Instructor

Name: Dr. Jeff Birchall
Office No: 3-115
Telephone: 780-248-5758
Email: jeff.birchall@ualberta.ca
Office Hours: By appointment
Lecture Room & Time: XXXX

SHORT CALENDAR DESCRIPTION
Practical study of local and regional scale environmental impacts and the planning actions authorities take to reduce vulnerability and increase community resilience.

COURSE OBJECTIVES AND EXPECTED LEARNING OUTCOMES
Environmental resilience requires a comprehensive planning approach, one which is forward thinking, flexible, and grounded in science. This course explores planning for resilience from a range of the perspective, including city, transportation and land use planners, utilities engineers, emergency management and sustainability managers, landscape architects, environmental scientists, port authority managers, and elected officials.

Case studies from around the world highlight a variety of environmental stressors (including sea level rise, earthquakes, wildfire) and demonstrate lessons learned and best practices with respect to planning techniques and approaches from range of communities, from remote towns in the Arctic to population-dense urban centres in the South Pacific.

The objective of the course is to provide students with an opportunity to explore some of the practical and nuanced characteristics of environmental resilience as it relates to city and regional planning. This includes an appreciation of the variety of environmental impacts that stress communities, and the policies and planning actions communities take (or should take) to improve their resilience.

This course will require students to develop their critical thinking and communication skills, as well as their project management skills. Students will be required to use time and team management skills to develop and present a unique presentation; as well as exercise research and analysis skills for a final literature review (synthesis).

Learning outcomes:
- Graduates will comprehend key issues in planning related to environmental, social and economic sustainability and be able to analyze and demonstrate competence in developing policies and plans that address issues related to this.
- Graduates will comprehend key issues in planning related to equity, diversity and inclusiveness and be able to analyze and demonstrate competence in developing policies and plans that address issues related to this.
- Graduates will be effective at written communication and be able to write professional planning documents and/or academic papers.
- Graduates will understand the concept of resilience and be able to apply it to the development and implementation of policies and plans. Furthermore, they will be able to critically evaluate planning issues using a resilience or “adaptive” framework.
- Graduates will understand the role of resilience theory in planning and its application to coastal communities.
Measurement of outcomes:
- Written and oral assignments on the subject.
- Working through “real-world” project from start through completion.

**TOPICS COVERED AND SUGGESTED STUDY PLAN**

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module + Resilience</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 1  | Introduction + Resilience | Introduction  
- Overview of syllabus (delivery approach; learning outcomes; requirements/ assignments etc.)  
- Resilience planning in cities and regions  
- Overview of resilience as a concept  
- Introduce mechanisms for resilience planning | Workshop (one-on-one with Prof)  
- Preparations for the presentation outline | DUE (Jan. 11, 2018): Presentation outline |

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 2  | Permafrost + sea ice | Case study: Nome, Alaska  
- Identify infrastructure vulnerabilities and discuss how resilience is achieved in remote Arctic context  
- Insights from the planning commissioner, the Mayor, the city manager, the port authority, the chief building inspector and utilities manager | Workshop (one-on-one with Prof)  
- Preparations for presentations | Facilitated discussion  
- Meier et al (2016)  
- Ford & King (2015) |

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 3  | Storm surges + landslides/ road washouts | Case study: Homer, Alaska  
- Discuss risk associated with densification of key assets on narrow spit vulnerable to storm surges; risk of community isolation as a result of landslide/ road washout of sole highway into town; governance around adaptive/ anticipatory planning.  
- Insights from the city planner, city councillor, experts from the Kachemak Bay Nature Reserve. | Workshop (one-on-one with Prof)  
- Preparations for presentations | Facilitated discussion  
- Mukheibir et al (2012)  

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 4  | Intense precipitation + overland flooding | Case study: North Vancouver, British Columbia  
- Discuss how planners cope with channeling extreme/ erratic storm water through urban centre and hazards associated with steep topography.  
- Insights from emergency management, infrastructure engineering, director of planning. | Workshop (one-on-one with Prof)  
- Preparations for presentations | Facilitated discussion  
- Baynham & Stevens (2014)  
- Smit & Wandel (2006) |

