McGill | Faculty of Science

Barbados Field Study Semester

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GEOG 340 - Sustainability in the Caribbean

Fall 2023

Welcome! I am looking forward to working together this semester. GEOG 340 is the first course of the Barbados Field Study Semester, in which you will learn about the 17 Sustainable Development Goals (SDGs) of the United Nations, with a focus on the sustainable development of Barbados and Small Island Developing States (SIDS).

I wish to thank our host country, Barbados and its people, as well as our invited speakers for welcoming and helping us discover their land, rich history, and culture.

General information

Dates: September 4, 2023 – September 20, 2023

Location: We will be based at the Bellairs Research Institute, located in Holetown, on the West coast of the island of Barbados. https://www.mcgill.ca/bellairs/

Course duration and format GEOG 340 is intensive and runs over three continuous weeks of lectures and case studies, seminars, or field trips, for a total of 48 contact hours.

Restrictions: The course is open to students registered in the Barbados Field Study Semester (BFSS). Open to U2 and U3 students from all faculties with a minimum CGPA of 3.0.

Course co-requisite(s): BIOL 343, ATOC 341, FSCI 444.

Number of credits: 3 credits.

Readings: There is no required textbook or course pack. Readings accompanying lectures, materials and readings used for case studies will be available through *myCourses* or in print.

Instructors and Program Support

Course Coordinator: Pr. Virginie Millien, virginie.millien@mcgill.ca

Program Assistant: Dylan Samson-McKenna, dylan.samson-mckenna@mail.mcgill.ca

Program Coordinator: Nicole Stafiej, nicole.stafiej@mail.mcgill.ca

Bellairs Research Institute Operations Manager: Kim King (front office of the BRI)

Office hours: Monday to Thursday 4:00 to 5:00, upon request and availability.

Rationale

GEOG 340 is the introductory course of the Barbados Field Study Semester. In this course, you will learn about the science of sustainability and how it integrates the three pillars of sustainability – environmental, social, and economic. You will develop the skills necessary to address the most pressing global challenges of our time with a view to creating a more sustainable future.

Course overview

The goal of this course is to introduce you to the local environmental, social, historical, political, and economic context of Barbados and the Caribbean. It also provides general context about the Small Island Developing States (SIDS), and why those nations are particularly vulnerable to global environmental challenges. We will use case studies, conduct field trips and host seminars by local experts to explore the interactions between the socio-economic and biophysical environments, the complex nature of these interactions, and their impacts on global environmental issues, with a focus on the Caribbean. You will get familiar with methods used to evaluate and identify development goals, using the 17 SDGs of the United Nations. Particular focus is on the leadership role played by Barbados for the entire Caribbean region since the early 1990's.

Learning outcomes

Upon course completion, you will be able to:

- Examine the general principles of sustainability
- List the United Nations Sustainability Development Goals
- Identify the basics of the relations between the natural and socio-economic environments
- Explain the specificity of the bio-physical environment in the Caribbean
- Explain the specificity of the socio-economic environment in the Caribbean
- Complete basic sustainability assessments
- Summarize findings from the primary literature and government reports
- Interpret results from case studies specific to the Caribbean
- Collect relevant data
- Complete a field report

Instructional methods

GEOG 340 involves lectures and seminars supported by case studies, directed readings with group discussions, and field trips. Lectures: Traditional lectures will be given in class. Case study: Students (working in groups) are required to read, summarize, and present a case study relevant to the field of Sustainability Science in Barbados or the Caribbean to the class. Directed Readings and Group Discussions: Students are required to read one to three articles from the primary literature on Sustainability Science. They will then participate in a group discussion related to these readings. Seminars: Students will attend research seminars that will be followed by a question-and-answer session and discussion. Field Trip: Students will be taken to field sites and write a reflection note.

Detailed Schedule (times not scheduled in the table below are set aside for FSCI 444)

4 September		
9:30	Presentation of the Bellairs Research Institute	K. King (BRI)
10:00	Introduction to the BFSS & GEOG 340	V. Millien
10:30	Group Discussion: What is Sustainability?	V Millien
13:30	Seminar: Environmental History of Barbados	A. Carter (UWI)
15:00	Lecture: The Science of Sustainability	G. MacDonald (McGill)
19:00	Rum Activity	V. Millien
5 September		
9:00	Seminar: The Ethics of Conducting Research	S. Anderson (UWI)
10:30	Seminar: Building Research Capacity in the Caribbean	H. Valles (UWI)
13:30	Training (individual): Research Involving Humans	V. Millien
6 September		
10:00	Field Trip: Barbados Museum of History	V. Millien
13:00	Field Trip: Guided Walking tour of Bridgetown	A. Carter (UWI)
15:30	In class (individual): Reflection notes on field trip	
7 September		
9:00	Lecture: Analysing Sustainability	G. MacDonald (McGill)
10:30	Lecture: SDGs in Small Island Developing States	V. Millien
13:00	Field Trip: Rum Distillery	V. Millien
16:00	In class (individual): Reflection notes on field trip	
11 September		
9:00	In class (group): Pick your Goal	V. Millien
12 September		
9:30	Field Trip: United Nations House	D. Bynoe (UNDP)
10:00	Presentation: Current Projects of the UNDP in Barbados	D. Bynoe (UNDP)
11:30	Seminar: Leadership of Barbados in the Caribbean	D. Bynoe (UNDP)
13:30	Seminar: Small Islands Developing States Action Plan	D. Bynoe (UNDP)
13 September		
9:00	Seminar: Environmental Governance	T. Sinckler (MENB)
10:30	In class (group): Facts Sheet on your Goal	V. Millien
13:00	Seminar: Coastal Zone Management in Barbados	L. Brewster (CZMU)
14:30	Field Trip: Water Outlets (beach)	K. Degia (AKD Env. Sol.)
15:30	In class (individual): Reflection notes on field trip	
14 September		
9:00	Seminar: Climate Change and Health	S. Anderson (UWI)
10:30	In class (group): Mood Board / Discussion	V. Millien
15 September		
9:00	Seminar: Small Island, Intriguing Landscape	C. Allen (UWI)
10:30	Case Study: Flying Fish (1)	V. Millien
13:30	Case Study: Flying Fish (2)	V. Millien
15:30	Oistins Fish Market	V. Millien
19:00	In class (individual): Reflection notes on field trip	
18 September		

