



GEOG/ERS 460
Sustainable Food: Regional Case Study

Department of Geography & Environmental Management
Faculty of Environment
Fall 2019

Course instructor

Dr Steffanie Scott

E-mail: sdscott@uwaterloo.ca

Tel: 519-888-4567 ext. 37012

Class time: Mon & Wed 4:00-5:30 in EV2-2002

Office: EV1 114

Office hours: Tues 10:30-11:30am or by appointment

Note: Refer to the course website regularly for updates.

With gratitude, we acknowledge that we are on the traditional territory of the Attawandaron (Neutral), Anishnaabeg, and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, land promised to Six Nations, which includes six miles on each side of the Grand River. The [Waterloo Indigenous Student Centre](#) facilitates the sharing of Indigenous knowledge and provides culturally relevant information and support services for all members of the University of Waterloo community, including Indigenous and non-Indigenous students, staff, and faculty.

Course description

Industrial agriculture has destabilized the Earth's ecosystems at the planetary scale. Ecological as well as socio-cultural, economic, and political factors shape the sustainability and resilience of our food system. This seminar course takes a regional focus to ground our discussions of pertinent concepts, challenges, and opportunities. The course examines regional issues and initiatives linked to food security, food sovereignty, resilient agriculture and agro-ecology, the energy-water-food nexus, food policy, food supply chains, urban food systems, alternative food initiatives, sustainable diets, and food waste reduction—all within the context of the case study region.

Detailed description

In this course, we draw on environmental, economic, socio-cultural, health, and political perspectives to examine the challenges and successes of the food system in the world's most populous country: China. We cover the history and geography of food security in China; debates over feeding the most populous nation on earth; and threats to soil fertility, clean water, and farmland loss. The bulk of the course then focuses on alternatives: what initiatives are underway to strengthen sustainable agriculture, agroecology, and 'alternative food networks,' such as community supported agriculture and ecological farmers' markets? Who are the key players? What role is technology and the internet playing in all this, for consumers, and for farmers? We review 'grassroots', private sector, and state policy initiatives to

promote a 'sustainable' food system in urban and rural areas of China, and assess their relative successes and their domestic and global implications. We explore food security, meat consumption, food waste, China's rapidly expanding organic sector (certified and uncertified), and the associated revolution that is happening in ecological, healthy, safe food and ethical eating in China's cities.

Intended learning outcomes

By the end of the course, student should have acquired the following:

- Knowledge of the historical development and contemporary condition of the case study region's food system, its resources, demographic and economic shifts, governance approaches, and key challenges and opportunities
- Understanding of contemporary principles and approaches to sustainable food systems, and how they apply to the case study region
- Skills and knowledge needed to evaluate the strengths and weaknesses of current and emerging approaches to dealing with food system challenges in the case study region—including policy (state-led), market-oriented, and civil society initiatives
- Improved research, oral and written communication, teamwork, and critical thinking skills

Teamwork is crucial to achieving change. Thus, this course offers you the opportunity to work in groups to research an issue and present your research output.

The format for the 80-minute classes will be a combination of seminar discussions, lectures, guest speakers, videos, and student presentations.

Course content (*subject to change – dates will be updated*)

Week 1 (Sept 4 & Sept 10 & 12). Overview and food systems introduction

[no need for commenting in Perusall] Food Climate Research Network. 2015. Overview of changes and drivers. Manchester: FCRN China Briefing paper.

[Recommended reading for Sept 12; see the photos & map; no need for commenting in Perusall] National Geographic. 2018. How China Plans to Feed 1.4 Billion Growing Appetites. Feb.

[we will discuss this in class] Lin Ma, Zhaohai Bai. Wenqi Ma, Mengchu Guo, Rongfeng Jiang, Junguo Liu, Oene Oenema, Gerard L. Velthof, Andrew P. Whitmore, John Crawford, Achim Dobermann, Marie Schwoob, Fusuo Zhang. 2019. Exploring future food provision scenarios for China. *Environmental science & technology*, 53(3): 1385-1393

Week 2 (Sept 17 & 19). 'Who will feed China?' History and geography of food security and agrarian change in the world's most populous country
--

SEPT 17: Explore groups for term project

Zhou, Zhang-Yue. 2015. "Food security in China: past, present and the future." In Udaya Sekhar Nagothu (ed.), *Food security and development: Country case studies*. Routledge, pp.35-56.

Zhang, Hongzhou. 2018. *Securing the 'Rice Bowl': China and Global Food Security*. London: Palgrave. [Chapter 3: Scaling Up and Cleaning Up the Farmland, pp.65-93]

Week 3 (Sept 24 & 26). Food, climate change, soils, water, and oceans

SEPT 24: Finalize groups for term project

SEPT 27: Submit term project proposal & SEPT 28: Submit group contract

Food Climate Research Network. 2015. **Environmental transformations**. Manchester: FCRN China Briefing paper.

