

# **Hokies Abroad: Conservation-based Service Learning in New Zealand and Australia**

*BIOL 3954 (6 credits), Summer I 2019, May 30-June 27, 2019*

**Instructors:** Lori Blanc, Ph.D., Dept. of Biological Sciences, Virginia Tech  
Phone: 540-231-5256, Email: lblanc@vt.edu

Jonathan Watkinson, Ph.D., Dept. of Biological Sciences, Virginia Tech  
Phone: (540) 230 4131, Email: jowatki2@vt.edu

## **Course Description**

This is a 27-day field course in New Zealand and northeast Queensland, Australia. By participating in hands-on service learning projects, we will learn about sustainability, ecological restoration and resource conservation in New Zealand and Australia. Students will learn through classroom lectures & field work and then use their knowledge to assist community groups with long-term ecological research & conservation projects. Our objectives are:

1. Understand the impacts of human actions on natural systems, and human responses to those changes, using case studies in New Zealand's North Island & Australia's northeast Queensland;
2. Understand New Zealand's & Australia's natural history, biogeography, ecological diversity, and related social / cultural contexts by visiting national parks and World Heritage areas;
3. Gain hands-on experience with conservation and ecological restoration by participating in service-learning projects;
4. Learn about forest ecosystem conservation, watershed management, riparian zone re-vegetation, estuarine ecosystem management, endangered species management, tropical forest ecology, and Great Barrier Reef Marine Park management;
5. Learn about indigenous world views, conservation practices, culture and history by interacting with New Zealand Māori and Australian aboriginal communities;
6. Understand how indigenous people used plants in various aspects of their lives and how knowledge of plant wisdom is integrated into the cultural fabric of their societies;
7. Address relationships between human societies and their natural environments from multiple disciplinary perspectives and develop a multi-faceted and holistic view of human – environment connections that cross traditional disciplinary boundaries;
8. Develop scientific writing and collaborative teamwork skills through field-based data collection, analysis, write-up and presentations.

## **Attendance and Lateness Policy**

Punctual attendance at all scheduled, program-related activities is required, including group meetings, discussions, field excursions, as well as lectures and any other scheduled activities. Participation in field activities (such as hiking, snorkeling, swimming, kayaking, etc.) is voluntary and at the discretion of the student; however, should you wish not to participate you must inform the instructor and an alternate activity will be assigned. An excused absence or decision not to participate in one or any of these field activities will not affect your grade for the course. During the field studies, no student is to leave the group without the consent of the faculty supervisor. Unless an absence is approved by one of the instructors or the program directors, students will lose 10% of their final grade for each day or part-day they fail to participate. Any unexcused absences or continued late arrival to program activities may, at the discretion of the Faculty Leader, be grounds for dismissal from the program.

## **Academic Honesty and Conduct**

Academic work must meet AUIP standards of academic honesty (as described in the AUIP Program Handbook). Each student is responsible for informing themselves about those standards before performing any academic work. Students are bound by Virginia Tech's Honor Code for academic and personal behavior. Failure to obey these policies may result in program dismissal, at the discretion of the Faculty Leader. The Undergraduate Honor Code pledge that each member of the university community agrees to abide by states:

"I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Students enrolled in this course are responsible for abiding by the Honor Code. A student who has doubts about how the Honor Code applies to any assignment is responsible for obtaining specific guidance from the course instructor before submitting the assignment for evaluation. Ignorance of the rules does not exclude any member of the University community from the requirements and expectations of the Honor Code. For additional information about the Honor Code, please visit: <https://www.honorsystem.vt.edu/>

1. All assignments submitted shall be considered "graded work" and all aspects of your coursework are covered by the Honor Code. All projects and homework assignments are to be completed individually unless otherwise specified.

