

# NYU LONDON

## Environmental Studies

Remote Synchronous

14:30-17:15 Greenwich Mean Time

(NYC + 5, except for +4 Oct. 24<sup>th</sup>-31<sup>st</sup> due to Daylight Savings Time)

### Fall 2020

We know that you may be taking courses at multiple locations this semester. If you are enrolled in this course 100% remotely and are not a Go Local/Study Away student for this course site, please make sure that you've completed the online academic orientation via NYU Classes so you are aware of site specific support structure, policies and procedures. **Please contact the site academic staff (nyul.academics@nyu.edu)** if you have trouble accessing the NYU Classes site.

If you are attending in person, you will be assigned a seat on the first day and are expected to use that seat for the entire semester due to NYU COVID-19 safety protocol.

### Instructor Information

- TBA

### Course Information

- Environmental Studies
  - Wednesdays from 2:30 to 5:15 pm
- London Academic Calendar: <https://www.nyu.edu/london/calendar.html>

### Course Overview and Goals

Environmental decisions are frequent and important in daily life at the levels of both personal behaviour and governmental policy. Students in Environmental Studies learn about modern environmental science in the context of contemporary global issues, exploring the impact that the decisions of nations and individuals have on local and world ecologies. The course emphasizes the science involved in environmental decisions while also examining the role of ethics, politics, and economics in all real life environmental decisions.

Students examine such topics as ecology and biodiversity, including the nature and effects of succession, evolution, and invasive species; the atmosphere and climate change; sources, use, and misuse of water resources; human population and feeding the world's people, including developments in agriculture and genetic modifications of organisms; and the nature of earth's energy resources and their use by humankind.

Themes central to the various components of the course include the question of sustainability of ecosystems and the role of humans as an integral part of their environment. Students examine the nature of environmental decisions and the use, limitations, and misuse of environmental science in making those decisions. Additionally, they explore the impact that environmental decisions have on cultures around the world, investigating global issues such as biological conservation, human population growth, and the use of chemical and biological technologies.

### **Upon Completion of this Course, students will be able to:**

- Understand the methods of science, in particular, by evaluating scientific evidence and analysis in interdisciplinary and complex research and problem solving.
- Articulate what a scientific theory is and key points of relevant theories, and apply scientific theory to real-world problem solving, particularly in the areas of ecosystems and agro-ecological and climate systems.
- Understand the main ideas of scientific articles, distinguish well-documented points from those that are not well documented, and assess and critique the research presented in the articles.
- Describe the relevance of science to a social and/or legal, cultural, political, economic issue by providing specific details of the science and its impact on the relevant application.
- Analyze scientific information that is represented graphically, describe quantitative trends, and mathematically calculate and compare values.
- Demonstrate critical thinking skills through understanding the scientific research process and judging the strength or weakness of scientific research and interpretations.

## **Course Requirements**

### **Class Participation**

You are expected to attend class in person or remote synchronously. Your active participation in class and attendance will be reflected in this part of the course requirements.

### **Grading of Assignments**

The grade for this course will be determined according to these assessment components:

### **Grading of Assignments**

The grade for this course will be determined according to these assessment components:

<b>Assignments/ Activities</b>	<b>Description of Assignment</b>	<b>% of Final Grade</b>	<b>Due</b>
Weekly online quizzes, homework, debates, and in-class assignments	The purpose of these weekly assignments is to ensure you are reading and understanding the course content. The quizzes will focus on the textbook material and consist mainly of multiple-choice questions. They can be accessed in NYU Classes under the Tests and Quizzes section. You will be able to use your notes and readings for the online quizzes, but there will be a time limit once you start each quiz, so make sure you have already read the material.	20%	Most weeks (see below)
Presentation	Your presentation will be a 10-minute summary of an environmental topic, informed by a self-guided field trip in your own town/city (e.g. PowerPoint, Prezi, video). A full description is on NYU classes.	5%	14 October during class
Science Briefing	<p>The purpose of this assignment is to demonstrate you understand key scientific concepts and can evaluate it in the context of real-world environmental problems. The briefing will describe key conservation issues affecting a species or ecosystem, supported by scientific evidence. You will be given several topics from which to choose.</p> <p>More details about the assignment are provided on NYU Classes. I will provide you with a marking rubric, which will outline each aspect I will consider in marking your work.</p>	25%	30 October 12 noon
Science-based policy white paper	The purpose of this assignment is to apply scientific information to real world environmental problem-solving, along with legal, cultural, political, and economic considerations. In this white paper, you will build on your Science Briefing assignment to make recommendations on how to manage issues affecting the environment. More details about the assignment are provided on NYU Classes. I will provide you with a marking rubric, which will	20%	27 November at 12 noon

