

COURSE OUTLINE: SPRING 2021

COURSE TITLE:	PLANTS & PEOPLE
COURSE CODE:	BIOL 3351
CREDITS:	0.5
WEEKLY HOURS:	web-based (course runs from May 5 to June 14)
ROOM:	N/A – course is delivered via Zoom
REQUIRED TEXT:	Mauseth, J. D. (2012). <i>Plants and People</i> . Jones & Bartlett Learning; additional readings & other course materials will be available via <i>desire2learn</i> https://bookstore.lakeheadu.ca/CourseSearch/?course[0]=DL%2CSPRI21%2CBIOL%2CBIOL3351DE&
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OFFICE HOURS:	by appointment (set up via e-mail)

1. COURSE DESCRIPTION

An introduction to the basic and essential relationship between plants (as food and resource) and humans (as dependent consumers), in the context of local food security, with emphasis on the origins and history of important temperate and tropical crop plants and their effect on civilization. Ethnobotany principles and methods will be introduced. A different independent community service learning project pertaining to local wild or cultivated plants will be designed each year, resulting in a written report.

2. COURSE REQUIREMENTS

- Internet connection (DSL, LAN, or cable connection desirable)
- Access to Desire2Learn (D2L)

3. COURSE GOALS

BIOL 3351 introduces you to the socioecological foundation and practice of plant propagation for human use and consumption

Specifically, you will:

- (a) be introduced to how plants have keyed the development of permanent settlements and the exponential growth of human societies – from a few million people approximately 10 000 years ago to more than 7B people on our planet today!
- (b) learn about the origins of agriculture, how we have domesticated plants, and the critical role that artificial breeding has played in feeding the world. Emphasis will be placed on crop growth since the Green Revolution, industrial agriculture, and modern, more holistic approaches
- (c) gain awareness of the most important plants that provide us food, drugs, fibres, textiles, and other benefits
- (a) understand and appreciate how plants have shaped the development of culture and modern societies

Analytical, technical, and applied skills

You will:

- (a) develop a practical understanding of the challenges involved in managing our plant resources
- (b) improve critical reading skills through evaluation and review of assigned materials
- (c) improve written communication skills by writing short-answer responses to questions related to assigned course readings along with a group report
- (d) improve technological communication skills through the production of a group video lesson/seminar
- (e) improve group environment and project management skills



4. MODES OF INSTRUCTION

Online lecture material, assigned readings, asynchronous online discussions, group work, and self-directed learning are employed.

Notice for Class Activities

In BIOL 3551, in the context of remote instruction and participation, video and audio recordings of a few class activities will be made to ensure students' and instructors' easy and comprehensive access to those activities. The recordings are confidential and are intended only for the use of the course students and instructors. They may otherwise not be used or disclosed. During recording, to protect others' privacy, each student should ensure that no one else is present in the location where they are being recorded without that non-student's consent. The recordings are made under the authority of sections 3 and 14 of The Lakehead University Act, 1965. Questions about the collection of the images and sounds in the recordings may be directed to Dr Azim Mallik, Chair of Biology, 955 Oliver Road, Thunder Bay, ON, Canada, P7B 5E1, (807) 343-8927.

https://www.lakeheadu.ca/sites/default/files/policies_procedures/Student%20Code%20of%20Conduct%20-%20Academic%20Integrity.pdf



5. COURSE OUTLINE

All activities will be asynchronous (lecture, discussion, question & answer, other in-class activities). I have provided a calendar indicating topics discussed and due dates of various assignments. It should also be used as a concept map as to where you should be with respect to the material each week. The course is designed to encourage active participation; thus, its success (& fun!) will depend on engaging one another in friendly

discussion & debate; i.e., group discussion periods** will provide you an opportunity to apply knowledge gained through previous lectures and reading materials.

