

**GEOG/TOUR 4P83: Research themes in water resources**  
Department of Geography and Tourism Studies  
Brock University  
Winter 2021, D3

Course Outline

**Course information**

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Course time:	Mondays, 12pm-3pm
Location:	Virtual: MS Teams room 'GEOG 4P83'*
Website:	Course information and materials posted on Sakai
Librarian:	Cal Murgu ( <a href="mailto:cmurgu@brocku.ca">cmurgu@brocku.ca</a> )

\*If you have not used MS Teams before, see information on page 2 under 'Course orientation and format'.

**Instructor information**

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Professor:	Julia Baird, Ph.D.
Please call me:	Prof or Dr Baird (pronounced 'Bay-rd'; rhymes with 'scared' 😊).
Pronouns:	she/her
Ask me about:	Anything related to the course; interests in water-related research experiences (e.g., as a research assistant); graduate school; being a first-generation undergraduate / graduate student.
How to reach me:	Email is the best way: <a href="mailto:jbaird@brocku.ca">jbaird@brocku.ca</a>
Office location:	Not applicable this year!
Student meeting hours:	Set an appointment by email anytime or connect to me using MS Teams on Mondays after class until 3pm (I will stay in the virtual meeting room till that time)

**Course description**

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Major debates and conflicts over water resources and their distribution. Emphasis on patterns of supply and demand, approaches to development and management of the resource, problems, and alternative strategies.

Prerequisite: GEOG/TOUR 3P83

**Course goals and learner objectives**

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The goal of this course is for learners to build and demonstrate an understanding of a range of issues related to water resources. Among other activities, this course will involve peer-based discussion of major past, current and future water resource issues.

At the end of this course, you will be well-versed in water resource debates, conflicts, issues and water governance / management. You will be able to:

- Describe the complex nature of water resources issues and perspectives/values

- Understand and discuss current water resources issues, from the local to global levels
- Identify, describe and explain different environmental, social, economic and political influences on water resources issues, drawing primarily from academic research
- Critically read and identify key points from academic sources
- Synthesize academic literature and effectively mobilize findings to inform water resource problems.

## **Course orientation and format**

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This course has been revised for a virtual format. Class time has two components:

**Component 1: A short ‘synchronous’ component each Monday, usually from 12-1pm (with a few exceptions outlined in the course schedule below).** This time together as a class will be focused on communicating important information about the course, answering questions (from the Q&A page and questions that arise in the moment), and engaging in peer group discussions about current water issues and scholarship. I **strongly encourage students to attend the synchronous elements** as your participation will enhance your own learning, contribute to your grade in the course, and contribute to the learning of others.

**Component 2: Pre-recorded videos and other course content.** This will include some pre-recorded lectures (including guest lectures from academics and practitioners), videos and other content to review. All of these items, and the week you are required to engage with them, is set out in the weekly schedule below. You will also have access to a weekly page and checklist on Sakai to ensure you are reviewing materials and making progress on assignments to support your success in this course.

**Synchronous class time using MS Teams:** If you are unfamiliar with MS Teams, this information and materials should help!

Each student has a Microsoft Office account that is connected with their Brock email. All student with a Brock email can access all the MS Office tools online including Teams. The Teams application is free to download and when students sign in with their Brock credentials they have access to all their courses' Team sites.

This is an introductory video: [Welcome to Microsoft Teams - Office Support](#)

Here’s a video resource that can help you understand what Teams is (this link also provides other videos on downloading the desktop app, chatting and sending instant messages, signing in and more): [Video: What is Microsoft Teams? - Office Support](#)

Here’s a video on joining meetings on a mobile device: [Join a meeting on the go - Office Support \(microsoft.com\)](#)

Here’s a video that explains the differences between a Team and a Channel: [Overview of teams and channels - Office Support \(microsoft.com\)](#)

## **Course materials**

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There is no textbook required for this course. Weekly readings are identified in the course outline and additional readings may be added throughout the term by the instructor and/or guest lecturers.