Food Climate Research Network. 2015. **Focus on aquaculture**. Manchester: FCRN China Briefing paper.

Wang, Jinxia, Yanrong Li, Jikun Huang et al. 2017. Growing water scarcity, food security and government responses in China. *Global Food Security*. 14: 9-17.

Week 4 (Oct 1 & 3). Market reforms, urbanization and the countryside in China

Food Climate Research Network. 2015. **Supply chain transformations**. Manchester: FCRN China Briefing paper.

Food Climate Research Network. 2015. **Socio-cultural transformations**. Manchester: FCRN China Briefing paper.

Schneider, M. 2015. What, then, is a Chinese peasant? Nongmin discourses and agroindustrialization in contemporary China. *Agriculture and Human Values*, 32(2), 331–346.

Note: Oct 8 is Thanksgiving holiday. Oct 10 is Study Break.

Week 5 (Fri Oct 12*: operates as Wed schedule). Changing diets, dairy & meatification: environmental and health outcomes

*For this week, the deadline for Perusall comments is Thursday at 11:59pm (instead of Tuesday).

Food Climate Research Network. 2015. **Health Transformations**. Manchester: FCRN China Briefing paper.

Food Climate Research Network. 2015. **Focus on livestock**. Manchester: FCRN China Briefing paper.

Food Climate Research Network. 2015. **Focus on dairy**. Manchester: FCRN China Briefing paper.

IATP. *The Need for Feed: China's Demand for Industrialized Meat and Its Impacts*. In *Global Meat Complex: The China Series*. <https://www.iatp.org/collection/global-meat-complex-china-series>

Week 6 (Oct 15 & 17) Food safety, organic food, and state support for ecological agriculture

OCT 15: MIDTERM TEST

S. Scott, Zhenzhong Si, Theresa Schumilas, and Aijuan Chen. 2018. [*Organic Food and Farming in China: Top-down and Bottom-up Ecological Initiatives*](#). London: Routledge. [Chapter 3. Top-down initiatives: state support for ecological and organic agriculture in China]

Klein, J.A., 2013. Everyday approaches to food safety in Kunming. *The China Quarterly*, 214, pp.376-393.

Week 7 (Oct 22 & 24) Alternative Food Networks (AFNs)

Loconto, A., Jimenez, A. & Vandecandelaere, E. 2018. "Case study of Shared Harvest Farm, Beijing, China." Appendix in [*Constructing markets for agroecology: An analysis of diverse options for marketing products from agroecology*](#). Rome: FAO, pp.123-132.

S. Scott, Zhenzhong Si, Theresa Schumilas, and Aijuan Chen. 2018. [*Organic Food and Farming in China: Top-down and Bottom-up Ecological Initiatives*](#). London: Routledge. [Chapter 5. Bottom-up initiatives: the emergence of "alternative" food networks]

Oct 22: Check-ins re term projects

Week 8 (Oct 29 & 31). Farmers' roles in, and agribusiness discourses about, sustainable food

Orderud, Geir Inge, Rolf Vogt, Tom Anderson, and Jing Luo. 2015. Explaining and understanding environmental actions in Chinese agriculture: The case of Yuqiao watershed of Tianjin municipality. *International Journal of Sustainable Development and World Ecology*, 22(6): 496-509.

*in lieu of the second reading for this week, submit this short assignment (300-350 words) on Learn:

Identify a large food company that operates in China. This may be Chinese or foreign-owned, involved in any aspect of the food supply chain (supplying production inputs, producing or processing food, distributing, retailing/supermarket, or catering/restaurant business). Based in your review of their website or annual reports or other sources,

(1) describe their main discourses and vision about sustainable food provision

(2) describe their actions around realizing this vision (what are they doing to 'be sustainable'—e.g., green certifications, reducing GHG emissions/inputs/waste, sustainable intensification farm practices). Are social considerations mentioned?

(3) provide your own critical reflection on (1) and (2) based on the materials we have read and discussed in our course (e.g., is this greenwashing or good practice? How important are these actions?).

Be prepared to share some of your findings with the class.

To get you thinking, see these two examples of transnational food companies:

<https://www.unilever.com/sustainable-living/reducing-environmental-impact/greenhouse-gases/>

<https://www.ukessays.com/essays/management/wal-mart-china-sustainable-operations-strategy-management-essay.php>

Week 9 (Nov 5 & 7). Technology & the internet in sustainable food debates in China

Zhao, Jennifer, Peter Ho, Dayuan Xue and Jac Swart. 2015. "Biotech politics in an emerging economy: Is China a developmental risk society? In Heather Xiaoquan Zhang (ed.), *Rural Livelihoods in China: Political economy in transition*. London: Routledge.

