

BIOL 508

Biology of the Cell Cycle

Winter Term 2017-18

CALENDAR DESCRIPTION

Cell proliferation underlies development and tissue renewal and is implicated in many diseases. Our universal model of eukaryotic cell cycle control is based on studies in a number of model systems. The course will focus on control mechanisms, deriving information from systems as diverse as yeast and human cells. Introductory material will follow D. Morgan's book, *The Cell Cycle*, and then focus on the current research literature. Students will give an introductory as well as a research level seminar and write a research paper on the same theme of their choice.

PREREQUISITE BIOL 330 or BCHM 218 (MBIO218). BIOL 334 or (BCHM 315 and BCHM 316) or BCHM 310. Level 4 and registration in a Biology Honours Plan (BIOL-M-BSH, BIOL-P-BSH, BIMA-P-BSH, BIPS-P-BSH, BTEC-P-BSH, EBIO-P-BSH) and a minimum GPA of 2.0 in the Biological Foundations List and (BIOL 330/3.0 or BIOL 334/3.0 or BIOL 341/3.0 or BIOL 430/3.0) or permission of the Department.

SCHEDULE

Refer to the University Timetable for scheduling details.

Instructor	Dr. Paul Young
Instructor Contact	(613) 533 6148 paul.young@queensu.ca
Office Hours	Rm. 2443 Bioscience Complex. No specific times.
TAs:	None
TA Office Hours	None

Learning Objectives

The cell cycle course is a seminar module within our Biology 537 Honour's thesis program. Cell proliferation is at the heart of developmental biology and many human diseases. The course focuses on the control of cell growth and cell division, taking a somewhat historical view based on David Morgan's book, *The Cell Cycle*, and extending it up to the present time. Students will be exposed to the relevant major model systems (yeast, *Drosophila*, *Xenopus*) and to the mammalian system. It is wide ranging and deals with genetics, biochemistry and cell physiology. The course has a substantial growth control/cancer biology component but uses this to focus on the fundamentals of control in all systems. Students will give seminars based on the text as well as from their own readings in the research literature.

Learning Hours

<i>Teaching method</i>		<i>Average hours per week</i>	<i>Number of weeks</i>	<i>Total hours</i>
In-class	Lecture			
	Seminar	3	12	36
	Laboratory			
	Tutorial			
	Practicum			

Other	Group learning			
	Individual instruction			
	Online activity			
	Off-campus activity			
	Private study	7	12	84
Total hours on task				120

Course Outline

Seminar schedules will be arranged by mutual consent when class convenes.

Textbooks/Readings

The Cell Cycle, David Morgan

Grading Scheme

Component	Weight	Due dates
Text based seminar	20%	TBA
Literature review based seminar	30%	TBA
Research paper	40%	TBA
Participation	10%	TBA
Assignment due dates are distributed over the term.		

Grading Method

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Arts & Science Letter Grade Input Scheme

Assignment mark	Numerical value for calculation of final mark
A+	93
A	87
A-	82
B+	78
B	75
B-	72
C+	68
C	65
C-	62
D+	58
D	55
D-	52
F48 (F+)	48
F24 (F)	24
F0 (0)	0

Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Academic Integrity and Queen's Code of Conduct

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and conduct conform to the principles of academic integrity. Information is available in the Arts and Science Calendar (see Academic Regulation 1 - <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations>, on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>), and at Biology's website (<http://www.queensu.ca/biology/undergrad/integrity.html>) and from the instructor of this course.

Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulations on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodation Policy, Exam Conflicts, and Other Conflicts

Students who feel they need accommodations for disabilities or extenuating circumstances, or have a conflict between exams or other commitments should consult the Biology Department's website for details about how to proceed (<http://www.queensu.ca/biology/undergrad/integrity.html>). In general, the earlier a course coordinator is apprised of an extenuating circumstance, the more likely an accommodation can be made. Students are encouraged to be proactive in anticipating difficulties, when it is possible to do so.

Students may apply to write a make-up or deferred exam if they have an exam conflict as defined in the Academic Regulations of the Faculty (See Arts and Science Calendar Regulation 8 - <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations>). In this case, the student should report to the Exams Office first to verify that there is a genuine exam conflict. Biology professors will not consider your situation to be a conflict unless it meets the criteria set out by the Faculty of Arts and Sciences. Students may request a make-up or deferred exam if they have an exam conflict with

off-campus travel associated with a field course (e.g BIOL-307/3.0 or 407/3.0) that is held during the fall or winter terms.

Copyright

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Accommodation of Disabilities

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please visit the DSO website at: <http://www.queensu.ca/hcds/ds/>