Current Brock library holdings include a wide range of journals and books on environmental studies, geography and sustainability science and many have a specific focus on water.

Examples include:

Canadian Water Resources Journal	Nature / Nature Sustainability
Ecological Economics	Regional Environmental Change
Ecology and Society	Science
Environmental Management	Society and Natural Resources
Environmental Policy and Governance	Sustainability Science
Environmental Science and Policy	The Science of the Total Environment
Geography Compass	Water
Global Environmental Change	Water Research
Journal of Environmental Management	Water Resources Research
Journal of Hydrology	Water Science and Technology
Journal of Water Resources Planning and Management	WIREs Water

Students have access to the electronic journals through the Brock library portal.

Please consult Geography and Tourism Studies' Liaison Librarian if you would like assistance with access to library resources.

For the group discussion component of the course, the following media resources are examples (not an exhaustive list) that may be useful to you:

The Guardian Environment	BBC News
The Globe and Mail	The National Post
CBC News	The New York Times
The Washington Post	The Wall Street Journal
Los Angeles Times	The Times of India
China Daily	Water Canada
Water News Global (twitter)	St. Catharines Standard
	Niagara This Week

You can access many newspapers and other media sources using the library via the following links:

<http://researchguides.library.brocku.ca/c.php?g=99752&p=645622#s-lg-box-1919206>

<http://catalogue.library.brocku.ca/search/e?News>

### **Important University dates**

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February 16-19, 2021: Reading week

March 3, 2021: Last date to withdraw without academic penalty

Students are encouraged to review other important university deadlines and dates as set out in the Brock University 2020-2021 Undergraduate Calendar (see <https://brocku.ca/webcal/current/undergrad/>).

### Course communications

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If there are changes to the course schedule (e.g., cancellation or time change of a synchronous class) I will email all students and post a message in Sakai. Similarly, if students experience challenges in connecting to a synchronous class, please email me. I will endeavour to check my email right before, and once during, a synchronous class to ensure I can provide support for technology challenges.

### Assignment formatting

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All assignments must be submitted in **MS Word** format (using .doc, .docx formats) using the following formatting standards unless otherwise specified:

- 12-point font
- ‘Normal’ page margins
- Single spacing for text
- Page numbers
- Name of student in header
- APA-based format for in-text and end-of-text citations (see Brock’s guide: <http://researchguides.library.brocku.ca/styleguides/apa>)

### Course requirements and evaluation

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The final grade for this course will be based on three main elements, of which two have multiple parts:

Component	% of Final Grade	Due Date*
<b>1. Small group discussion of water resources issues and scholarship</b>		
a) Brief for group discussion	15	Dependent on scheduling, submit written component via your group forum in Sakai
b) Facilitation	10	Dependent on scheduling, mark available end of term
c) Participation in discussions	10	End of term
<b>2. Course reflections journal</b>	20	Submit via the Assignments tab in Sakai; First half due March 8; second half due April 5
<b>3. WWF-Canada research project</b>		
a) Annotated bibliography and summary	20	Question selection due via Google doc January 25;

			Full assignment submitted via the Assignments tab in Sakai, February 12, 2021
b)	Creative output	20	Idea due to instructor via Assignments tab in Sakai, February 26, 2021 Submit via the Assignments tab in Sakai, March 19, 2021
c)	Interaction with WWF	5	Due via Onedrive at 5pm on April 5

**\*Note that all assignments are due by 11:55 pm on the due dates identified here, unless otherwise specified.**

## Assignments

More detailed descriptions and rubrics will be available for all assignments in Sakai. Please review these as they provide valuable information about how marks are allocated for each assignment by the instructor.

