The Covid-19 pandemic has significantly changed the world we live in and GEOG-203 will exceptionally be offered remotely this year. Moving the course to an on-line platform may present challenges at times, but your co-instructors assure you that we will do our best to make this an interactive and positive learning experience. Lecture segments will be recorded in manageable sizes, available for download from MyCourses. We are planning assignments, tutorials and exams to be delivered in a manner that accommodates students in different time zones and with internet limitations. All readings will be available online, with no cost. We plan to hold optional ‘live’ sessions on Zoom to answer questions and maximize interactions between you with your instructors, TAs and TEAM mentors. If you have never used zoom here is a link designed to help you with it: https://mcgill.ca/tls/students/remote-learning-resources/learning-zoom. GEOG 203 has four TEAM mentors (introduced at the end of this document) – undergraduate students who took the course last year and are keen to help you this year. We also will have four graduate Teaching Assistants whose names and contacts will be provided later. Although the delivery will be a bit different, the course content will be similar to that offered in previous years.

GEOG 203 presents a systems approach to the study of the temporal and spatial variability of the natural environment near the earth’s surface. Emphasis is on understanding the processes of mass and energy exchange that drive the variability in the earth’s climate, its water cycle, soil development, biogeochemical cycles, plant production, and distribution of plant communities. The knowledge gained sheds light on environmental processes of increasing interest, such as global warming feedback mechanisms involving the water cycle and vegetation, the impacts of agriculture, deforestation and acid precipitation on water and nutrient cycles, soil erosion, and eutrophication.

There will be two lectures posted per week, Tuesdays and Thursdays by 10:05. The first lecture will be available by September 3. This lecture will introduce the course, your instructors, teaching assistants and undergraduate TEAM mentors. The second lecture, available by September 8 will provide a critical introduction to Earth Systems.
The course is divided into three sections covering fundamental aspects of the atmosphere, hydrosphere, lithosphere and biosphere focusing on interactions at the drainage basin scale and role of disturbance in ecosystems. The instructors approach the course topics within a common, integrated Earth Systems Science viewpoint.

**SECTION 1: EARTH SURFACE CLIMATOLOGY AND DRAINAGE BASIN HYDROLOGY**

Instructor: **Dr. Michel Lapointe** ([michel.lapointe@mcgill.ca](mailto:michel.lapointe@mcgill.ca)) You are welcome to arrange personal meetings with me through email. Please put GEOG 203 in the email subject line, indicate your time zone and availability in the Montreal time zone. We can meet through zoom or alternative media that are accessible to you.

September 8 – October 1: seven lectures, one assignment, one test (around Thursday, October 6).

The parts, processes and patterns of the atmosphere: composition, global energy system, air temperature, winds, atmospheric moisture and precipitation, weather systems. The water cycle and hydrological processes at the scale of the drainage basin: precipitation, interception, evapotranspiration, infiltration, and runoff. Effects of changes in land use, such as urbanization and deforestation, on climate and hydrology.

**SECTION 2: SOILS AND BIOGEOCHEMICAL CYCLING**

Instructor: **Dr. Tim Moore** ([tim.moore@mcgill.ca](mailto:tim.moore@mcgill.ca)) Please put GEOG 203 in the email subject line, indicate your time zone and availability in the Montreal time zone. We can meet through zoom or alternative media that are accessible to you.

October 8 – 27 seven lectures, one assignment, one test (around Tuesday, November 3).

The objective of this section of the course is to examine the way in which the lithosphere weathers to form the surface crust, and to show how soils are a function of several soil-forming factors, such as rock type, climate and vegetation. We shall discuss the cycling of elements within environmental systems (biogeochemistry) and examine how changes in land use, such as agriculture and forest clear-cutting, and acid precipitation, change these cycles. We shall end by seeing how soils are eroded, how human activities accelerate erosion processes and the environmental impact of soil erosion.

**SECTION 3: BIOGEOGRAPHY**

Instructor: **Dr. Gail Chmura** ([gail.chmura@mcgill.ca](mailto:gail.chmura@mcgill.ca)), phone (514) 926-6854

Website [https://chmuralab.weebly.com/](https://chmuralab.weebly.com/). Please put GEOG 203 in the email subject line, indicate your time zone and availability in the Montreal time zone. We can meet through zoom or alternative media that are accessible to you.