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 5  | Professional Planners (guest lectures) | Kellie Lau (RPP, MCIP), Case Manager, Municipal Government Board  
- XXXXXXXXX | Chris Down (RPP, MCIP), Municipal & Regional Planning Advisor, Alberta Energy  
- XXXXXXXXX |

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 6  | Open session (guest lecture: graduate student) | MA (Human Geo) student (Dianne Gillespie) to share her research  
- Sea level rise, managed retreat + effect on property values in the Halifax Region | Workshop (on your own)  
- Preparations for presentations |

**READING BREAK (Feb. 19 - 23, 2018)**

<table>
<thead>
<tr>
<th>Wk</th>
<th>Module</th>
<th>Tuesday (Lecture)</th>
<th>Thursday (Seminar)</th>
</tr>
</thead>
</table>
| 7  | Presentations | Group 1  
- Group 2 | Group 3  
- Group 4 |
This course does not have a designated course pack, please access the required readings from the Library. Be prepared to participate in facilitated class discussion based on the required readings.

### Required Readings

**Required Readings:**

For week 1 (Jan. 11):

For week 2 (Jan. 18):
- Pearce, T., Ford, J., Caron, A., Kudlak, BP. 2012. Climate change adaptation planning in remote, resource-dependant communities: an Arctic example. Regional Environmental Change, 12, 825-837.

For week 3 (Jan. 25):
For week 4 (Feb. 1):

For week 9 (Mar. 15):

For week 10 (Mar. 22):

For week 11 (Mar. 29):

For week 12 (Apr. 5):

For week 13 (Apr. 12):

Further Readings:
- Juhola, S., Haanpaa, S., Peltonen, L. 2012. Regional challenges of climate change adaptation in Finland: Examining the ability to adapt in the absence of national level steering. Local Environment, 17(6), 629-639.

ADDITIONAL RESOURCES
Additional resources may be provided throughout the course.

COURSE INSTRUCTION MODES
This course will be taught in a hybrid fashion, including typical lecture and seminar, which will be supplemented with facilitated discussion. Further, instruction will also include a workshop or studio-like aspect, where student-groups will work interactively with the instructor to develop a unique presentation. Course content will include a number of case studies and case-based scenarios, which will require students to work collaboratively to identify and resolve planning challenges in the context of environmental change. The course will include a number of guest lecturers who will discuss resilience planning in the context of their expertise (i.e. as planners, landscape architects, architects, engineers).

COURSE ORGANIZATION
At the first meeting, a general outline of the course will be presented. The course will include hands-on, experiential, and interactive learning, in a collaborative format. The instructor will work closely with students to develop course outputs, and their team-based planning skills. A nominal amount of class time will be provided to work on the presentation (in a workshop format).

GRADE EVALUATION (SUMMARY)
Students will be evaluated on both output and process. The final grade will have both an individual and group component. The individual contribution component of the grade will be based upon the student’s participation, professionalism, and quality of contribution to course components (including group activities, class activities, general class participation). Students may be individually assessed for their contributions to group outputs where there are differences in the quality of the work or level of contribution made by group members. Depending on the project, there may be slight variations in marking components. These will be discussed with the group by the instructor.

Students, however, will be evaluated on a minimum of the following five components:

1. Participation (individual)                  20%
2. Presentation (group)                       30%
3. Presentation Overview (group)              10%
4. Literature Review (individual)             40%

There are NO exams in this course!

GRADE EVALUATION (COMPONENT DETAILS)
Participation:
Because of the nature of the content of this course, a strong weighting is placed on participation. Students are encouraged to participate in general class discussions, facilitated class discussions, and group activities. A general rubric for participation will be provided during the first lecture.
Remember, in order to participate, you must attend the lectures!