### 1. Small group discussion of water resources issues and scholarship

A critical component of this course is becoming well-versed in water resources issues and engaging in collegial discussions based on relevant scholarship about these issues. Students will be placed into discussion groups and meet during class time, on an approximately semi-weekly basis, to hold these discussions.

Each student will prepare one brief and facilitate one discussion and will be marked on each. See the rubric for more information. During the last discussion in the course, a peer evaluation mechanism will be used to assess each student's participation in the discussions over the term.

For a good guide to facilitating discussions, please see the following website:

<https://www.brown.edu/about/administration/sheridan-center/teaching-learning/effective-classroom-practices/discussions-seminars/facilitating>

### 2. Course reflections journal

This assignment is designed to have you meaningfully reflect on the course material. You will prepare a short reflection (250-500 words) for four (4) of the 12 classes. See the assignment description and rubric for much more information about this. The reflection journal will be due in two halves: the first two (2) reflections will be due March 8; the second two (2) reflections due April 5.

### 3. WWF-Canada research project

Engagement with those who are actively involved in managing and advocating for the sustainability of water is an exciting opportunity! In this assignment, you will choose one question from a list that WWF-Canada has generated. There are three parts to this assignment:

## Annotated bibliography and summary

Identify at least 10 academic articles relevant to your question, read them and create an annotated bibliography of the five (5) most relevant articles. Note that these important articles may be foundational articles or newer works that are highly relevant. Prepare a short summary of your findings to be included in the document. Due February 12.

## Creative output

You will be responsible for creating one creative output from your research. This can take the form of: a brochure, an infographic, a short video, a social media campaign, or other ideas students bring forward. Ideas **MUST** be approved by the instructor by February 26. Final creative output due March 19.

## Interaction with WWF-Canada

After completing these outputs (annotated bibliography and creative output), WWF-Canada will review them and ask some questions / provide comments. Students will have one week (March 29 - April 5) to respond to the comments and questions. Opportunities to comment will close April 5 at 5pm.

## Late Penalties

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Assignments must be submitted electronically by 11:55 PM on the due date in Sakai (in assignments tab) unless otherwise specified (only exception is the interaction with WWF-Canada). A penalty of 10% per day is assessed for any assignment that is submitted after the due date and time (including late submissions on the due date).

Brock has provided the following text for extensions and penalties in light of COVID-19: "However, if you require academic consideration because of an incapacitating medical condition, please inform your instructor(s), as soon as possible, of your inability to complete your work. Given our challenging times related to COVID-19, requests for extensions on assignments due to illness or caring for others with illness will be given case by case consideration for extensions." If you are reading this, send me a water-related image (could be a lake you visited, a stock photo of Niagara Falls, whatever!) by January 18, 2021 for a 1% bonus on your final grade.

**COVID-specific accommodation policy in this course:** Let me know if you need an accommodation / extension and you will receive one - just please let me know **before** due dates for assignments. We are all living through a pandemic and I will not require documentation to support requests.

## Tentative Semester Schedule

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Notes: Course readings and other asynchronous content may be subject to change and supplementary material added but you will be notified of this in advance. All asynchronous content (readings, videos, etc.) will be available via Sakai unless otherwise specified.