2. Commission of any of the following acts shall constitute academic misconduct. This listing is not, however, exclusive of other acts that may reasonably be said to constitute academic misconduct. Clarification is provided for each definition with some examples of prohibited behaviors in the Undergraduate Honor Code Manual located at <https://www.honorsystem.vt.edu/>

#### A. CHEATING

Cheating includes the intentional use of unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise, or attempts thereof.

#### B. PLAGIARISM

Plagiarism includes the copying of the language, structure, programming, computer code, ideas, and/or thoughts of another and passing off the same as one's own original work, or attempts thereof.

#### C. FALSIFICATION

Falsification includes the statement of any untruth, either verbally or in writing, with respect to any element of one's academic work, or attempts thereof.

#### D. FABRICATION

Fabrication includes making up data and results, and recording or reporting them, or submitting fabricated documents, or attempts thereof.

#### E. MULTIPLE SUBMISSION

Multiple submission involves the submission for credit—without authorization of the instructor receiving the work—of substantial portions of any work (including oral reports) previously submitted for credit at any academic institution, or attempts thereof.

#### F. COMPLICITY

Complicity includes intentionally helping another to engage in an act of academic misconduct, or attempts thereof.

#### G. VIOLATION OF UNIVERSITY, COLLEGE, DEPARTMENTAL, PROGRAM, COURSE, OR FACULTY RULES

The violation of any University, College, Departmental, Program, Course, or Faculty Rules relating to academic matters that may lead to an unfair academic advantage by the student violating the rule(s).

#### **Special Accommodations**

If you need adaptations or accommodations because of a disability (learning disability, attention deficit disorder, psychological, physical, etc.), if you have emergency medical information to share with me, or if you need special arrangements, please make an appointment with me as soon as possible. Reasonable accommodations are available for students with disabilities. However, to be eligible for such accommodations, students should contact Services for Students with Disabilities (SSD, 310 Lavery Hall, [www.ssd.vt.edu](http://www.ssd.vt.edu)), via telephone 540.231.3788 (voice) or 540.213.1740 (TTY) or email Susan Angle at [spangle@vt.edu](mailto:spangle@vt.edu). Because we will be studying abroad in remote locations, please speak with the course instructor(s) about this at least 4 weeks before the program begins so we have ample time to plan for accommodations. Some activities involve moderate exercise, such as hiking and snorkeling but participation is voluntary for all students.

#### **Personal, Behavioral and Academic Responsibilities Abroad**

Whether traveling with a group or independently, you are considered a Hokie wherever you are in the world, and will still be held accountable to the student code of conduct (and judicial system). Therefore, you should conduct yourself in a manner that reflects positively upon Virginia Tech and upon yourself embodying [Virginia Tech's Principles of Community](#) as well as the [Statement of Student Rights and Responsibilities](#). In committing to study abroad, you are agreeing to abide by the rules and regulations of the [Hokie Handbook](#), [Student Code of Conduct](#), [Constitution](#) set forth by the Undergraduate Honor System, your program's leadership and/or the Global Education Office.

As a visiting student in a foreign country, you are subject to the laws of that country as well as the academic and disciplinary rules of your host institution/provider. You should strive to always conduct yourself in a manner that is respectful to your host country.

In the event that you do not comply with the outlined expectations, the university reserves the right to take disciplinary action, including dismissing a student from a program for reasons of unacceptable behavior. Financially, a student who is dismissed from the program will be treated in the same way as a student who withdraws from the program. If this happens, the dismissal will be without a refund, and all return expenses incurred will be the responsibility of the student. This may also result in academic or financial consequences, which are solely the responsibility of the student.

