

## Instructor:

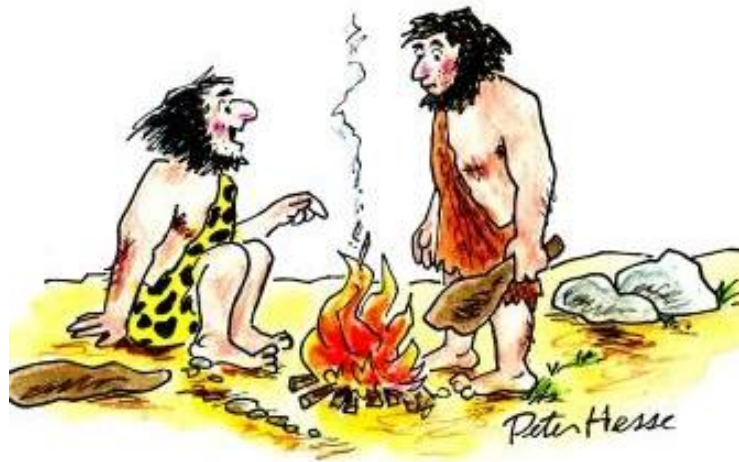
---

Dr. Shoshanah Jacobs  
Office: SCIE 2447  
Phone: x58096  
Email: sjacob04@uoguelph.ca  
Office hours: Thursdays 12.00-14.00  
Need an appointment? : just ask

## Lectures:

---

14:30 - 15:50: Tuesday, Thursday  
WMEM



" IT'S CALLED FIRE.. IT RECYCLES WOOD! "

## Course Description

---

This course will examine past and present human interactions with Nature from an ecological perspective. To do this, students are first introduced to science as a way of knowing, the scientific method, and basic ecological principles. Using this knowledge, and these tools, we will then explore the story of humanity, beginning with the first humans 200,000(?) years ago, examining how they evolved in the context of their natural surroundings, the changes in niche, and biological adaptations that resulted from an intimate relationship with the natural world. This course is designed for non-science students. It is also offered in a distance education format. B.Sc. students CANNOT take this course for credit. Credit – 0.5. No Prerequisites.

## Learning outcomes:

---

Science entertains a reputation of rigour, dogma, and difficulty. By the end of the course you will understand why we might think this and why it might not be the case. By the end of this course, you will be able to:

- 1) Evaluate the validity of knowledge based upon its type, origin, effect, and source
- 2) Recognise scientific sources of knowledge and design ways of acquiring more of it
- 3) Explain niche concept and apply it to the history of humans, human societies, and the natural world
- 4) Celebrate (and understand) the history of humanity, recognise the gaps that exist in knowledge and deduce ways of filling those gaps
- 5) Describe the changes in the relationship that humans have had with the natural world with respect to niche concept and ecosystem-thinking
- 6) Critically evaluate your own assumptions and reflect upon them
- 7) Delight in the behind-the-scenes true stories of discovery (unassessed learning outcome)

## Resources

---

Textbook (required): Due to popular demand, we've just written a textbook!

Jacobs, S., Bergstrom, J., Harvey, E., and Overdyk, L. 2016. *Humans in the Natural World*, second edition. Kendall Hunt.

Additional material: In the contents section of courselink you will find helpful documents and lots of great videos. Please make sure that you check them out.

All of the print, digital, other resources available in the world: don't understand something? Then google it! You'll likely come across the answer and some even better (or funnier) stuff that is interesting! You may even find contradictory or suspect information. Make sure to share it with the rest of us via the discussion boards. It is expected that you will be accessing out-of-class information for studying and for your assignments.

The instructor: There are several times throughout the week when you can find me to chat about the course topics. Please take advantage of them, bring some of your fellow students, and start up a discussion during office hours, or by appointment.

## Very cool Books of Interest

---

- Cavalli-Sforza, L.L. and Cavalli-Sforza, F. (1995) *The Great Human Diasporas: The History of Diversity and Evolution* translated from the Italian by Sarah Thorne. Addison-Wesley. [ISBN 0201442310, 9780201442311](#).
- Diamond, J. (1997). *Guns, Germs, and Steel: The Fates of Human Societies*. W.W. Norton & Company. [ISBN 0-393-03891-2](#). (kinda dull at the end but awesome generally)
- Diamond, J. (2012). *The world until yesterday*. Viking Press. ISBN [9780670024810](#)
- Sykes, B. (2001) *The Seven Daughters of Eve: The Science That Reveals Our Genetic Ancestry*, W.W. Norton, ISBN 0-393-02018-5.
- Wilson, E.O. (2002). *The Future of Life*. New York: Alfred A. Knopf. [ISBN 0-679-45078-5](#).