Week/date	Synchronous components this week (usually scheduled from 12-1pm on class dates)	Asynchronous content to review this week (note: opportunities to comment below most lecture content is provided - use these spaces to ask questions or highlight your insights and ideas)
Week 1: January 11	<b>2.5 hours</b> -Introduction to the course, the format, and to research themes in water resources -Overview of assignments -Meet your discussion group and set discussion guidelines, decide on schedule -Introduction to the major assignment by WWF-Canada representatives	Course outline Rubric for group discussions Rubric for reflection journal Video lecture: Intro to research themes in water resources  Reading: Cosgrove and Loucks 2015 (required if you have not taken the prereq course GEOG 3P83, otherwise optional but highly recommended)  Video from Dr. Evalyna Bogdan and team to explain the Flood Resilience Challenge game (to be played in class on Jan 25)  Flood game prep materials on Moodle
Week 2: January 18	Prep for flood game (Dr. Bogdan and team joining the class from 12-12:30pm for Q&A)  Questions from students about course or assignments	Flood game prep materials on Moodle Review letter of invitation to participate in a research project as part of the Flood Resilience Challenge game  Review WWF-Canada research project description and rubrics Resources to support WWF-Canada research project: -Literature search video -Critical reading video -Annotated bibliographies video
Week 3: January 25*	Flood Resilience Challenge! <b>(Synchronous, full 2.5 hours, on Zoom (details to be provided in class))</b>	No content to review. This game will provide students with an opportunity to better understand the complex nature of water systems and decision-making processes. While there is no formal assignment associated with this game (i.e., no marks), students are invited to reflect on learnings through the Reflection Journal this week, and by making connections to other course material later in the term.
Week 4: February 1*	First group discussion	Lecture video: The state of water research

		Reading: Vorosmarty. C. et al. (2013). Global water, the anthropocene and the transformation of a science. <i>Current Opinion in Environmental Sustainability</i> , 5: 539-550.
Week 5: February 8*	Second group discussion	Lecture video: How do we (and should we) govern water?  Reading: de Loë, R. C., & Patterson, J. J. (2017). Rethinking water governance: Moving beyond water-centric perspectives in a connected and changing world. <i>Natural Resources Journal</i> , 57(1), 75-100.
<b>Reading week (February 15-19): Take a break!</b>		
Week 6: February 22*	No synchronous meeting	Guest lecture: Dr. Jen Holzer “Issues in Transboundary Water Conflict and Cooperation: Examples from Israel, Jordan, and the Palestinian Territories”  Reading: <a href="#">Don’t Politicize Water</a>  Additional material to review: Kidron Basin issues - <a href="https://www.youtube.com/watch?v=1Fv2-L0196l">https://www.youtube.com/watch?v=1Fv2-L0196l</a> Red-Sea-Dead Sea project -- <a href="https://www.youtube.com/watch?v=B1uOkWVHwPE">https://www.youtube.com/watch?v=B1uOkWVHwPE</a>
Week 7: March 1*	Third group discussion	Guest lecture: Natalie Green (NPCA) “The Road to Recovery: Niagara River’s Environmental Story”  Reading (optional): Hartig, J.H., Krantzberg, G., & Alsip, P. (2020). Thirty-five years of restoring Great Lakes Areas of Concern: Gradual progress, hopeful future. <i>Journal of Great Lakes Research</i> , <a href="https://doi.org/10.1016/j.jglr.2020.04.004">https://doi.org/10.1016/j.jglr.2020.04.004</a>
Week 8: March 8*	Fourth group discussion	Video lecture: Power in water resources  Reading: Brisbois, M. C., & de Loë, R. C. (2016). Power in collaborative approaches to governance for water: a systematic review. <i>Society &amp; Natural Resources</i> , 29(7), 775-790.  Watch ‘There’s something in the water’ (1h11m) Link: <a href="https://ocul-">https://ocul-</a>



		<a href="http://bu.primo.exlibrisgroup.com/permalink/01OCUL_BU/331q1k/alma991009191493405152">bu.primo.exlibrisgroup.com/permalink/01OCUL_BU/331q1k/alma991009191493405152</a>  Review ‘Knowledge mobilization module’ (tab along left side of screen in Sakai site) - focus on the two presentations
Week 9: March 15	Fifth group discussion	None - time to work on creative outputs
Week 10: March 22*	No synchronous meeting this week	Video lecture: Water and resilience  Reading: Plummer, R. & Baird, J. (2020). The emergence of water resilience: An introduction. In J. Baird and R. Plummer, Eds. <i>Water Resilience: Management and Governance in Times of Change</i> . Switzerland: Springer Nature. P. 3-19.
Week 11: March 29*	Last synchronous meeting!	Guest lecture: Dr. Joanna Majarreis “Sources and patterns of phosphorus in relation to nuisance benthic algae in the northern nearshore of East Basin Lake Erie”  Readings: Great Lakes Water Quality Agreement (in particular Annex 4) State of the Great Lakes report (2019)
Week 12: April 5	No synchronous meeting this week	Course evaluations

\*Note: dates with this asterisk next to them are weeks that are eligible for the reflection journal. See assignment description above and the material in Sakai for more detail.

