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# VISUALIZING CLIMATE CHANGE (CONS 210)

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## 1. ACKNOWLEDGEMENT

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UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

## 2. COURSE INFORMATION

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| Course Title  | Course Code Number | Credit Value |
|---|--------------------|--------------|
| Visualizing Climate Change  | CONS 210           | 3 Credits    |
| <b>Schedule:</b> Tuesdays and Thursdays from 3:30 to 5:00pm, Room 1005, Forest Sciences Centre. |                    |              |

## 3. PREREQUISITES

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This course has no pre-requisites, although it is particularly designed for second year undergraduates. It is intended for students of all backgrounds (arts and sciences) who are interested in solutions for climate change and communicating these to others.

## 4. CONTACTS

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| Course Instructor          | Contact Details           | Office Location                   | Office Hours                       |
|----------------------------|---------------------------|-----------------------------------|------------------------------------|
| M. Fernanda Tomaselli, PhD | fernanda.tomaselli@ubc.ca | Forest Sciences Centre (FSC) 4202 | Mondays noon-2pm or by appointment |

## 5. TEACHING ASSISTANTS

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| Teaching Assistants | Contact Details               | Office Location | Office Hours                          |
|---------------------|-------------------------------|-----------------|---------------------------------------|
| Sophie Lewis        | sophie.r.lewis@alumni.ubc.ca  | FSC 2619        | Tuesdays 1-2pm or by appointment      |
| Juliet Clarkson     | juliet.clarkson@alumni.ubc.ca | FSC 2032        | Mondays 10:30-11:30 or by appointment |
| Cheryl Ng           | cherylngg@alumni.ubc.ca       | FSC 2032        | Wednesdays 11-12 or by appointment    |
| Alyssa Nonis        | alyssa.nonis@alumni.ubc.ca    | FSC 3606        | Thursdays 2-3pm or by appointment     |

## 6. COURSE DESCRIPTION

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What does climate change look like? What does the future hold for us? Does the media get it right on climate change? How can we get engaged in solutions?

This course provides an introduction to climate change through the lens of existing local landscapes and possible scenarios for your own future. The course provides an overview of the science of climate change, its implications for ordinary people, its potential solutions, and better ways to communicate

this important issue. We will use visual media such as videos, infographics and 3D visualisations to explain current realities and explore alternative futures, and to make learning more fun and memorable. This course aims to build awareness about what climate change means for communities and the environment, how people perceive it, and how you can engage with others in moving towards climate solutions.

The course begins with the basics of climate change science and ends up focusing on communication and engagement approaches. It is divided in three main units:

### **I. Climate Change Foundations: The Science and its Interpretation**

This unit provides an overview of climate change basics (e.g. biophysical processes, carbon cycle, climate models, trends and impacts) and an introduction to human perceptions and the social/psychological barriers to awareness and action.

### **II. Climate Change Components: Causes, Impacts, Mitigation & Adaptation (CIMA Framework)**

- Impacts: Overview of the global and local consequences of climate change.
- Causes: Exploration of the multiple ways in which humans contribute to climate change.
- Mitigation: Overview of strategies (local and global, personal and political) to reduce carbon footprints and the use of fossil fuels.
- Adaptation: Explore how we can reduce the harm and adapt to climate change impacts.

### **III. Engaging People with Climate Change: Generating awareness and action**

Overview of climate change communication (e.g. media interpretations and examples) including strategies to engage people and improve dialogue.

## **7. LEARNING OUTCOMES**

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By the end of this course you will be able to:

- Understand the scientific basics of climate change and its implications for people, communities and landscapes.
- See your surroundings differently and recognize climate change in the context of real life.
- Understand the basics of climate change perceptions and communication and learn how people think about climate change and how they can be better engaged.
- Critically evaluate and use visual media and other communication.
- Confidently explain and communicate effectively with others about climate change.

## **8. COURSE STRUCTURE**

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CONS 210 emphasizes discussion and interaction in class as a way of enhancing students' understanding of concepts and issues related to climate change. In addition to the lectures imparted by the instructor, the course will include:

- **Guest lectures** from speakers that work in diverse sectors (e.g. academia, NGOs, government).
- **Collaborative sessions** that are designed to improve students' understanding about the multiple topics covered in class, through the use of hands-on activities and examples.

9. LEARNING MATERIALS & RESOURCES

**Textbook and readings:** It is expected that you will come to class having read the required readings and prepared to engage in class activities and discussions. You can find the course textbook at the UBC bookstore: Sheppard, 2012, *Visualizing Climate Change: A Guide to Visual Communication of Climate Change and Developing Local Solutions*, or you can access some selected chapters online through the UBC Library ([www.library.ubc.ca](http://www.library.ubc.ca)). Links to any additional readings or class resources will be posted on Canvas.

**iClickers:** Class attendance and participation will mostly be assessed through the use of iClickers. You are required to **purchase an iClicker remote (latest version is not required) and bring it to every class**. In order to avoid losing marks, you will need to register your iClicker remote online within the first 2 weeks of class. It is your responsibility to ensure your iClicker is working correctly. If you have questions about iClickers, direct them to Sophie Lewis during class or at her email (see Section 5).