**Presentation:**
100 Resilient Cities is an initiative, pioneered by the Rockefeller Foundation, to help cities around the globe become better adapted, or more resilient, to the physical, social and economic challenges of the 21st century.

In groups of **3 students** (6 groups total, depending on enrolment), choose a city that is a member of the 100 Resilient Cities program and prepare and present a **30 minute** presentation that discusses that city’s environmental challenges and the planning approaches used to improve resilience.

The presentation must include the following components:
- An overview of your chosen city (including note about why your group choose this particular city);
- A description of the city’s environmental challenges (impacts);
- A discussion of what the city is doing, from a planning perspective, to overcome the environmental challenges;
- Provide an assessment of their approach (what would your group do differently, from a planning perspective?)

An additional **10 minutes** will be dedicated to class questions after each presentation.

Further details will be provided in class.

Grading rubric for the Presentation:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparedness</td>
<td>Timing, organization (Start on time? Were they organized? Did they seem to be ready for the presentation? Did they understand their material?)</td>
<td>10</td>
</tr>
<tr>
<td>Content</td>
<td>Was the content unique? Was the content appropriate? Was there enough content to make their case?</td>
<td>50</td>
</tr>
<tr>
<td>Style</td>
<td>Did they use figures/ tables effectively? Was there a clear progression of thought? Were the slides effective?</td>
<td>30</td>
</tr>
<tr>
<td>Delivery</td>
<td>Did they make good use of their team? Were they confident? Was the flow too slow or too fast, or choppy? Were they clear, or were they too quiet? Did they read the presentation, or was there good eye contact?</td>
<td>10</td>
</tr>
</tbody>
</table>

**TOTAL MARKS** 100

**Presentation Overview:**
Each group must submit the following for the Presentation Overview:
- Group membership (3 students per group) – names of group members;
- Name of the **1st and 2nd choice** city your group has selected (Prof. will provide guidance once a city is identified; the city must be unique for each group, so have a back-up choice just in case another group has selected the same city);
- Sentence on why your group selected this city.
- A high-level summary of your **1st choice city** with respect to its environmental challenge(s) and planning actions;
- An outline of the presentation on your **1st choice city** (an account of what you intend to present during the presentation; an annotated organized brainstorm of ideas)
- 2-3 double-spaced pages MAXIMUM
- *Convince me that your group is indeed able to deliver on the topic.*
Grading rubric for the Presentation Overview:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Style</td>
<td>Organization, clear voice; sensible layout; does the progression of the</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Overview make sense?</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>Focus, details (Have they met the brief?)</td>
<td>40</td>
</tr>
<tr>
<td>Mechanics</td>
<td>Sentence structure; grammar; spelling; word choice (Is the Overview in</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>good form?)</td>
<td></td>
</tr>
<tr>
<td>TOTAL MARKS</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Literature Review (synthesis):**
Choose an aspect of climate change resilience planning (defined broadly) and develop a literature review. The process for developing a literature review and a synthesis matrix will be explained in class.
- Include at least **15 articles**, 10 of which may be from the course Required Readings list.
- 8-10 double-spaced pages MAXIMUM

Further details will be provided in class.

Grading rubric for the Literature Review:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Criteria</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Style</td>
<td>Organization, clear voice (Have they clearly laid out their argument/</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>discussion?; is there a clear progression of thought?</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>Focus, details (Have they met the brief?); have they effectively woven</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>the articles together to form a convincing narrative?</td>
<td></td>
</tr>
<tr>
<td>Mechanics</td>
<td>Sentence structure, grammar, spelling, word choice (Have they made sure</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>that the review is in good form?)</td>
<td></td>
</tr>
<tr>
<td>TOTAL MARKS</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Late assignment:**
Late assignments will be penalized at the rate of **10% per day (including weekends)**. Extensions may be granted in extenuating circumstances. Please be aware that **no work will be accepted for evaluation after the last day of classes**. Be aware that unexcused absences will result in partial or total loss of grade for the participation component of the course, as well as for any assignments that are not handed-in or completed as a result.