## Course Content

---

Week		Lecture Topics
1.	Part 1 – The Foundation	1. <i>HUH?</i> – what are humans in the natural world?
2.		2. Ways of knowing – How do we know? Why do we know? What do we know? 3. The Scientific way of knowing – Hypotheses and Predictions for everyday life.
3.		4. Analyse niche! – Ecosystem concepts 5. Niche concepts: Invasion and subtraction stories
4.		6. Evolution at molecules –DNA, RNA, genes, proteins 7. The selections – Natural and sexual selection.
5.		8. Evolution at scale – From the big bang to 200,000 years ago in about two hours! 9. Evolution at scale – continued.
6.	Part 2 – Humans in the natural world	10. Evolution of us: from Mammals to Hominids
7.		11. Evolution of us: from Hominids to <i>Homo sapiens sapiens</i> 12. What we are: biological features
8.		13. A civilised world: the evolution of culture 14. A civilised world : the hunter gatherers
9.		15. A migratory world: the great human ‘migration’ 16. A sedentary world: post-migration impacts and new developments
10.		17. A domesticated world: tame, domestic, bottleneck and mechanisms 18. A faithful world: the evolution of faith
11.		19. A changing world: new ideas, possibility 20. Catch up lecture for when we get off schedule
12.		21. Review 22. Review

## Methods of Evaluation

---

Mini-assignments, due weekly, can be found in the textbook assigned to this course. They are to be handed in in class. Each assignment is worth 1% of your final grade. You can choose to do a maximum of 10 of these, for a maximum value of 10% of your final grade. There are no make-up assignments and they will not be accepted late.

### Mini-assignments:

- Bonus assignment: pg 19 of the textbook. Due anytime before October 6<sup>th</sup>.
- Assignment 1: Graphing it out – due September 15<sup>th</sup>.
- Assignment 2: Draw it out – due September 22<sup>nd</sup>.
- Assignment 3: Building a protein – due September 29<sup>th</sup>.
- Assignment 4: Fill in the map – due October 6<sup>th</sup>.
- Assignment 5: Think about it... - due October 13<sup>th</sup>.
- Assignment 6: Illustrating selection – due October 20<sup>th</sup>.
- Assignment 7: What is the difference? – due October 27<sup>th</sup>.
- Assignment 8: Different fish, same niche? – due November 3<sup>rd</sup>.
- Assignment 9: How many bacteria? – due November 10<sup>th</sup>.
- Assignment 10: Different teeth for different functions – due November 17<sup>th</sup>.
- Assignment 11: Variation among humans – due November 24<sup>th</sup>.
- Assignment 12: Effects of wandering – due December 1<sup>st</sup>.

## Niche assignment: What is the human niche?

You will be able to choose the level of effort that you will make for this assignment. Each level will yield a different amount of possible points towards your final grade and will be due on different dates. Level 1 will give you access to a maximum of 75% of the grade for the assignment. If you choose this option, your assignment is due November 1<sup>st</sup>. Level 2 will give you access to a maximum of 90%. If you choose to do Levels 1 and 2 it is due November 8<sup>th</sup>. Level 3 will give you access to a maximum of 100%. If you choose to do Levels 1, 2, and 3, it is due November 15<sup>th</sup>. Whichever level you attempt will be the one for which you are assessed. The levels are cumulative. That is, you must complete level 1 to complete level 2 and you must complete levels 1 and 2 to complete level 3.

Confused? Let me help. If you are super busy this semester and really just need to pass this course, choose Level 1. That means that if you rock the assignment, getting the top possible mark, you will get a 75% and will hand it in early thus getting it off your plate asap. If you've got a bit of extra time and want to push your grade a bit higher, then choose Level 2 for a top possible mark of 90%... and so on. It is up to you.

### **Level one: Fundamental vs. Realised niche. Worth a maximum of 75% of the grade. DUE November 1<sup>st</sup>, 2016**

- 1) What is fundamental niche?
- 2) Describe the human fundamental niche
- 3) What is realised niche?
- 4) Describe your realised niche. How is it established with respect to other species/things?

This part must be thorough and well researched using secondary and primary literature. It must include examples, be well written, between 2,000 and 2,500 words. You need to demonstrate that you thoroughly understand the nuances of the terms and that you can apply them. You need to make connections between the concepts and your place in our natural world.