## Course Assignments

### COURSE READINGS

Course readings will be made available online via the Virginia Tech Canvas course site. Students will be responsible for downloading and printing their own course reading material (or bringing downloaded copies on a laptop), **as copies will not be available in New Zealand and Australia and internet access will be limited.**

### PRE-DEPARTURE COURSEWORK (15%)

#### 1) Pre-departure reflection essays (10%)

Respond with your own personal thoughts and show genuine reflection on the essay prompts. There are no right or wrong answers, **but be sure to address \*all\* components of each question, proof your work for spelling and grammar, and include your full name within each essay.**

**Essay 1:** (~250 words)

Reflect on your sense of personal identity (e.g., who you are as an individual, what you value, what your life is like) and what has influenced this sense of identity. With this in mind, answer the following: ***Who are you and why?***

**Essay 2:**

**Part A:** (~250 words) In your own words, explain what you know about sustainability. What is it?

**Part B:** (~250 words) *After* writing part (a), watch the following short, online videos:

i) Sustainability explained with simple natural science (7 min): <https://www.youtube.com/watch?v=eec0UYGle04>

ii) Social sustainability: Satisfying human needs (5 min): <https://www.youtube.com/watch?v=FyT9TMlzC6s>

iii) Rethinking Progress – The Circular Economy (3 min): <https://www.youtube.com/watch?v=zCRKvDyyHmI>

iv) Triple bottom line & sustainability: the science of good business (4 min): <https://www.youtube.com/watch?v=2f5m-jBf81Q>

Identify aspects of the four videos that were new information for you, and explain your reaction to that information. Did anything surprise you? Are there any topics presented that you would like to explore further during the course?

**DUE:** Submit your essays to the course Canvas Assignments section **using the filename formats:**

**“LastName\_PreCourseEssay1”** and **“LastName\_PreCourseEssay2”** section **by 1159pm on Thurs, May 23** (~1 week prior to departure).

#### 2) Course “primer” readings and assignment: foundational concepts and concept mapping (5%)

Krebs, C.J. (2008a). Conservation biology: endangered species and ecosystems. Chapter 20, pp. 479-505 in, *The Ecological World View*. University of California Press.

Krebs, C.J. (2008b). Ecosystem health and human impacts. Chapter 21, pp 507-536 in, *The Ecological World View*. University of California Press.

**DUE:** Each student must develop a concept map for each chapter before arriving in New Zealand. These concept maps will be collected on the first day of class and feedback will be provided. This assignment is designed to (a) ensure that you have a basic understanding of key concepts that are foundational to the service work we will be conducting while abroad, and (b) prepare you for several group exercises that will take place in New Zealand and Australia (see concept map instructions on pages 5-6 below).

#### 3) Course “primer” readings: program themes and background on sustainability

- AUIP (2019). Course themes overview for New Zealand and Australia. 11 pages.

- Cairns, Jr., J., & Saier, Jr., M. (2010). Real sustainability. *Water Air and Soil Pollution* 205, 67-68.

- Edwards, A. (2009). The sustainability revolution: portrait of a paradigm shift. New Society: Gabriola Island, pp. 16-27.

**DUE:** Complete these readings **by Day 1 in New Zealand**. For two of the readings (Cairns & Saier, 2010; Edwards, 2009), bring a bulleted list to the first day of class explaining the 2 most important take-home points of each reading. \*Each bullet point should be only 1-2 sentences that emphasize the core ideas that the authors are presenting. These lists will be collected.

## **IN-COUNTRY COURSEWORK (55%).**

### **1) Participation: articulated journaling and reading summaries (10%)**

One of the objectives of this course is to enhance intellectual/personal maturity through cross-cultural understanding, self-reflection and intellectual engagement. During this field course, you should set aside time to reflect on (a) your experiences associated with the field projects and readings (academics), (b) your experiences and interactions with the surrounding environment (personal growth and observations of the natural world), and (c) your experiences and interactions with the people of Australia and New Zealand (global perspectives). These reflections will take place via (a) journaling, using structured journal entry documents and (b) creating brief reading summaries (e.g., identifying 2 key points from each reading), which you will submit to the faculty leaders for review. You will use these entries to produce a final course synthesis paper. Journals will be collected regularly during the trip for assessment.