**topics to be addressed during discussion periods could include:

- How plants shape our environments
- Water use and consumption in agriculture
- Carbon sequestration
- Cultural connections to plant production
- Pesticide use and policy
- GMOs and PNTs
- Organic crops
- Plants & urban environments
- Invasive species
- Pollinator declines
- Food science & modernising agriculture

The tentative schedule is as follows:

WEEK 1	Origins of plant domestication & agriculture Plants and culture Green revolution to modern agriculture
Readings (R)	Chapters 1, (2), 12, from Mauseth (2012)
WEEK 2	Agriculture & bees Pests & disease Biocontrols
Assignments	Discussion period I (May 11 to 14) A1 data collection assignment
R	Chapter 12 from Mauseth (2012)
WEEK 3	Plants that feed the world Medicinal Plants Drug plants & trade (Peyote to LSD documentary film) Fibres & textiles
Assignments	Group seminar topics & groups assigned (A2) Discussion period II (May 18 to 21) A1 data collection due May 21
R	Chapters 13, 14, 15, 16 from Mauseth (2012)
WEEK 4	Modification Micro-agriculture Moving forward: the future of farming Climate-smart agriculture
	MIDTERM (May 27)
Assignments	A1b work on individual or group report A2 Work on group seminar assignments
R	Chapters 11, 12 from Mauseth (2012)

WEEK 5	Independent study
Assignments	A1b work on individual or group report A2 Work on group seminar assignments
WEEK 6	Independent study
Assignments	A2 video seminars due June 6 A2 video seminar reviews due June 13
WEEK 7	A1b individual (or group) report due June 14

6. EVALUATION OF ACHIEVEMENT

ASSIGNMENT 1 (field study & report) ^b	25 %
MIDTERM	25 %
DISCUSSION PERIOD (Q&A + participation) ^{b #}	20 %
ASSIGNMENT 2 (group seminar video) ^b	20 %
ASSIGNMENT 3 (video seminar reviews) ^b	10 %

^b **Late submissions** of assignments, tests, &/or exams will be subjected to a **25 % reduction to your grade per day**

[#] **Participation deliverables:**

- Read and prepare notes on the assigned article (do not hand your notes with deliverable c)
- upload (at least) **one question or a critical comment** related to the assigned reading to the online discussion board for your peers to respond to
- submit a copy of your question **AND answer** to your question **or critical comment** via dropbox in the D2L assignment folder
- comment on the responses** by your peers to **your** question/critical comment on the discussion board
- provide a response to at least two** of your peers' questions/critical comments posed on the discussion board



Notes on participation:

You will be graded on components (b)/(c), (d), & (e) of this process.

For D1, the discussion board will be open for commenting starting 09h00 on Tuesday May 11, 2021; nb., you will have until 23h59 on Friday May 14 to complete this assignment.

For D2, the discussion board will be open for commenting starting 09h00 on Tuesday May 18, 2021; nb., you will have until 23h59 on Friday May 21 to complete this assignment.

It is imperative that your question(s)/critical comment(s) is/are added to the discussion board prior to the start of the commenting period (nb., by Tuesday May 11 @ 09h00 for D1 & Tuesday May 18 @ 09h00 for D2). You can add your question(s) to the discussion board any time prior to the deadline. If providing a question, please allow your peers 24h to respond to it prior to adding your own response on the forum.

A dropbox for either of your (a) question(s) & answer(s) or (b) critical comment is located in the Assignments folder. Please submit a copy of it there prior to the start of the commenting period as well.

Please note that the question or critical comment you pose should promote dialogue. We are more interested in discussing the concepts explored within the assigned article rather than minute details.

Lastly, please review the Netiquette information documented in Section 8 below.



For your reference:

Table 1. Chronological order of due dates for all tests & graded assignments of our course

	Assignment	Due date	Proportion of grade
1	Discussion Period 1 (Q&A)	before May 11	3
2	Discussion Period 1 (participation)	May 11 to 14	7
3	Discussion Period 2 (Q&A)	before May 18	3
4	Discussion Period 2 (participation)	May 18 to 21	7
5	Assignment 1a: data collection	May 21	3
6	MIDTERM	May 27	25
7	Assignment 2: group seminar video	June 6	20
8	Assignment 3: peer reviews	June 13	10
9	Assignment 1b: individual (or group) report	June 14	22
	TOTAL		100

GRADING SCHEME:

A+	90 to 100%	Outstanding understanding of the course concepts including integration of materials and ideas, ability to apply knowledge to situations
A	80 to 89%	Above average to excellent knowledge, ability to apply knowledge to situations
B	70 to 79%	Satisfactory knowledge including ability to recognise and apply major course concepts, and to progress to next level of course
C	60 to 69%	Some grasp of course concepts; will likely encounter difficulty with higher levels
D	50 to 59%	Failed to meet minimum requirements of the course
E	40 to 49%	Failure
F	1 to 39%	Failure resulting from academic dishonesty
F	0	