**Course website:** All class materials (including assignments and lectures), announcements and notifications will be posted in Canvas ([www.canvas.ubc.ca](http://www.canvas.ubc.ca)).

**Course blog/discussion:** A discussion site is provided in the course Canvas website, which can be used by students to share information such as photos, news-clips, visualizations, group work and posts that are relevant to the class.

10. SCHEDULE OF TOPICS

This schedule is provisional and may be adjusted slightly depending on class feedback and progress.

| Week  | Dates                   | Topic   | Readings & important deadlines  |
|---|-------------------------|---|---|
| <b>Unit I. Climate Change Foundations: The Science and its Interpretation</b>           |                         |   |   |
| 1   | Sept. 3 <sup>th</sup>   | UBC Imagine Day (No class)  | None  |
|   | Sept. 5 <sup>th</sup>   | Introduction and syllabus overview  | None  |
| 2   | Sept. 10 <sup>th</sup>  | The Big Picture: Why is the climate changing?   | Chapter 1, An invisible truth?<br>Perceptions and misperceptions  |
|   | Sept. 12 <sup>th</sup>  | Guest lecture: Climate Change Projections, Trevor Murdock, Pacific Climate Impacts Consortium (PCIC)        | None  |
| 3   | Sept. 17 <sup>th</sup>  | Human dimensions and people’s perceptions   | Chapter 2, Limited vision:<br>Understanding perceptual problems   |
|   | Sept. 19 <sup>th</sup>  | Guest lecture: The psychology of climate change, Dr. Robert Gifford, University of Victoria                 | Davis, A. (2019) <a href="#">Why can’t we change our carbon emitting habits, even as the world burns?</a> Macleans. |
| <b>Unit II. Climate Change components: Impacts, Causes, Mitigation &amp; Adaptation</b> |                         |   |   |
| 4   | Sept. 24 <sup>th</sup>  | Climate Change Impacts  | Chapter 6, Hot in my backyard: Seeing the impacts<br><i>Assignment 1 Due (Carbon footprint)</i>                     |
|   | Sept. 26 <sup>th</sup>  | Climate solutions showcase (Nest Building)  | None  |
| 5   | October 1 <sup>st</sup> | Guest lecture: Impacts on Oceans and Small Island Countries, Dr. Simon Donner, Department of Geography, UBC | <i>Climate showcase reflection Due</i>  |

|   |                          |   |  |
|---|--------------------------|---|--|
|   | October 3 <sup>rd</sup>  | Collaborative Session: Impacts & Infographics Tutorial  | Chapter 3, A new climate change lens<br><i>Assignment 2.1 Due (infographic summary paragraph)</i>                                    |
| 6   | October 8 <sup>th</sup>  | Climate Change Causes   | Chapter 5, Right before our eyes: Seeing carbon  |
|   | October 10 <sup>th</sup> | Collaborative Session: Causes (field walk)  | None   |
| 7   | October 15 <sup>th</sup> | Guest lecture: The Corporate Mapping Project, Shannon Daub, Director, BC Centre for Policy Alternatives             | None   |
|   | October 17 <sup>th</sup> | Climate Change Mitigation   | Chapter 7, Cutting the carbon: Seeing mitigation solutions<br><i>Assignment 2.2 Due (Draft infographic)</i>                          |
| 8   | October 22 <sup>nd</sup> | Guest lecture: Total transition: The human side of the renewable energy revolution, Sandeep Pai, PhD Candidate, UBC | None   |
|   | October 24 <sup>th</sup> | Climate Change Adaptation   | Chapter 8, Being prepared: Seeing adaptation solutions   |
| 9   | October 29 <sup>th</sup> | Guest lecture: Adaptation in the City of Vancouver, Angela Danyluk, City of Vancouver                               | None   |
|   | October 31 <sup>st</sup> | Collaborative Session: Mitigation & Adaptation<br>Mid-term study session  | None<br><i>Assignment 2 Due (Final infographic)</i>  |
| 10  | Nov. 5 <sup>th</sup>     | Mid-term exam & infographics display  | None   |
| <b>Unit III. Engaging people with Climate Change: Generating awareness and action</b> |                          |   |  |
| 10  | Nov. 7 <sup>th</sup>     | Climate Change Communication  | Chapter 10, Landscape messaging: Making climate change more visible in the community   |
| 11  | Nov. 12 <sup>th</sup>    | Collaborative Session: Climate Change Communication   | Chapter 11, Visual media: Knowing climate change when you see it – in pictures   |
|   | Nov. 14 <sup>th</sup>    | Guest lecture: I'm right and you're an idiot, James Hoggan, Hoggan & Associates Communications Consultancy          | Hoggan, J. (2016) I'm right, you're an idiot (Read the prologue). Access through UBC library.<br><i>Assignment 3.1 Due (Outline)</i> |
| 12  | Nov. 19 <sup>th</sup>    | Collaborative session: Climate engagement   | Chapter 12, The modern crystal ball: Visualizing the future  |
|   | Nov. 21 <sup>st</sup>    | Guest lecture: Youth engagement in climate action, Marina Melanidis, MSc. Student, Faculty of Forestry              | None   |
| 13  | Nov. 26 <sup>th</sup>    | Course wrap-up and evaluations  | None   |
|   | Nov. 28 <sup>th</sup>    | Final presentations   | <i>Assignment 3.2 Due (Presentations)</i>  |