### **2) Field module activities and assignments (35%)**

The modules relate what we learn in the classroom with field activities. The course readings and the field staff are your primary sources of information to help you complete the module questions. Module work may consist of reading publications from peer-reviewed scholarly journals, writing abstract style essays, producing a scientific format research paper and group presentation, participating in group debates and concept mapping exercises, and taking field site quizzes. Assignments will be due at intervals throughout the program (see itinerary). *Assigned module readings will be provided on the Virginia Tech Canvas course site.*

### **3) Final exam and group presentations (10%)**

The final exam will be open notes and comprehensive across the program, and may draw material from any reading, field exercises, lectures, or discussions.

## **POST-PROGRAM COURSEWORK (30%)**

### **Final course synthesis paper:**

After returning home from Australia and New Zealand, use your daily journal entries to write a 5-7 page final course synthesis paper (single-spaced with Times New Roman and 1" margins). This paper should include a comprehensive summary of your field experience, with a very specific structure and set of prompts (see page 8 of the syllabus for assignment details). The paper should draw from the course readings (and cite those sources using the course format; see 2019 NZ-OZ "Tips on essay writing and citation guide" file). Submit your final paper online in the course Canvas Assignment section **using the filename format: "LastName\_CourseSynthesis"**. See assignment and grading rubric on pages 7-8.

DUE: Upload your completed work to the course Canvas Assignments section **by 1159pm on Friday, July 19** (~3 weeks after the course ends). Late submissions will receive a penalty of 10% for each day or part thereof that they are late.

### **Grade assessment**

Final grades for all credits will be assessed together and as follows:

A	93.0 - 100 %	B+	87.0 - 89.99 %	C+	77.0 - 79.99 %	and so on.....
A-	90.0 - 92.99 %	B	83.0 - 86.99 %	C	73.0 - 76.99 %	
		B-	80.0 - 82.99 %	C-	70.0 - 72.99 %	

**Course Topics and Activities:** See the itinerary for a full list and schedule of field activities and lectures.

\* Virginia Tech students majoring in biological sciences and wanting to use this course to fulfill a lecture-lab link option within their major requirements must complete a supplemental research paper on conservation biology. This paper will require students to provide a comprehensive review of our current state of knowledge of an "at-risk" species in New Zealand or Australia, drawing from recent primary, peer-reviewed scholarly journal articles. The paper will be due by July 19 along with the final course synthesis paper. If you are interested in pursuing this option, please email the course instructors to request the assignment.

## Pre-departure Assignment: Conservation Biology and Ecosystem Health – a Primer

### Readings

Krebs, C.J. (2008a). Conservation biology: endangered species and ecosystems. Chapter 20, pp. 479-505 in, *The Ecological World View*. University of California Press.

Krebs, C.J. (2008b). Ecosystem health and human impacts. Chapter 21, pp 507-536 in, *The Ecological World View*. University of California Press.

### Background: Concept Maps

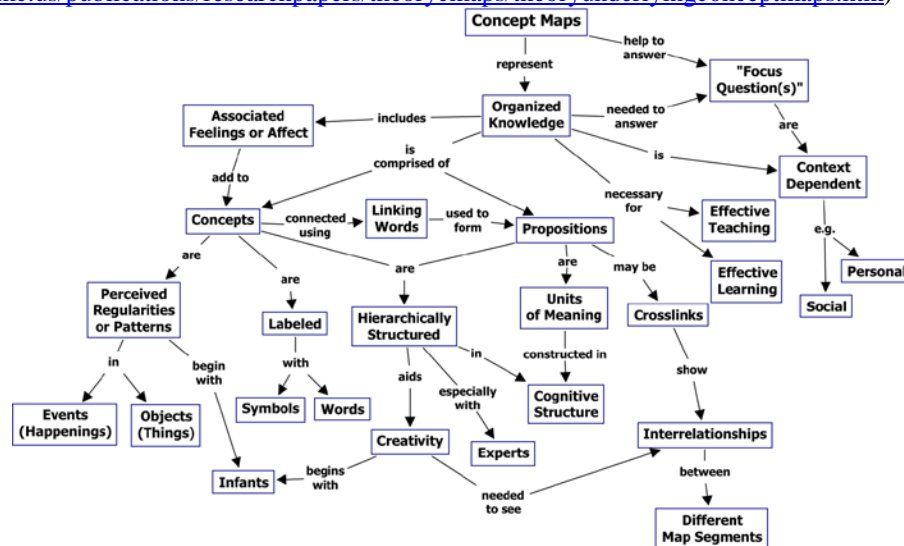
A concept map is a creative learning tool that helps to focus your learning process and guide you to a better understanding of conceptual information. A concept map is a visual diagram that represents knowledge by depicting concepts and the relationships among them. You create a concept map by writing key words (enclosed in boxes) and then drawing arrows between boxes to convey directional relationships. Add a short explanation by each arrow to explain how the concepts are related. To learn more about concept maps and their application in effective teaching and learning, see:

