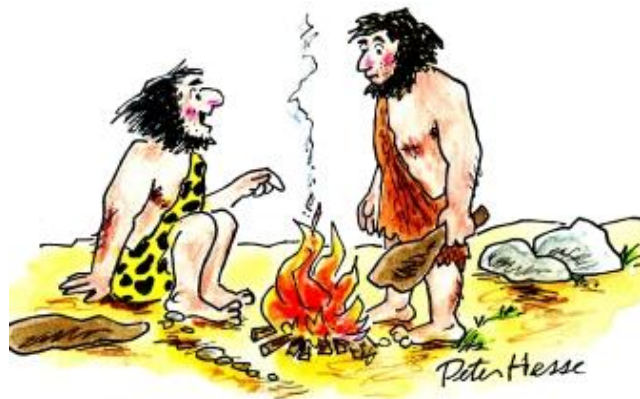


Instructor:

Dr. Shoshanah Jacobs
Office: SCIE 2447
Phone: x58096
Email: sjacob04@uoguelph.ca

Office hours:
Mondays 11.00-12.00

Teaching Assistants:
Michael Lim (mlim04@uoguelph.ca)
Office hour: Thursdays from 13.00-14.00
(Location TBD)
Michael Elza (melza@uoguelph.ca)



Lectures:

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

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 evolutionary and 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!

Jacobs, S., Bergstrom, J., Harvey, E., and Overdyk, L. 2017. *Humans in the Natural World*, third 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 (a.k.a. alternative facts). 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 – Tentative!
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. Catch up lecture for when we get off schedule 22. Catch up lecture for when we get off schedule

Methods of Evaluation

Mini-assignments, due weekly by 18.00 on the due date, can be found in the current edition of the textbook assigned to this course. Several copies of the current edition textbook are available on reserve in the library. You can photocopy the assignments and fill it in or simply answer the questions on a separate sheet if you use them from the library copies. In all cases, upload your answers to the drop box with a scanned copy or a word document. Please make sure that you have put your assignment in the correct drop box. We will not grade those from other drop boxes and if you upload it to the correct one late, the assignment will be considered late. 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.

These assignments are to be completed and handed in individually.

Mini-assignments:

- Assignment 1: Graphing it out – due September 12th.
- Assignment 2: Draw it out – due September 19th.
- Assignment 3: Building a protein – due September 26th.
- Assignment 4: Fill in the map – due October 3rd.
- Assignment 5: Think about it... - due October 12th.
- Assignment 6: Illustrating selection – due October 17th.

- Assignment 7: What is the difference? – due October 24th.
 Assignment 8: Different fish, same niche? – due October 31st.
 Assignment 9: How many bacteria? – due November 7th.
 Assignment 10: Different teeth for different functions – due November 14th.
 Assignment 11: Variation among humans – due November 21th.
 Assignment 12: Effects of wandering – due November 28th.

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 is due on different dates.

Level 1 (Due NOVEMBER 8) will give you access to a maximum of 70% of the grade for the assignment.

Level 2 (Due NOVEMBER 15) will give you access to a maximum of 15%.

Level 3 (Due NOVEMBER 22) will give you access to a maximum of 15%.

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 70% 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 a bit higher, then choose Level 2 for a top possible mark of 85%... and so on. It is up to you.

Level one: Fundamental vs. Realised niche. Worth a maximum of 70% of the grade.

- 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 3,000 and 3,500 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.

- 1) Describe the realised niche of three 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 (*Homo sapiens*). 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 and 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 15% of the grade.

- 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 still 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. You must be specific about the cause. The more broad and vague you are, the more difficult it is to answer the question.

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.

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...

This assignment is to be completed and submitted individually.

Late Penalty on Assignments

The Niche Assignment will have a late penalty of 10% per day. Thus, assignments that are **TEN (10) DAYS** late will receive 0%. The mini assignments will not be accepted late.

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.

Requests for deadline extensions or other considerations.

If you require an extension for a medical or otherwise legitimate and approved reason, you are to contact the instructor prior to the deadline. All requests made after the deadline will not be considered.

You are expected to save backed up versions of your work (drop box or Google Drive work very well and if you need help in learning how to use these, come to my office hours). All requests for consideration made due to a crashing computer (or similar) will not be considered.

You are expected to submit the correct version of your assignments. All requests to resubmit an updated version will not be considered.

You are expected to ensure that your assignments have been correctly uploaded and verified by the courselink drop box system. All requests to resubmit due to a failure to verify will not be considered.

If you are varsity athlete, it is expected that you will make requests for accommodating your away game schedule at least one month prior to the assignment deadline. All requests made after this time will not be considered. If you make the playoffs and therefore have games that were not scheduled in advance, only requests for extensions on the mini-assignments will be considered. For the niche assignment, it is expected that you will manage your time such that you complete the assignment in anticipation of the possibility of being away. If there is a conflict with the game schedule and your midterm, then the weight of the midterm will be transferred to your final exam.

Evaluation:

Assessment	Weight	Due Date	Course Content	Learning Outcome
Mini assignments	20%	weekly	All content	2,3,4,6
Niche assignment	30 %	Nov. 8, 15, and 22	Niche concept, application of principles	1,2,3,5
Midterm	20%	Oct. 26	Part 1 of course	1,2,3
Exam	30%	TBD	All parts, of course	2,3,4

Group work throughout the semester and examinations:

Students in BIOL*1500 will have the opportunity to discuss and help mold the format of the midterm and final exam. My experience is that students do better and learn more when they are examined in small groups. Therefore, you will be encouraged to consider this option. Please expect to be working in groups. You will be asked to form groups of 4 students at the beginning of the semester for frequent group work in-class. This is designed to help you learn to work together before you are examined. It is anticipated that you will then remain in these groups throughout the semester and be examined in this group for at least part of the midterm and final exam.

Students are expected to manage their own groups and remain accountable. Group members are welcome to shift groups or ask a student to withdraw from the group if they are not holding up their end. This might include not attending class or not participating during group discussions.

Group composition and dynamics are entirely your responsibility. The instructing team will not be forming or policing the groups. Group examinations can only be completed in groups and not by individuals.

Important Dates:

September 7 – First day of class!

October 26 – Midterm during class time

November 3 – last day to drop this course

November 8,15,22 – Niche assignments due by 18.00 on the due date

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 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 40th class day: November 3, 2017. 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/>