## 11. ASSESSMENTS OF LEARNING

Students will be evaluated using a variety of outputs that are intended to assess an overall comprehension of the subject matter. Marks will be assigned based on demonstration of clear understanding of concepts, appropriate effort and additional research, technical correctness, team dynamics (when relevant), critical thinking and creativity.

| Item   | Mark       | Due Date                   |
|--|------------|----------------------------|
| Class participation                                  | 15%        | Throughout the term        |
| Short quizzes & other assessments                    | 10%        | Throughout the term        |
| Mid-term exam  | 25%        | November 5 <sup>th</sup>   |
| Assignment 1: Your carbon footprint (individual)     | 5%         | September 24 <sup>th</sup> |
| Assignment 2: Climate change infographic (pairs)     | 20%        | October 31 <sup>st</sup>   |
| Pitch your project (Summary paragraph)               | Completion | October 3 <sup>rd</sup>    |
| Draft infographic                                    | Completion | October 17 <sup>th</sup>   |
| Assignment 3: Climate change engagement plan (group) | 25%        |                            |
| Outline of project and bibliography                  | Completion | November 14 <sup>th</sup>  |
| Group presentation                                   | 5%         | November 28 <sup>th</sup>  |
| Final project report (including peer evaluation)     | 20%        | December 4 <sup>th</sup>   |

**Class participation:** Class participation is an important component of this course and includes attendance (assessed with iClickers), participation in class exercises and contribution to class discussions, among other activities. It is your responsibility to bring your iClicker to every class and to ensure that it is registered and working correctly.

**Short quizzes & other assessments:** Some lectures may include short quizzes (using iClickers) about the required reading and to assess general comprehension of course material. You can miss 1 quiz without penalty during the term. For those students that completed all quizzes, your final grade will be calculated based on your best scores.

**Mid-term exam:** The mid-term exam will take place on Tuesday November 5 during class time. It will cover all material (lectures, required readings, guest lectures) from the first half of the term. The mid-term exam will include multiple choice and short answer questions. There is no final exam in CONS 210.

**Assignment 1 - Your carbon footprint:** Short individual assignment that consists in writing a short paragraph reporting your ecological and carbon footprint.\*

**Assignment 2 - Climate change infographic:** In pairs, you will design an infographic that will present a selected impact of climate change, its consequences and possible solutions. An infographic is a poster that is designed to communicate complex subjects in a simple but compelling and engaging manner.\*

**Assignment 3 - Climate change engagement plan:** In groups of 4, you will create an Engagement Plan to introduce a specific audience to a chosen climate change topic or issue, so as to achieve specified outcomes.\*

\*A detailed description of each assignment will be provided in Canvas.

## 12. COURSE POLICIES

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**Course Communications:** If you have any general question about the course, post it to the Discussion section in Canvas; one of our TAs will answer it within 24 hours. For more personal issues or questions, send an email to Sophie Lewis ([sophie.r.lewis@alumni.ubc.ca](mailto:sophie.r.lewis@alumni.ubc.ca)) and for urgent issues you should email the instructor\*. If you want to meet with the instructor or the TAs, I encourage you to visit us during office hours or to ask for an appointment during class time or by email.

\*Please give the instructor and TAs a 48-hour window to answer emails. If we do not reply within this time frame, let us know during class time as we may not be receiving your emails (Canvas messages or UBC emails may not be 100% reliable).

**Late assignments:** Late submissions will have 5% of the grade deducted per day.

**Electronic devices:** Use of laptops, phones and other electronic devices is strongly discouraged in this course, unless it is for a course-related activity specified by the instructor way in advance of class. Electronic devices hinder your learning and distract those around you. Therefore, I highly recommend taking notes on paper/notebook. If you need to use your laptop or electronic device during class, PLEASE SIT ON THE SIDE SECTIONS OF THE LECTURE HALL.

**Plagiarism:** As a university student who are a member of the academic enterprise, you are expected to submit original work and give credit to other people's ideas and writings. Plagiarism includes copying or cutting and pasting other people's writing without citing the source and identifying it as a quotation. Plagiarism carries a penalty of zero marks for the assignment or exam concerned, and is considered a very serious issue by the University Administration, which can affect your career. Please make sure you know UBC's policies on plagiarism (see <https://learningcommons.ubc.ca/academic-integrity/>).

## 13. UNIVERSITY POLICIES

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UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

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## 14. COPYRIGHT

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All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline. Audio or video recording classes is not permitted, unless previously authorized by the instructor.

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*Version: September 23, 2019*