Availability of this section will be from November 5 - December 1 consisting of eight lectures. The assignment may require online research.

*You will be assessed on only this last third of the course during this period.*

This section is an introduction to ecological biogeography covering: distribution of the world’s biota and environmental controls with an emphasis on vegetation disturbance and succession in terrestrial and aquatic ecosystems. We will consider energy and carbon flow in the environment, as they relate to global warming and environmental sustainability.

Email address of teaching assistants will be available through myCourses.
Course Evaluation

3 assignments (one per section, 8.3% each) 25%
2 tests (starting Oct. 1 and Nov. 3, 25% each) 50%
Final Exam (during exam period) 25%

All tests and assignments will be administered through myCourses and designed to accommodate students with limited internet accessibility or in different time zones.

The tests are not cumulative. The first test covers material from section 1; the second test covers material from section 2.

The last exam is held during the formal exam period in December with respect to the date set by the University later in the term. The final exam covers only section 3. You must take the final exam, but passing the final exam is not required to pass the course. The Deferred Exam is administered by the University, will be worth 25% of the course grade and covers only the final section.

THERE WILL BE REQUIRED READINGS WHICH WILL BE AVAILABLE ON THE MYCOURSES SITE FOR GEOG 203.

Although this course will be delivered remotely we aim to allow you, as students, to gain the same knowledge that you would expect under ordinary circumstances. We ask for everyone’s collaboration and cooperation in ensuring that the videos and associated material are not reproduced or placed in the public domain. This means that each of you can use the material for your own personal purposes, but you cannot allow others to use it, by putting it up on the internet or by giving it or selling it to others who will copy it and make it available. We thank you for your consideration with this.

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see http://www.mcgill.ca/integrity for more information).

In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

For information on university and department policies for student assessment and reassessment, please go to http://www.mcgill.ca/geography/studentassessment

In the event of extraordinary circumstances beyond the University’s control, the content and/or evaluation scheme in this course is subject to change.

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 514-398-6009 (http://www.mcgill.ca/osd/) before you do this.

Additional policies governing academic issues which affect students can be found in the McGill Charter of Students’ Rights (here).
Meet your four TEAM mentors for GEOG 203 in fall 2020!

TEAM stands for the “Tomlinson Engagement Award for Mentoring”. These awards allow us to bring talented undergraduates who did well in the course in a previous year to help us deliver the course, and you to have your peers as resources to help you be successful in your learning experience. We have asked our four TEAM mentors to introduce themselves and say a little about their experience in GEOG 203. They welcome you to contact them if you have questions for them.

Meagan Simpson
meagan.simpson@mail.mcgill.ca

Hello!
I am a U3 Environment student with a minor in Geography. During this course, I especially enjoyed learning about the impacts caused by the various land use changes that are occurring on a global scale. In my free time, I like travelling, hiking, and reading.

Dawson Phan
dawson.phan@mail.mcgill.ca

Hi everyone!
I am a U2 Earth System Science major who is super excited to help you succeed in GEOG 203 this year! I absolutely loved this course because of the support from the instructors, TAs and TEAM mentors as well as the detailed introduction towards the different areas of physical geography! This course made me realize that I was extremely interested in nutrient cycling and biogeography, allowing me to focus my academic career and choose future courses strategically. It gave me a great interest in global environmental issues, as well as the knowledge to understand the impacts of climate change. In the future, I hope to look at how environmental change impacts biological systems, through a fulfilling career in research and teaching. Outside of school, I enjoy playing video games, taking naps, and doing anything I can to support others. Welcome (or welcome back) to McGill!
Hello!
I am currently in my third year, majoring in Environment and minoring in Geochemistry. I love learning about the science of what surrounds us in nature, which is what GEOG 203 will teach you. Looking forward to being a TEAM mentor for this course!

Diwei Zhu
diwei.zhu@mail.mcgill.ca

Hi everyone!
I am a U3 student in Honors Sustainability, Science, and Society. GEOG 203 is definitely a course that satisfied my curiosity about the environment and became a cornerstone for subsequent learning. It is a great pleasure that I can help you with this course.