



UNIVERSITY OF CALGARY  
FACULTY OF SCIENCE  
DEPARTMENT OF BIOLOGICAL SCIENCES  
COURSE OUTLINE

1. **Course: PLANT BIOLOGY 401 – PLANT BIOTECHNOLOGY**

Lecture Sections: L01            MWF            11:00-11:50            MLT 118            WINTER 2015

Instructor(s):    Dr. P. Facchini (Coordinator)            BI 396            220-7651            pfacchin@ucalgary.ca  
                         Dr. D. Muench                            BI 397            220-7935            dmuench@ucalgary.ca

D2L course name: PLBI 401 L01 (Winter 2015) – Plant Biotechnology  
Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITE(S):**            Biology 233 or 243 and 331 and one of Biochemistry 341 or 393  
   See section 3.5.C in the Faculty of Science section of the online Calendar  
   (<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>)

3. **Grading:** The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Assignment	10%	
Midterm	30%	(February 23, 2015, 11:00 am - 11:50 pm; In-Class)
Term paper	25%	
Debate	5%	
Final Examination	30%	

The Final Exam will be scheduled by the Registrar's Office.

Each piece of work (assignment, term paper, midterm test or final examination) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar
5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours.

<b>Midterm</b>	<b>Monday, February 23, 2015 11:00 am – 11:50 pm</b>	<b>In-class</b>
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**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **Course Materials:**            TEXT:    N/A

**Online Course Components:** List online tools being used in the class outside of those provided by the University course Management system and Top Hat classroom response system. Note: Top Hat is allowed for all classes and may be used for grades. Instructors using Top Hat should plan to accommodate students who do not have access to a cell phone or portable computing device. Course components that are free to all students and that are not dependent on prior accesses are allowed. Those with APPROVED associated optional or mandatory course fees must be listed in section 8.

7. **Examination Policy:** Students should also read the Calendar, [Section G](#), on Examinations.
8. **Writing across the curriculum statement:** In this course, the quality of the student's writing in assignments will be a factor in the evaluation of this component. See also [Section E.2](#) of the University Calendar.
9. **Human studies statement:** Students in the course are not expected to participate as subjects or researchers. See also [Section E.5](#) of the University Calendar.

STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students are expected to be familiar with <http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html> of the on-line calendar.

See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

## 10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K. Student Misconduct](#) to inform yourself of definitions, processes and penalties.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: Students with Disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html> **B.1** and Student Accessibility Services: <http://www.ucalgary.ca/access/>.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 220-3911 Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca).  
SU Faculty Rep. Phone: 220-3913 Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca); [Student Ombudsman](#)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference - please participate in USRI Surveys.

Department Approval \_\_\_\_\_ ORIGINAL SIGNED \_\_\_\_\_ Date \_\_\_\_\_

PLBI 401 co W15; 12/3/2014 9:56 AM

UNIVERSITY OF CALGARY

DEPARTMENT OF BIOLOGICAL SCIENCES

COURSE OUTLINE

PLANT BIOLOGY 401

PLANT BIOTECHNOLOGY

TERM: Winter 2015 SECTION NO: 01

PREREQUISITES: Biology 233 or 243 and 331 and one of Biochemistry 341 or 393

NOTE: A student may not register in a course unless she/he has a grade of at least C- in each prerequisite course.

LECTURER(S): Dr. P. Facchini BI 396  
Dr. D. Muench BI 397

LECTURES: MWF 11:00-11:50 MLT 118

RESERVE READING ROOM: Materials relevant to the course may be placed in the Reserve Reading Room. You will be notified when such materials are deposited.

MARK DISTRIBUTION: A. Composition of Final Grade

Assignment	10%	
Midterm	30%	(February 23, 2015, 11:00 am – 11:50 pm; In-Class)
Term paper	25%	
Debate	5%	
Final Examination	30%	

B. Final Exam

There will be a final examination scheduled by the Registrar's Office.

DEFERRALS:

**Deferrals of term work (including the mid-term exam):** Any deferrals of term work will be arranged by the student in consultation with the lecturer for that section of the course. Deferrals will be allowed only for legitimate conflicts. Please see [http://www.ucalgary.ca/registrar/exam\\_info](http://www.ucalgary.ca/registrar/exam_info) .. Students should read the Attendance section in the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/e-3.html> . Students will be expected to attend examinations on the day and at the time indicated in the course outline if they have no legitimate conflicts. Medical difficulties that lead to the missing of term work will require a written excuse from an M.D. Such medical excuse forms should be provided to the course coordinator as soon as possible upon the student's return to University.

GRADING SCALE:

A+	>90%
A	85%
A-	80%
B+	77%
B	73%
B-	70%
C+	67%
C	63%
C-	60%
D+	55%
D	50%
F	<50%

## TENTATIVE LECTURE SCHEDULE

<u>Date</u>	<u>Topic</u>	<u>Instructor</u>
January 12	Plant Genomes I	PJF
January 14	Plant Genomes II	PJF
January 16	Plant Genomes III	PJF
January 19	Gene Structure and Regulation I	PJF
January 21	Gene Structure and Regulation II	PJF
January 23	Gene Structure and Regulation III	PJF
January 26	Plant Genetic Transformation I	PJF
January 28	Plant Genetic Transformation II	PJF
January 30	Plant Genetic Transformation III	PJF
February 2	Functional Genomics I	PJF
February 4	Functional Genomics II	PJF
February 6	Transcriptomics	PJF
February 9	Proteomics	PJF
February 11	Transposable Elements	PJF
February 13	Review	PJF
February 16-20	READING WEEK	
February 23	In-class Midterm Exam (11:00 am – 11:50 pm)	PJF
February 25	Post-transcriptional Gene Regulation I	DGM
February 27	Post-transcriptional Gene Regulation II	DGM
March 2	Post-transcriptional Gene Regulation III	DGM
March 4	Post-transcriptional Gene Regulation IV	DGM
March 6	The Chloroplast and Mitochondrial Genomes	DGM
March 9	Environmental Regulation of Gene Expression	DGM
March 11	Plant Bioplastics	DGM
March 13	Modification of Starch Quality and Quantity I	DGM
March 16	Modification of Starch Quality and Quantity II	DGM
March 18	Molecular Mechanisms and Engineering of Male Sterility and Hybrid Seed Production I	DGM
March 20	Molecular Mechanisms and Engineering of Male Sterility and Hybrid Seed Production II	DGM
March 23	Engineering of Nitrogen Use Efficiency	DGM
March 25	Molecular Mechanisms of Phytoremediation I	DGM
March 27	Molecular Mechanisms of Phytoremediation II	DGM
March 30	Engineering of Disease Resistance I	DGM
April 1	Engineering of Disease Resistance II	DGM
April 3	GOOD FRIDAY	
April 6	Debate preparation	DGM
April 8	The Great Debate: Genetically Modified Crops I	DGM/PJF
April 10	The Great Debate: Genetically Modified Crops II	DGM/PJF
April 13	The Great Debate: Genetically Modified Crops III	DGM/PJF
April 15	The Great Debate: Genetically Modified Crops IV	DGM/PJF