not limited to) doctor’s notes.

Please avoid academic dishonesty, have confidence in your own ability to learn and grow academically by
doing your own thinking and writing! I know you can learn a lot about genetics and yourself in this course.

ACCESSABILITY

Students with diverse learning styles and needs are welcome in this course! In particular, if you have a
disability/health consideration that may require accommodations, please feel free to approach me and/or the
AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure
you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in SW302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

OTHER PLANT SCIENCE SEMINARS ON CAMPUS (optional but might provide ideas for your presentations)
1) Professor Eduardo Blumwald. Modifications of Source-Sink Relationships, Chloroplast Turnover and Stress Tolerance in Crop Plants Thursday, January 12, 2017 noon-1:00pm in IC 318 refreshments served
2) Breaking codes and getting the message through: calcium signals and sensors in plants. Professor Wayne Snedden. Jan 20th 12-1 in SW403.