BIOL530 – Origins of Biodiversity - Winter 2023 Syllabus

General Course Information

BIOL530 - Origins of Biodiversity (3.0 Credits)
Winter 2023 (January to April)
Modality: on campus (unless situations change)
Pre-requisite: 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 or permission of the Department. [Biological Foundations List:
BIOL 102/3.0; BIOL 103/3.0; BIOL 200/3.0; *BIOL 201/3.0*; *BIOL 202/3.0*; BIOL 205/3.0; BIOL 206/3.0; BIOL 212/3.0; BIOL 300/3.0; BIOL 330/3.0; BIOL 334/3.0; BIOL 339/3.0; BIOL 341/3.0; *BIOL 302/3.0*; *BIOL 303/3.0*.]
Exclusion: none
Recommended: second year statistics (e.g. BIOL 243, PSYC 202, STAT 269)
Location & Time:

Biosciences Room 3110

Monday: 10:00 – 11:30 am

Wednesday: 8:30 – 10:00 am

Course Website: https://www.paulmartinlab.com/biol-530

Instructor

Name: Dr. Paul Martin
Office address: Biosciences 4320A
Office hours: by appointment
Telephone number: 613-533-6598
Emails: pm45@queensu.ca
hellmayr@gmail.com
Website: https://www.paulmartinlab.com/

Course Description and Learning Outcomes

This course uses the latitudinal increase in diversity towards the equator as a launching point to explore how diversity forms, is maintained, and disappears, and why we find such dramatic variation in diversity around the world. Discussions will focus on both evolutionary and ecological perspectives of diversity, and we will review various hypotheses to explain latitudinal diversity gradients.

After successful completion of this course, students will be able to:

1. Explain how to approach answering broad questions in biology.
2. Critically evaluate the strengths, shortcomings and significance of scientific papers and ideas.
3. Integrate across scales to understand and assess the causes of biodiversity.
4. Identify and explore the linkages between evolution and ecology at all ecological scales.
5. Generate alternative hypotheses and tests for the causes of variation in biodiversity.
6. Articulate scientific arguments in oral and written forms in a concise, respectful, and effective way, including participation within an active scientific discussion.
7. Summarize complex scientific ideas and research to their peers in an engaging way in both oral and written forms.

Important Dates

Key dates (first day of class, tuition due date, last day to add/drop courses) are important to your academic success. Please find them at Important Dates.

Course Materials

The course involves reading and critically reviewing scientific literature (no textbook). The instructor will provide key papers for discussion in class during the course.

Course Expectations

You should expect to invest on average 10 hours per week in this course. This includes the time you spend in class, reading course material, and completing independent work (presentations, final paper). **Keeping up-to-date with readings and assignments is your responsibility.** The course website provides detailed information on the specific requirements for each assignment, the schedule for readings and presentations, and due dates for everything.

Equity, Diversity, and Inclusivity Statement

BIOL530 is committed to counteracting discrimination and developing a climate of educational equity that recognizes and respects the equal dignity and worth of all who seek to participate in the life, work and mission of Queen's University. Such a climate is created and maintained by developing a commitment to and understanding of educational equity, supported by policies, programs, curricula, practices and traditions that facilitate individuals, and equity-seeking groups, free, safe, and full participation. Queen's is situated on traditional Anishinaabe and Haudenosaunee territory. We are grateful to be able to be live, learn and play on these lands.

Contacting your Instructor

Throughout this course, you may come upon some general questions about the course and any assignments. Please first check to see if your question has already been answered in the detailed instructions on the course website. If not, please email your instructor at the emails listed above. Note that the instructor's Queen's email goes to spam for Queen's users, so expect a response from the gmail address.

Assessments & Weighting

Component	Weight	Due Date*
Presentation of hypothesis & predictions	30%	see course website
Co-presentation of critical assessment	15%	see course website
Major written paper	35%	see course website
In-class participation	5%	see course website

Due Dates and Late Policy

Most of the class involves student-led presentations and discussions scheduled for specific dates, limiting our flexibility. Thus, due dates for presentations are firm; if you cannot make your date due to illness or other Queen's-approved, unforeseen issues, then we will be required to schedule a make-up class during a different time slot (all of our regular slots will be booked).

The major written paper has a three-day grace period. This means that your paper is due on the date and time specified, but I will accept all submissions within 72 hours of the deadline without penalty. Short term academic consideration is therefore built into all due dates and will not be extended past this 3-day grace period. Papers submitted after the grace period will lose 10% per day (deducted from 100%).

Timing of Final Examinations

BIOL530 does not have exams.

Grading Scheme and 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

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

Course Announcements

I will share important course announcements by email with the class. Note that these emails will come from a gmail account because the course instructor's Queen's emails will go to spam for most students.

Accommodations for Disabilities

Queen's University is committed to achieving full accessibility for people 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 their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016. If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the **Queen's Student Accessibility Services (QSAS)** and register as early as possible. For more information, including important deadlines, please visit the QSAS website.

Academic Consideration for Students in Extenuating Circumstances

Academic consideration is a process for the university community to provide a compassionate response to assist students experiencing unforeseen, short-term extenuating circumstances that may impact or impede a student's ability to complete their academics. This may include but is not limited to:

- Short-term physical or mental health issues (e.g., stomach flu, pneumonia, COVID, vaccination, etc.)

- Responses to traumatic events (e.g., Death of a loved one, divorce, sexual assault, social injustice, etc.)
- Requirements by law or public health authorities (e.g., court date, isolation due to COVID exposure, etc.)

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the Senate Policy on Academic Consideration for Students in Extenuating Circumstances. Arts and Science undergraduate students should use the Faculty of Arts and Science protocol and the portal where a request can be submitted. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty. For guidance on **submitting requests**, please refer to the Resource Guides available on the Academic Consideration website under "Applying for Academic Consideration."

N.B: The COVID-19 pandemic is an evolving situation. If you have symptoms or are deemed a close contact of someone with COVID, please access our **COVID-Related Absence Reference Guide** on the Academic Consideration website. This guide will provide you with information on applying for consideration, the types of documentation (including non-medical documentation) you can use to support your request, as well as insight into how the Faculty office will assess these requests.

If you need to request academic consideration for this course, you will be required to provide the following name and email address to ensure it reaches our team accordingly:

Instructor/Course Coordinator Name: Dr. Paul Martin
Instructor/Course Coordinator email address: pm45@queensu.ca

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their Instructor as soon as possible once Consideration has been verified. Any delay in contact may limit the Consideration options available.

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, please see our website.

Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity: honesty, trust, fairness, respect, responsibility and courage. These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and

exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behavior conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1), on the Arts and Science website, 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 regulation 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.

We have had issues in the past with unintended plagiarism in related courses. Regardless of how and where you retrieve information, the principles of academic integrity apply. You may benefit from visiting these websites for further tips on what constitutes plagiarism and how to avoid it.

- Queen's SASS: Departures from academic integrity and how to avoid them
- Avoiding Plagiarism: Paraphrasing
- Quoting and Paraphrasing

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