7. RESOURCES

- Bender, B. (1975). *Farming in prehistory: from hunter-gatherer to food producer*. London, UK: John Baker.
- Berry, W. (1977). *The unsettling of America: culture & agriculture*. San Francisco, USA: Sierra Club Books.
- FAO. (2017). *The future of food and agriculture – Trends and challenges*. Rome: FAO.
<http://www.fao.org/3/i6583e/i6583e.pdf>
- Fuller, D. Q., & Stevens, C. J. (2019). Between domestication and civilization: the role of agriculture and arboriculture in the emergence of the first urban societies. *Vegetation History and Archaeobotany* 28, 263–282.
<https://doi.org/10.1007/s00334-019-00727-4>
- Hamel, M.A., & Saindon, G. (2017). Shaping Canadian agriculture — a reflection on the future role of agronomists in Canadian agriculture. *Canadian Journal of Plant Sciences* 97, 957-963
<https://cdnsiencepub.com/doi/full/10.1139/cjps-2016-0385>
- Mardones, F.O., Rich, K.M., Boden, L.A., Moreno-Switt, A.I., Caipo, M.L., Zimin-Veselkoff, N., Alateeqi, A.M., & Baltenweck, I. (2020). The COVID-19 pandemic and global food security. *Frontiers in Veterinary Sciences* 7, 578508.
<https://www.frontiersin.org/articles/10.3389/fvets.2020.578508/full>
- Minami, K. (2009). Soil and humanity: culture, civilization, livelihood and health. *Soil Science and Plant Nutrition* 55(5), 603-615.
<https://www.tandfonline.com/doi/full/10.1111/j.1747-0765.2009.00401.x?scroll=top&needAccess=true>
- Pisante, M., Stagnari, F., & Grant, C. A. (2012). Agricultural innovations for sustainable crop production intensification. *Italian Journal of Agronomy*, 7(4), e40.
<https://doi.org/10.4081/ija.2012.e40>
- Raman, R. (2017). The impact of Genetically Modified (GM) crops in modern agriculture: a review. *GM Crops & Food*, 8(4), 195-208.
<https://www.tandfonline.com/doi/full/10.1080/21645698.2017.1413522>



Reilly J. R., Artz D. R., Biddinger D., Bobiwash K., Boyle N. K., Brittain, C., ... & Winfree, R. (2020). Crop production in the USA is frequently limited by a lack of pollinators.

Proceedings of the Royal Society B 287, 20200922

<https://royalsocietypublishing.org/doi/pdf/10.1098/rspb.2020.0922>

Wessel, T. (1984). The agricultural foundations of civilization. *Agriculture & Human Values* 1, 9–12

<https://doi.org/10.1007/BF01530609>

Wu, S., Wei, Y., Head, B., Zhao, Y., & Hanna, S. (2019). The development of ancient Chinese agricultural and water technology from 8000 BC to 1911 AD. *Palgrave Communications* 5, 77.



8. NETIQUETTE

Much like in a regular classroom, it is important that a positive, safe, dynamic, and constructive online learning environment is maintained. Thus, a set of guidelines for maintaining Netiquette are listed below. While you may not always agree with your instructor's or one of your peer's posts on the discussion board, please remember that everyone's opinions, thoughts, and responses must be respected. So while you are strongly encouraged to comment, question, or critique a post, personal attacks on an individual are not permitted. Essentially, we wish to build and maintain an engaging and respectful online learning environment.

Our online classroom Netiquette guidelines are as follows:

- Do not dominate any discussion. Give other students the opportunity to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Popular emoticons such as 😊 or 😞 can be helpful to convey your tone but do not overdo or overuse them.
- Avoid using vernacular and/or slang language. This could possibly lead to misinterpretation. Essentially, take some time to formulate your ideas. Be clear, concise, and complete.
- Never make fun of someone's ability to read or write.
- Share tips with other students.
- Keep an open-mind and be willing to express even your minority opinion. Minority opinions must be respected.
- Think and edit before you push the *send* button.
- Do not hesitate to ask for feedback.
- Using humor is acceptable but be careful that it is not misinterpreted. For example, are you being humorous or sarcastic?