9:00	Seminar: Sargassum	K. Payne (CERMES)
10:30	Seminar: Sustainable Tourism	J. Cumberbatch (CERMES)

19 September

9:00	Seminar: The Roofs to Reefs Program	R. Marshall (PM)
10:30	Seminar: Climate Change, Wildfires & Health in Barbados	K. Douglas (UWI)
13:30	Case Study: Flying Fish (3)	V. Millien
15:30	In class (group): Mood Board / Discussion	V. Millien

20 September

9:00	Seminar: Sustainable Agriculture and Pesticides	A. Headley (ENPD)
10:30	In class (group): Mood Board / Wrap-Up	V. Millien

Acronyms:

AKD Env. Sol.: AKD Environmental Solutions (consulting focused on sustainable development and coastal zone management)
BRI: Bellairs Research Institute
CERMES: Center for Resource Management and Environmental Studies, UWI
CZMU: Coastal Zone Management Unit, Barbados Government
ENPD: Environment Protection Department, Barbados Government
MENB: Ministry of the Environment and National Beautification, Barbados Government
PM: Office of the Prime Minister of Barbados
SBRC: Sustainable Barbados Recycling Center
UNDP: United Nations Development Program
UWI: University of the West Indies (Cave Hill)

About our Guest lecturers and Seminar speakers (in order of appearance):
Kim King is the Operations Manager of the Bellairs Research Institute, and her role is to support academic activities at the BRI. **Anderson Carter** is a senior lecturer in History and Head of the Department of History at UWI Cave Hill. **Graham MacDonald** is an Associate Professor in the Department of Geography at McGill University. **Simon Anderson** is a Professor of Population Health Sciences at UWI and the Director of the George Alleyne Chronic Disease Research Center. **Henri Valles** is a senior lecturer in Ecology at UWI Cave Hill. **David Bynoe** is the National Coordinator of the GEF Small Grants Programme of the United Nation Development Program. **Travis Sinckler** is a senior officer at the Ministry of the Environment and National Beautification of the Barbados Government. **Leo Brewster** is the director of the Coastal Zone Management Unit of the Barbados Government. **Karima Degia** is an environment Consultant and works for the Barbados Government. **Casey Allen** is a lecturer in Environmental & Earth Science at UWI Cave Hill. **Ricardo Marshall** is the head of the Roofs to Reefs Programme in the Barbados Prime Minister's Office. **Karl Payne** is a lecturer in Water Resource Management at the CERMES, UWI Cave Hill. **Janice Cumberbatch** is a lecturer in Social and Environmental Management at the CERMES, UWI Cave Hill. **Kirk Douglas** is the director of the Center for Biosecurity at UWI Cave Hill. **Anthony Headley** is the director of the Environmental Protection Department of the Barbados Government.

Evaluation

There is no final exam, and evaluations will be performed throughout the duration of the course. Our daily meetings comprise lectures, seminars, group discussions, working sessions on a case study, and field trips. Active participation is expected in all sessions for you to pass this course. Grading and assessment are broken down as described below. Due to the intensive nature of GEOG 340, there will be no make-up sessions for any of the activities detailed in the course schedule.

Individual Reflection, Field Trips (4); you will be provided guidelines to help structure your notes. Barbados Museum & Bridgetown Rum Distillery Water Drainage Fish Market	 2.5% 2.5% 2.5% 2.5%
Presentation of one SDG to the class and participation; we will use a flipped classroom for this activity, so peer feedback will be assessed as well as the presentation.	10%
Participation (questions), seminars (15)	2% (x 15)
Case Study: Participation during the working sessions, and final presentation of a system model Flying Fish (1) Flying Fish (2) Flying Fish (3)	 10% 10% 10%
Mood Board / Group Discussion; collective reflection on the material seen in class, readings, and word prompts from the book "The A to Z of Barbados Heritage" (a copy of this book will be on site)	10% (x2)

Policy Statements

Language of submission – 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. This does not apply to courses in which acquiring proficiency in a language is one of the objectives.

Academic Integrity – 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 McGill's guide to academic honesty for more information).

Assessment – The University Student Assessment Policy exists to ensure fair and equitable academic assessment for all students and to protect students from excessive workloads

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