Novak, J. D., & Cañas, A. J. (2008). The theory underlying concept maps and how to construct and use them. Florida Institute for Human and Machine Cognition Pensacola FL, [www.ihmc.us](http://cmap.ihmc.us). [<http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm>], 284.

The following are two examples of concepts maps taken from Novak and Cañas (2008).

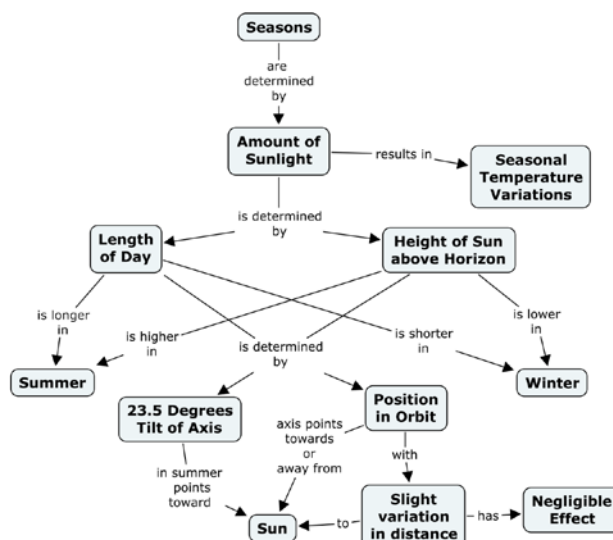
Example 1: a concept map showing the key features of concept maps. Note that it should be read from the top downward.

(Source: <http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>)



Example 2: a concept map representing the knowledge required to understand why we have seasons.

(Source: <http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>)



## Pre-departure Assignment: Conservation Biology and Ecosystem Health – a Primer, Cont...

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### Your Pre-departure Assignment

Create a draft concept map for each of the two pre-departure readings from Krebs (2008):

- Chapter 20: Conservation biology: endangered species and ecosystems
- Chapter 21: Ecosystem Health and Human Impacts

For each chapter, do the following:

- 1) Select what you consider to be **the 10 (and only 10) most important key concepts** from the chapter. A concept can be a single word or a very short phrase.
- 2) Write each concept on a sticky note (or use PowerPoint to create Text Boxes that contain the concepts).
- 3) Choose the most general and/or important word from your list. Place this word at the top of the map.
- 4) Start adding related concepts to the map and draw connector lines from the first general concept to the related concepts. Keep adding related words and drawing connector lines until all of your concepts are included in the diagram. Typically, concepts toward the top of the map are general terms, and concepts toward the bottom are more specific.
- 5) Add a few words of text next to each connector line explaining the relationship between the words being connected. Note that one concept can be connected to multiple other concepts and related concepts can connect back to each other. However, all connecting lines must contain text indicating the relationships between the concepts.
- 6) You may need to repeat this process multiple times and continue to rearrange the concepts logically until you find a spatial arrangement that works best.
- 7) A general reader should be able to read the final concept map (words and connector lines) like a story, without having to make any assumptions about the connecting relationships.
- 8) After you have a completed concept map, give it a meaningful and creative title that conveys the story that the map tells.