Guidelines adapted from:

Mintu-Wimsatt, A., Kernek, C., & Lozada, H. R. (2010). Netiquette: Make it part of your syllabus. *Journal of Online Learning and Teaching* 6(1). Retrieved from http://jolt.merlot.org/vol6no1/mintu-wimsatt_0310.htm

9. STUDENT RESPONSIBILITIES

Students are expected to participate in all course activities and complete all assignments on time. Late assignments carry a 25% reduction in value per day, no exceptions. This may seem rather severe, but it's just not fair to those who hand assignments in on time.

General regulations

It is the responsibility of each student registered at Lakehead University to be familiar with, and comply with all the terms, requirements, regulations, policies and conditions in the Lakehead University [Academic Calendar](#). This includes, but is not limited to, Academic Program Requirements, Academic Schedule of Dates, University and Faculty/School Policies and Regulations and the Fees and Refund Policies and Schedules

Student Support

There are many resources available to support our students. These include but are not limited to:

- [Health and Wellness](#)
- [Student Success Centre](#)
- [Student Accessibility Centre](#)
- [Library](#)
- [Academic Support Zone](#) (Writing and Math Tutoring Centre)

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please contact Student Accessibility Services <http://studentaccessibility.lakeheadu.ca> (SC0003, 343-8047 or sas@lakeheadu.ca)



Student Accessibility Services (SAS) (Thunder Bay) and Student Affairs (Orillia) coordinate services and facilitates reasonable academic accommodations for students with disabilities. Academic accommodations are provided on the basis of documentation of a disability. Additional information is available at the following campus websites:

Thunder Bay: <https://www.lakeheadu.ca/students/student-life/student-services/accessibility/>

Orillia: <https://www.lakeheadu.ca/students/student-life/student-services/or>

Academic dishonesty (plagiarism):

The most common offense under the [Academic Code of Conduct](#) is plagiarism.

This could be material copied word for word from books, journals, internet sites, professor's course notes, etc. It could be material that is paraphrased but closely resembles the original source. It could be the work of a fellow student, for example, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased through one of the many available sources. Plagiarism does not refer to words alone - it can also refer to copying images, graphs, tables, and ideas. "Presentation" is not limited to written work. It also includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into French or English and do not cite the source, this is also plagiarism.

I.E., DO NOT COPY, PARAPHRASE OR TRANSLATE ANYTHING FROM ANYWHERE WITHOUT CITING WHERE YOU OBTAINED IT!

[University guidelines on the matter:](#)

The University takes a most serious view of offences against academic honesty such as plagiarism, cheating and impersonation. Penalties for dealing with such offences will be strictly enforced.

A copy of the "[Code of Student Behaviour and Disciplinary Procedures](#)" including sections on plagiarism and other forms of misconduct may be obtained from the Office of the Registrar.



The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.

- (a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a course will be a zero for the work concerned.
- (b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the examination is scheduled to be written, will receive zero for the course and may be expelled from the University.

Students disciplined under the [Code of Student Behaviour and Disciplinary Procedures](#) may appeal their case through the [Judicial Panel](#).

Note: "[Plagiarism](#)" shall be deemed to include:

1. Plagiarism of ideas as where an idea of an author or speaker is incorporated into the body of an assignment as though it were the writer's idea, i.e. no credit is given the person through referencing or footnoting or endnoting.
2. Plagiarism of words occurs when phrases, sentences, tables or illustrations of an author or speaker are incorporated into the body of a writer's own, i.e. no quotations or indentations (depending on the format followed) are present but referencing or footnoting or endnoting is given.
3. Plagiarism of ideas and words as where words and an idea(s) of an author or speaker are incorporated into the body of a written assignment as though they were the writer's own words and ideas, i.e. no quotations or indentations (depending on format followed) are present and no referencing or footnoting or endnoting is given.

A listing of University Regulations can be found at:

<http://csdc.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=27&chapterid=8325&loadusercredits=False>

The code of student behaviour and disciplinary procedures (effective May 1, 2019) can be found at:

https://www.lakeheadu.ca/sites/default/files/policies_procedures/Student%20Code%20of%20Conduct%20-%20Academic%20Integrity.pdf