Biology 3DD3
Communities and Ecosystems
Winter 2021 Course Outline

Course Details

Instructor: **Dr. Jurek Kolasa** (LS 340); kolasa@mcmaster.ca

Office hours: by appointment via email.
Lectures: Monday, Wednesday, Thursday. 10:30AM-11:20AM, Jan 6 – Apr 9, 2021.
Planned as synchronous/live lectures. Location To Be Determined

Teaching Assistants: TBD

Tutorial: 1 hour per week, scheduled per section – please consult Mosaic in January 2021.
Planned as synchronous/live tutorials.

Instructor Contact:
For all lab section changes, permission for missing coursework/midterms, contact your section TA via email. Subject matter contact: via Avenue: Communications -> Questions.

Course Description

The course attempts an in-depth presentation of how communities and ecosystems form and function, from the smallest to the global system. In addition to mechanism and principles governing multispecies ecological systems, topics may cover the effects of humans on such systems, in the context of local and global scale, global change, as well as the reciprocal interdependencies between humans and natural ecological systems. In terms of skills, the course aims at developing a broader and critical thinking about links between human activities and their consequences for natural ecological systems.

Course Learning Objectives

Upon successful completion of this course students will be able to:

- Examine, explain and critique important, and oftentimes unresolved, concepts and issues in ecology.
- Demonstrate problem-solving abilities informed by critical literature research, problem identification, sound data analysis, and appropriate interpretation of results,

communicated in a clear manner that adheres to modern standards of scientific communication (written and/or oral presentation).

- Identify the strengths, weaknesses and requirements of different approaches to "doing ecology", including: observation & description of natural patterns, model-building and laboratory & field experiments.

Course Schedule

Topics and approximate dates (to be decided in December)

Date	Lecture Topic	Comments/topic #
Dates TBD	Introduction, species and habitats	1
	Introduction, species and habitats	
	How to design an ecosystem ..	2
	Methods	3
	Site creation	4
	Dispersal	5
	Dispersal	
	Indirect interactions	6
	Indirect interactions: Queen of trees video	
	Queen of trees, continued	
	Assembly rules	7
	Succession (Okavango islands)	8
	Succession (Okavango islands)	
	Succession on land	9
	Succession on land	
	Catch up lecture	
	Catch up lecture	
	Catch up lecture (MIDTERM BREAK)	
	Catch up lecture (MIDTERM BREAK)	

	Catch up lecture	
	Midterm test	in class
	Succession in water	10
	Succession in water	
	Ecosystem concept ☺	11
	Ecosystem concept	
	Ecosystem change	
	Metacommunities	12
	Metacommunities	
	Catch up lecture	
	Island biogeography	13
	Island biogeography	
	Island biogeography	
	Biodiversity gradients	14
	Biodiversity gradients	
	Biodiversity gradients	
	Catch up lecture	
	Global ecology	15
	Global ecology	
	Global ecology	

IMPORTANT NOTE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If any modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes. Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.

Course Materials

Accompanying readings (provided for each major topic). The readings will be available through a TopHat education site as book chapters, about $36 per term.

Lectures: Monday, Wednesday, Thursday. 10:30AM-11:20AM, Jan 6 – Apr 9, 2021.
Planned as synchronous/live lectures.

1-hour tutorial once a week: date and time defined by your section as listed on MOSAIC.
Group projects and presentations on environmental issues, computer exercises.
Group meetings and discussions times and locations can be found according to your section as listed on Mosaic - please consult Mosaic in January 2021.
Planned as synchronous/live tutorials.

Course Evaluation

Grading Scheme:
Midterm (multiple choice and short answers) - 25%; Tutorial (participation and assignments) – 25%; developing exam questions (one question per topic) on PeerWise - 10%; Final exam (cumulative) – 40%. Details of the marking scheme will be discussed during the first lecture.

There will not be any deferred midterms or presentations. MSAF are not required with one exception below. The final mark will be based on the best combination of all midterm, labs, and the final exam, with the final exam used exclusively when it is leads to a better mark than other combination (details in class). However, all activities (Midterm, Tutorial, and PeerWise questions require completion); Midterm marks will be transferred to the final exam if the student submits MSAF. If more than 75% of work has been completed, a chat with the TA on the make up options will be possible without an MSAF. If such extra work will not be practical, there will be no mark penalty.

Tutorial reports will be submitted to a tutorial section teaching assistant in a format and place agreed by the section students and the TA.

***Note*. Avenue to Learn (http://avenue.mcmaster.ca/)** will serve to communicate with students in this course and lecture handouts or supplements may be downloaded from Avenue. Please consult this regularly (minimum once each week) to keep up with updates and last-minute instructions. You are also encouraged to use this to further your class discussions with classmates and myself. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, usernames for the McMaster e-mail accounts, and program affiliation may become apparent to all other students

in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

This course may use online proctoring software for tests and exams if winter term will require that. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Academic Integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**
Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the *Academic Integrity Policy*, located at https://secretariat.mcmaster.ca/university-policies-procedures- guidelines/
The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

Authenticity/Plagiarism Detection

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. Avenue to Learn, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

Courses with an On-line Element

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn, LearnLink, web pages, capa, Moodle, Echo360, Microsoft Teams, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Online Proctoring

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Conduct Expectations

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online.**

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx, Echo360, Microsoft Teams or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students with Disabilities

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

Requests for Relief for Missed Academic Term Work

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". In this course however, you do not need MSAF report. If you miss work for whatever reason, we will calculate your mark based on the work done as long as it constitutes a minimum of 75% of expected activities.

View the McMaster Student Absence Form (MSAF) for more information.

Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students should submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright and Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, Avenue to Learn and/or McMaster email.