### Deliverable:

Bring a sketch or printout of your two concept maps to New Zealand. **Please put each map on a separate sheet of paper (i.e., not double-sided).** These concept maps will assigned a completion grade and will be collected at the first class meeting. This assignment is designed to (a) ensure that you have a basic understanding of key concepts that are foundational to the service work we will be conducting while abroad, and (b) prepare you for several group exercises that will take place in New Zealand and Australia. In the group exercises, the class will be divided into teams. Each team will be provided with a pre-determined list of key concepts from the course experiences (determined by the faculty) and will be given a set amount of time to work together to produce a group concept map. Each team will then be required to explain their concept map both in writing (via a group essay) and in speech (via a classroom presentation).

### Due

The first day of class in New Zealand.



## Final Field Course Synthesis Paper Specifications

After returning home from New Zealand and Australia, use your journal entries (journaling sheets will be provided) to write a final course synthesis paper. This paper should include a synthesis of your field experiences and course materials, and reflections on your personal growth and awareness of global perspectives. The paper should be 5-7 pages (single-spaced with Times New Roman and 1" margins). To support the academic component of your paper, you must draw from course readings, cite those sources using APA citation format and provide a References Cited section.

### What is a “synthesis paper”?

A synthesis paper is one that “synthesizes” smaller details from multiple sources into bigger level ideas. For example, in a class you might be asked to read 5 papers and then synthesize the ideas from each of those papers into an overall bigger picture argument. Doing so requires finding connections and relationships between the detailed ideas from each paper to and repackaging them into higher-level ideas. Applying this to your final synthesis paper, you should **let the bigger ideas/concepts drive the organization of the paper and use details from the day to day course (e.g., readings, lectures and activities) as supporting evidence for the bigger ideas.** *In addition to the in-country course reading, we strongly advise you to use the pre-departure “primer” readings to provide a conceptual foundation for your final paper.* Revisit those primer readings to better understand the bigger ideas that were presented to kick off the overall field course experience.

### Tips

- Do NOT focus on daily events and details (e.g., “on day 4 we did xxx”, or “we travelled to” or “Smith gave us a lecture on”). Doing so would be an example of using a daily journaling style. Instead, synthesize those details into the bigger picture of what you learned.
- Instead of referring to “receiving a lecture from a guest speaker”, write about the conceptual information and then cite the speaker as the source of that information (using an in-text citation).
- When you write about learning objectives, a good way to approach your writing is to write about the objective and then provide several examples of how you learned about that objective.
- For academics, you might talk about subjects like environmental worldviews, ecosystem connectivity, the 3 E’s of sustainability, principles of conservation biology, etc. (revisit the primer readings for ideas), and then explain / support those ideas using examples (readings, lectures, activities) from the course experience.
- The overall purpose of the entire paper is to focus on the bigger ideas, and then use details from the course (activities, readings, lectures) to provide specific evidence and examples (i.e., synthesize details into overarching ideas).

### Requirements/deliverables of the final paper (all four components must be explicitly addressed):

*\*We strongly recommend that you structure your paper into the following sections: an introduction, three content sections (described below), a conclusion and a references cited section. Do not write this paper like a personal journal. Write it like a formal paper for a general reader who does not know anything about the course or the group’s experience.*