Chen, Weiping & Si Tan. 2018. Impact of social media apps on producer–member relations in China’s community supported agriculture. *Canadian Journal of Development Studies*.

The Western Producer. 2018. Indoor farming startup Plenty eyes rollout in China, Japan. Jan 17.

Quartz. 2017. Facial recognition and blockchain technology applied on organic chicken in China. Dec 15.

Globe and Mail. China counting on saltwater rice in its One Belt, One Road aspirations. Aug 26.

Nov 5: Check-ins re term projects

Week 10 (Nov 12 & 14). Urban planning and urban agriculture

Zhenzhong Si and Steffanie Scott. 2016. "[Approaching Sustainable Urban Development in China through a Food System Planning Lens](#)." Hungry Cities Partnership Discussion Paper 2.

Geoff Luehr, Alesandros Glaros, Zhenzhong Si & Steffanie Scott. (in press). "Urban agriculture in Chinese cities: Practices, motivations and challenges." In Alec Thornton (ed.). *Urban Food Democracy and Governance in North and South*. London: Palgrave.

Week 11 (Nov 19 & 21). Review and Conclusions

Food Climate Research Network. 2015. Summary, conclusions and policy implications. Manchester: FCRN China Briefing paper.

S. Scott, Zhenzhong Si, Theresa Schumilas, and Aijuan Chen. 2018. [Organic Food and Farming in China: Top-down and Bottom-up Ecological Initiatives](#). London: Routledge. [Chapter 10.]

Week 12 (Nov 26 & 28). Student Presentations; the future, and What can Canada learn from China, and what can China learn from Canada, about sustainable food?

Zhang, Hongzhou. 2018. "Chapter 10. A Hungry China and the Future of Global Food Governance". In Hongzhou Zhang, *Securing the 'Rice Bowl'*. Springer, pp 265-295.

Week 13 (Dec 3) Student Presentations

Assessment of learning & due dates

Unless otherwise specified, due dates are 11:59pm on the date indicated.

		Due dates
Online discussion of readings (using Perusall)	20 %	Weekly, by Tues 11:59pm
In class participation	10 %	
Midterm test	10 %	Oct 14
Take-home test	15 %	Dec 6
Term project – in groups: (40% + 5% for peer review)		
Project proposal	5 %	Sept 26
Group contract	--	Sept 27
Oral presentation of project	10 %	Nov 25 & Dec 2
Project - draft version	15 %	Nov 15
Peer review of one project (on PEAR website)	5 %	Nov 22
Project – final version	10 %	Nov 29
Group self-assessment (required for your project grade) – in PEAR website	--	Dec 2

Use of Perusall for online discussion of course readings

This is a seminar course. As such, a key focus of the course is discussion (online and in class) of a set of assigned readings. We are experimenting this term with the [Perusall](#) platform to facilitate this. *Be sure to allocate sufficient prep time out of class each week for this activity.*

See “How Perusall Works” posted on Learn. Also see “[How Scoring Works](#)” and [this set of sample annotations](#) with associated quality scores and an explanation for each score.

You are expected to provide comments or questions on all of the assigned readings. For each reading, typically you should provide at least 5 short comments. Focus on providing comments/questions about the following elements (although you can certainly go beyond this):

1. the key conclusions and arguments of the reading (you may skip this if many classmates have already covered this, but bear it in mind)
2. the element of the reading that you found most interesting, persuasive, well-argued, or thought-provoking, and explain why
3. the element of the reading that you found most problematic, least persuasive, or most in need of further elaboration, and explain why
4. connections between the arguments of the reading and your own experiences, knowledge, or assumptions

5. connections between the current reading and past readings in the course (Do they concur or differ? How so?)

Note that misuse of Perusall--for example, posting comments as your own that are copied from external web sites or other sources--will be treated as every other type of academic misconduct and will, at a minimum, result in an overall Perusall score of zero for the course.

Term project

You can choose the specific audience and type of output that you are most interested in developing for this task:

- the general public (e.g., in the form of a magazine article)
- government (e.g., a policy brief)
- a funding agency (e.g., a funding proposal, written from the perspective of an NGO)
- students (e.g., an online case study such as the ones [here](#))
- academic readers (e.g., a term paper)

Speak to the instructor if you would prefer to prepare your project in the form of a video.