## ACADEMIC POLICIES

### Academic Integrity

Academic misconduct is a serious offence. The principle of academic integrity, particularly of doing one’s own work, documenting properly (including use of quotation marks, appropriate paraphrasing and referencing/citation), collaborating appropriately, and avoiding misrepresentation, is a core principle in university study. Students should consult Section VII, “Academic Misconduct”, in the “Academic Regulations and University Policies” entry in the Undergraduate Calendar, available at <http://brocku.ca/webcal> to view a fuller description of prohibited actions, and the procedures and penalties. Information on what constitutes academic integrity is available at <https://brocku.ca/academic-integrity/>

### Intellectual Property

All slides, presentations, handouts, tests, exams, and other course materials created by the instructor and guest lecturers in this course are their respective intellectual property. A

student who publicly posts or sells an instructor's work, without the instructor's express consent, may be charged with misconduct under Brock's Academic Integrity Policy and/or Code of Conduct, and may also face adverse legal consequences for infringement of intellectual property rights.

### **Academic Accommodation**

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The University is committed to fostering an inclusive and supportive environment for all students and will adhere to the Human Rights principles that ensure respect for dignity, individualized accommodation, inclusion and full participation. The University provides a wide range of resources to assist students, as follows:

a) If you require academic accommodation because of a disability or an ongoing health or mental health condition, please contact Student Accessibility Services at [askSAS@brocku.ca](mailto:askSAS@brocku.ca) or 905 688 5550 ext. 3240.

b) If you require academic accommodation because of an incapacitating medical condition, you must, as soon as practicable, inform your instructor(s) of your inability to complete your academic work. You must also submit a Brock University Student Medical Certificate (found at <https://brocku.ca/registrar/toolkit/forms>). The University may, at its discretion, request more detailed documentation in certain cases. If you are unable to write a scheduled examination due to an incapacitating medical condition, you must follow the process set out in the Faculty Handbook III:9.4.1.

c) If you are experiencing mental health concerns, contact the Student Wellness and Accessibility Centre. Good2Talk is a service specifically for post-secondary students, available 24/7, 365 days a year, and provides anonymous assistance: <http://www.good2talk.ca/> or call 1-866-925-5454. For information on wellness, coping and resiliency, visit: <https://brocku.ca/mental-health/>

d) If you require academic accommodation on religious grounds, you should make a formal, written request to your instructor(s) for alternative dates and/or means of satisfying requirements. Such requests should be made during the first two weeks of any given academic term, or as soon as possible after a need for accommodation is known to exist.

e) If you have been affected by sexual violence, the Human Rights & Equity Office offers support, information, reasonable accommodations, and resources through the Sexual Violence Support & Education Coordinator. For information on sexual violence, visit Brock's Sexual Assault and Harassment Policy or contact the Sexual Violence Support & Response Coordinator at [humanrights@brocku.ca](mailto:humanrights@brocku.ca) or 905 688 5550 ext. 4387.

f) If you feel you have experienced discrimination or harassment on any of the above grounds, including racial, gender or other forms of discrimination, contact the Human Rights and Equity Office at [humanrights@brocku.ca](mailto:humanrights@brocku.ca).

**COVID-specific accommodation policy in this course:** Let me know if you need an accommodation / extension and you will receive it - just please let me know before due

dates for assignments. We are all living through a pandemic and I will not require documentation to support requests.