#### Rubric:

- 1) Explanation of fundamental niche /10  
0-3: just defined from a source, no explanation or interpretation  
7-10: multiple sources, discussion of variation in definition, a bit of history, interpretation.
- 2) Appropriate use of examples of fundamental niche /10  
0-3: examples describe only one variable and are not integrated  
7-10: examples are elegantly integrated, with increasing complexity along logical lines that illustrate well the principles and definitions.
- 3) Description of human fundamental niche /10  
0-3: no use of literature, based on a single source  
7-10: use of a variety of appropriate sources, concept of variation is presented with an interesting discussion.
- 4) Explanation of realised niche with appropriate use of examples /10  
0-3: just defined from a source, no explanation or interpretation  
7-10: multiple sources, discussion of variation in definition, a bit of history, interpretation.
- 5) Description of your realised niche and how it fits in a larger context /10  
0-3: no use of literature, based on a single source  
7-10: use of a variety of appropriate sources, concept of variation is presented with an interesting discussion of the context.
- 6) Writing, grammar, typos, formatting, all well done and consistent /10

1 grade will be removed for each typo or grammatical error or if formatting is inconsistent.

- 7) References (type, appropriate quantity, citation, bibliography) /15

**Level two: Variation in niches. Worth a maximum of 15% of the grade. DUE November 8<sup>th</sup>, 2016.**

- 1) Describe the realised niche of three other groups of humans. How are they established with respect to other species?

Here you must take all that you have learned in level 1 and apply it to three other groups of humans. These humans can be from the past or the present. You should pick groups of humans that have different realised niches. You should research them and then present what their biological niche is in their environmental context.

Rubric:

- 1) Human niche description 3 x /5%  
0-2: description touches on a few aspects of niche but is incomplete.  
4-5: description is well researched, well cited, and complete.

**Level three: Changes in niche. Worth a maximum of 10% of the grade. DUE November 15<sup>th</sup>, 2016.**

- 1) Pick a thing and describe how it is responsible for a change in the human niche.

What has caused a human realised niche to change? There are many examples! But this is a tricky question. Think of a thing that has changed our niche, either in the very far past, or in the near past, and describe how it all happened. Describe the past niche, the thing that changed it, and the resulting niche.

Rubric:

- 1) Description of pre-niche /2  
2) Cause of niche change /3  
3) Description of post-niche /5

I won't give you specifics here for the marking of level 3. That is because we want you to have some freedom to be awesome. You won't find easy sources on the web or in the library. If you would like to discuss this, or any other part of this assignment, please come by my office hours.

Notes: Please use APA formatting for the references (in text, if you choose to write, and in the final list). Otherwise, use whatever format you'd like for the rest. Be formal, or not at all, be brief, or ramble on...

**Late Penalty on Assignments**

The assignments will have a late penalty of 10% per day. Thus, assignments that are **TEN (10) DAYS** late will receive 0%.

**Absence and Illness**

If you are absent from classes during the semester, you will be expected to make up for missed lecture material on your own. If you do not complete assignments for medical or other authorized reasons, contact me asap to discuss.

---

## Evaluation:

---

Assessment	Weight	Due Date	Course Content	Learning Outcome
Mini Assignments	10%	various	All content	2,3,4,6
Niche assignment	30 %	Nov. 1, 8, or 15	Niche concept, application of principles	1,2,3,5
Midterm Exam	30%	Oct. 27	Part 1 of course	1,2,3
	30%	TBD	All parts, of course	2,3,4

## Important Dates:

---

September 8 – First day of class!

October 27 – Midterm during class time

November 4 – last day to drop this course

November 15– Niche assignment due before the end of class

TBD – Final exam

## Departmental policies, resources, rules:

---

### When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic

Consideration: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

### Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email [csd@uoguelph.ca](mailto:csd@uoguelph.ca) or see the website: <http://www.csd.uoguelph.ca/csd/>

### Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and

students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intendeds to commit academic misconduct is not relevant for a finding of guilty. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

### E-mail Communication

As per university regulations, all students are required to check their <uoguelph.ca> e-mail account regularly. E-mail is the official route of communication between the University and its students.

### Drop Date

The last date to drop one-semester courses, without academic penalty, is the 40<sup>th</sup> class day: November 4, 2016. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

### Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

### Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

### Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs:

<http://www.uoguelph.ca/registrar/calendars/index.cfm?index>

## Campus Resources

---

If you are concerned about any aspect of your academic program:

- make an appointment with a program counsellor in your degree program.  
<http://www.bsc.uoguelph.ca/index.shtml> or <https://www.uoguelph.ca/uaic/programcounsellors>

If you are struggling to succeed academically:

- There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.uoguelph.ca/~ksomers/>

If you have a documented disability or think you may have a disability:

- The Centre for Students with Disabilities (CSD) can provide services and support for students with a documented learning or physical disability. They can also provide information about how to be tested for a learning disability. For more information, including how to register with the centre please see: <https://www.uoguelph.ca/csd/>