You are encouraged to work **in groups** to complete the project. The length of the final output should be 1600-2000 **words per person** times the number of people in your group. However, the project should be jointly written by all group members. If you prefer to complete the project on your own, the length should be 2500-3000 words.

Submission of assignments

Single or 1.5 spacing is preferred.

For citing references in your assignments, please use **APA style** or another standard referencing format.

By submitting an assignment for this course, you are agreeing to the following:

- You have properly referenced all ideas, words or other intellectual property from other sources used in the completion of this assignment.
- You have included a proper reference list, which includes acknowledgement of all sources used to complete this assignment.
- The assignment was completed by your own efforts. You did not collaborate with any other person for ideas or answers (with the exception of group projects).
- This is the first time you have submitted this assignment or essay (either partially or entirely) for academic evaluation.

Late policy: You are expected to take account of the possibility of computer or printer failure in planning your time. Emailed assignments will not be accepted. The penalty for late assignments is **5 %** of the total possible mark per day, including weekends and holidays. I will not accept assignments more than 5 days after the due date unless we have a prior arrangement.

When You Cannot Meet a Course Requirement Due to Illness or Other Reasons: There will be no unpenalized extensions on assignments except for illness, severe personal extenuating circumstances, or weather emergencies. When you find yourself unable to meet a course requirement because of medical, compassionate or other reasons, please advise me in writing by Learn email; make sure to include your full name in your message. Where possible, you must contact the instructor in advance of the assignment due date, but otherwise as soon as possible after the due date. As a rule, you must provide appropriate documentation, for example, a note from your doctor indicating the dates during which you were ill, and describing the severity of your illness. *Manage your time carefully. Pressure of work alone is not an acceptable reason for seeking an extension without penalty.*

Waterloo Learn (course website): Waterloo Learn is a web-based course management system that enables instructors to manage course materials (posting of lecture notes etc.), interact with their students, drop boxes for submissions, discussion boards, course e-mail, etc.), and provide feedback (grades, comments, etc.).

Logging Into Waterloo Learn: Users can login to Learn via: <http://learn.uwaterloo.ca/>. Use your WatIAM/Quest username and password. If you still cannot get on after checking your password, please confirm with your instructor that you are on the class roster.

UW Writing and Communication Centre

The Writing and Communication Centre (WCC) works with students as they develop their ideas, draft, and revise. Writing and communication specialists offer one-on-one support in planning assignments, synthesizing and citing research, organizing papers and reports, designing presentations and e-portfolios, and revising for clarity and coherence.

You can make multiple appointments throughout the term, or you can drop in at the Library for quick questions or feedback. To book a 25- or 50-minute appointment and to see drop-in hours, visit uwaterloo.ca/wcc. Group appointments for team-based projects, presentations, and papers are also available.

Strongly recommended sources on writing skills

For a fourth-year human geography course, you are expected to have a high level of writing competency. To further hone your skills, consider reviewing the sources below:

Writing Effective Essays and Reports, by Rob de Loe (free online resource):
http://www.environment.uwaterloo.ca/u/rdeloe/writing_booklet/

Style: Lessons in Clarity and Grace by Joseph Williams (free PDF online, or in the library).

Email

Check the 'Announcements' tool in Learn for updates regarding the course. Subscribe to receive email notifications.

Please direct course-related questions to me through Learn. **Put Geog 474** (or ERS 473) **in the subject line** of your email. Remind me after three days if I haven't replied, in case your message got overlooked.

Note that email is the official channel of communication between the University and its students. You are required to check your *uwaterloo.ca* email account regularly. If you use another email service (e.g., gmail), it is your responsibility to ensure that mail sent to your *uwaterloo.ca* account is forwarded to your other account.

University policies

Intellectual Property:

Students should be aware that this course contains the intellectual property of their instructors and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials, and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Academic Integrity:

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. The University's guiding principles on academic integrity can be found here: <http://uwaterloo.ca/academicintegrity>. ENV students are strongly encouraged to review the material provided by the university's Academic Integrity office specifically for students: <http://uwaterloo.ca/academicintegrity/Students/index.html>

Students are also expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. Students may also complete the following tutorial:

<https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>

When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71>. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>

Note for students with disabilities: [AccessAbility Services](#), located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with [AccessAbility Services](#) at the beginning of each academic term.

Mental Health: The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and / or emotional. **Please note that help is available.** Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <http://www.uwaterloo.ca/counselling-services> is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

Religious Observances: Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please contact your Undergraduate Advisor for details.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Turnitin: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, and are subject to the USA PATRIOT ACT, 2001; therefore, students must be given an alternative (e.g., scaffolded assignment or annotated bibliography) if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin® in this course.