- Provide a meaningful title that describes the **subject** of the paper (e.g., not “Final Course Synthesis Paper”)
- Introduction: Provide enough background information to inform the reader of the context of your paper (i.e., that this is a synthesis of the experiences you had in a study abroad course). Provide a thesis to introduce the reader to the topic of the paper.
- Body of paper: In the following three sections, discuss the ways in which your experiences in the course aligned with the **course objectives** (listed on page 1 of the syllabus). All 8 course objectives must be integrated into the overall/combined body of the paper (i.e., you don’t have to put \*all\* eight objectives within every section).
  - Section 1: Connect field experiences and service projects with course **academics** (i.e. readings, lectures). Write about what you did and what you learned by doing these activities.
  - Section 2: Explain how this field experience influenced your sense of **self-identity and personal growth**.
  - Section 3: Explain how this field experience influenced your sense of **global awareness**.
- Conclusions
- References Cited\*

\* You are expected to cite a variety of your course readings and lectures in this synthesis paper in addition to (a) the course primer readings and (b) the following article.

Nyborg, K., Anderies, J. M., Dannenberg, A., Lindahl, T., Schill, C., Schlüter, M., ... & Chapin, F. S. (2016). Social norms as solutions. *Science*, 354(6308), 42-43.

**Filename:** Use the following filename to save your document (before you upload it to the course Canvas Assignments section). This means that the name of the file ON YOUR COMPUTER should be: “LastName\_CourseSynthesis”. Upload your final essay to the Canvas Assignments section **by 1159pm on Friday, July 19** (~3 weeks after the course ends in Australia).

## Grading Rubric - Final Course Synthesis Paper

Description of Assignment Prompt	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
Used meaningful title describing the subject of the paper.					
Provided strong, clear introduction that provides a general reader with (a) background context of the paper and (b) a clear thesis.					
Connected field experiences and service projects with course academic content. Wrote about <u>what you did</u> and <u>what you learned academically</u> by doing these things.					
Explained how this field experience influenced sense of self-identity and personal growth, supported with specific examples.					
Explained how this field experience influenced sense of global awareness, supported with specific examples.					
Discussed the ways in which experiences in the course aligned with the course objectives, supported with specific examples.					
Strong and effective conclusion					
Paper Organization: • Effective use of paragraphs and topic sentences • Smooth internal transitions and logical flow of ideas • Concisely written					
Drew from in-country course readings and lectures to support the academic component of the paper.					
Drew from the course primer readings and Nyborg et al. (2016) to support the academic component of the paper.					
Cited sources and provided a References Cited section using APA citation style.					
Used correct syntax, grammar, spelling, and sentence structure.					
Used correct font style, document formatting, and filename "LastName_CourseSynthesis". Included full name within the document.					

Overall Grade:



### Evaluation Rubric for Short Essays (in-country work)

	Description	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
<b>Thesis</b>	<ul style="list-style-type: none"> <li>Strong, clear thesis statement that directly answers all parts of the question</li> </ul>					
<b>Content</b>	<ul style="list-style-type: none"> <li>Directly addresses all parts of the question with equal weight</li> <li>Thesis / argument supported with strong and relevant evidence</li> <li>Paper appropriately balanced (not biased)</li> <li>No unsupported opinions</li> </ul>					
<b>Compre- hension</b>	<ul style="list-style-type: none"> <li>Argument/evidence demonstrates comprehension of core concepts</li> <li>Explains the core concept(s) clearly</li> <li>Accurately represents information</li> </ul>					
<b>Organiza- tion</b>	<ul style="list-style-type: none"> <li>Effective opening and closing statements</li> <li>Effective use of topic sentences</li> <li>Smooth internal transitions and logical flow of ideas</li> <li>Concisely written</li> <li>Word count = 300 +/- 10 words (does not include citations)</li> </ul>					
<b>Source Citation</b>	<ul style="list-style-type: none"> <li>Use of full suite of resources (readings, lectures, field experiences)</li> <li>Appropriate use of source citations</li> <li>Correct formatting of In-text citations and references section (APA citation style)</li> </ul>					
<b>Gramma r /</b>	<ul style="list-style-type: none"> <li>Syntax, grammar, spelling</li> <li>Effective sentence structure</li> </ul>					

Comments and Overall Grade: \_\_\_\_\_

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