**Missed Assignment:**
A student who cannot complete one of the course assignments due to incapacitating illness, severe domestic affliction, or other compelling reason should contact the instructor via e-mail as soon as possible. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. Misrepresentation of Facts to gain a referral is a serious breach of the Code of Student Behaviour.

**Grade Evaluation:**
Individual components of the course will be given a numerical mark. A cumulative course mark will be calculated from those scores, weighted as tabulated above. Note that the standard letter grading system will be used for the final evaluation of course performance. The grading system will be applied using a combination of absolute achievement and relative standing in the class. Grades are unofficial until approved by the Faculty offering the course.
The following conversion for % to a letter grade will be used:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Letter Grade</th>
<th>Grade Point Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>85-89</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>80-84</td>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>77-79</td>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>74-76</td>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>70-73</td>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>66-69</td>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>62-65</td>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>58-61</td>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>54-57</td>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>50-53</td>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>0-49</td>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**STUDENT RESPONSIBILITIES**

**Academic Integrity:**
"The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at http://www.governance.ualberta.ca/) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University."

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Senior Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for cheating on any examination will include a **disciplinary failing grade** (no exceptions) and senior students should expect a period of suspension or expulsion from the University of Alberta.

**Plagiarism and Cheating:**
“All students should consult the “Truth-In-Education” handbook or Website (http://www.uofaweb.ualberta.ca/TIE/) regarding the definitions of plagiarism and its consequences when detected. Students involved in language courses and translation courses should be aware that on-line “translation engines” produce very dubious and unreliable “translations.” Students in language courses should be aware that, while seeking the advice of native or expert speakers is often helpful, excessive editorial and creative help in assignments is considered a form of “cheating” that violates the code of student conduct with dire consequences. An instructor or coordinator who is convinced that a student has handed in work that he or she could not possibly reproduce without outside assistance is obliged, out of consideration of fairness to other students, to report the case to the Associate Dean of the Faculty. Before
unpleasantness occurs consult http://www.uofaweb.ualberta.ca/TIE/; also discuss this matter with any tutor(s) and with your instructor.”

**Recording of Lectures:**
“Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed **only with the prior written consent of the instructor** or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.”

**Cell Phones:**
Cell phones are to be turned **OFF** during lectures, labs and seminars. Cell phones are not to be brought to exams.

**Students with disabilities:**
Students who require accommodation in this course due to a disability are advised to discuss their needs with Specialized Support & Disability Services (2-800 Students’ Union Building).

**Academic Support Centre:**
Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the Student Success Centre (2-300 Students’ Union Building). Policy about course outlines can be found in section 23.4(2) of the University Calendar.

**PROFESSIONAL PLANNING ACCREDITATION REQUIREMENTS**
PLAN 500 is a graduate course in the MSc in Planning program. For students enrolled in this program, this course contributes to developing the knowledge and skills identified by Canadian Institute of Planners (CIP) as necessary components for practice as a professional planner. This course provides an introduction to all of the components as identified by the CIP, however the following are emphasized:

**Functional competencies:**
- Human Settlements
  - Forms, scales and settings of human settlements; Processes and factors of change in human settlements
- History & Principles of Planning
  - Planning theories, principles and practice; New developments in planning
- Issues in Planning and Policy-making
  - Environmental, social and economic sustainability; Land use design and infrastructure
- Processes of Planning and Policy-making
  - Visioning, goal-setting and problem solving; Information gathering and analysis

**Enabling competencies:**
- Critical and Creative Thinking
  - Thinking a various geographic scales
- Social Interaction and Leadership
  - Inclusion of diverse people and values
- Communication
  - Written communication; Oral communication; Graphic communication
- Professionalism
  - Learning from practice

**Disclaimer:**

*S. Jeff Birchall PLAN500 W2018 9*
Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

Copyright:
Dr. Jeff Birchall, Department of Earth and Atmospheric Sciences, Faculty of Science, University of Alberta (2017)

Last updated: July 24, 2017