<b>Assignments/ Activities</b>	<b>Description of Assignment</b>	<b>% of Final Grade</b>	<b>Due</b>
	outline each aspect I will consider in marking your White Paper.		
Final Exam	Since you will be assessed throughout the course, your final exam will only cover selected sessions and not the entire course. We will devote part of Sessions 13 and 14 to discussing what the exam will cover, the structure of the exam, and to helping you study for the exam.	20%	16 December at 2:30 pm (details TBC)
In-Class Participation	It is important that you not only attend class, but also participate in classroom discussions. You will have plenty of opportunities to participate in pairs, small groups, and in wider class discussions.	10%	N/A

Failure to submit or fulfill any required course component results in failure of the class

## Grades

- Letter grades for the entire course will be assigned as follows:

<b>Letter Grade</b>	<b>Percent</b>	<b>Description</b>
<b>A-range</b>	Example: 90% and higher	You should demonstrate an excellent understanding of the key scientific concepts covered in the course. You will also understand – and be able to clearly articulate – how these concepts connect to the social, economic, and political aspects of environmental issues. You will demonstrate that you have a very clear understanding of how the scientific concepts you learn about apply to ‘real world’ environmental problems, and demonstrate an ability to critically evaluate the quality of evidence. You will complete all assignments to a very high standard, drawing on high quality references and clearly articulating multiple dimensions of environmental problems. You will need to receive high scores on most aspects of the marking rubric for the Scientific Briefing, White Paper and Presentation.
<b>B-range</b>	Example: 80% - 89.49%	You should demonstrate good understanding of most of the key scientific concepts covered in the course, and clearly

Letter Grade	Percent	Description
		articulate how they connect to the social, economic, and political aspects of environmental issues. You will demonstrate that you understand how the scientific concepts you learn about apply to 'real world' environmental problems. You will complete all assignments to a good standard, drawing on high quality references. You will need to receive high scores on most aspects of the marking rubrics for the Scientific Briefing, White Paper and Presentation.
<b>C-range</b>	Example: 70% - 79.49%	You should demonstrate some understanding of the key scientific concepts covered in the course. You will need to demonstrate some understanding of other considerations in environmental issues, such as social, economic, and political aspects. You will complete all assignments to an average standard and will need to receive average to above average scores on most aspects of the marking rubric for the Scientific Briefing, White Paper and Presentation.
<b>D-range</b>	Example: 63.5% - 69.49%	You will need to demonstrate that you completed the readings and assignments, even though you may have struggled to understand many of the scientific concepts and their social, economic, and political implications. Your scores on most aspects of the marking rubric for the Scientific Briefing, White Paper and Presentation will be below average.
<b>F</b>	Example: 63.49% and lower	You have either failed to complete one of the course components, or demonstrate a very poor understanding of course content. If you are consistently receiving below 65% on your weekly assignments and in the lower half of the range for each aspect of the marking rubric for the Scientific Briefing, White Paper and Presentation, I suggest you meet with me so we can develop a learning plan.

## Course Materials

## Required Textbooks & Materials

- Fisher, M. (ed) (2017), *Environmental Biology*. Open Oregon. Open Source Textbook (i.e. free): <https://openoregon.pressbooks.pub/envirobiology/>
- Maslin, M. (2014). *Climate Change: A Very Short Introduction*, 3<sup>rd</sup> Ed. Oxford: Oxford University Press. ISBN: 978-0198719045
- Lewis, S. L. and Maslin, M. A. (2018) *Human Planet: How We Created the Anthropocene*. London: Yale University Press.
- All other readings are journal articles and publicly available reports and news articles, which are linked to in each session below and on NYU Classes.

## Optional Textbooks & Materials

- Copies of the following books are available in Senate House Library or, in some cases, online and can provide resources for your assignments or sources of information about the UK environment:
  - Resilience thinking by Brian Walker and David Salt (ISBN: 9781597260930)
  - Silent Summer: The State of Wildlife in Britain and Ireland by Norman Maclean (ISBN: 9780521519663)
  - What Nature Does for Britain by Tony Juniper (ISBN: 978-1781253281)
  - What Has Nature Ever Done for Us?: How Money Really Does Grow On Trees by Tony Juniper (ISBN: 978-1846685606)
  - Where Do Camels Belong? The Story and Science of Invasive Species by Ken Thompson (ISBN: 978-1781251751)
- If at any point you would like me to see if I can get a book for you from the library for use online, please let me know.

## Resources

- **Access your course materials:** [NYU Classes](https://nyu.edu/its/classes) (nyu.edu/its/classes)
- **Databases, journal articles, and more:** [Bobst Library](https://library.nyu.edu) (library.nyu.edu)
- **Assistance with strengthening your writing:** [NYU Writing Center](https://nyu.mywconline.com) (nyu.mywconline.com)
- **Obtain 24/7 technology assistance:** [IT Help Desk](https://nyu.edu/it/servicedesk) (nyu.edu/it/servicedesk)

## Course Schedule

Reminder: Links to join class Zoom meetings will all be available in NYU Classes.

## Topics and Assignments

## Course Policies

Session/ Date	Topic	Reading	Assignment Due
Session 1: 2 September	<b>Introduction: Environmental Science, People and Policy</b>	Syllabus  Recommended but not required (can read after class): Fisher Textbook Chapter 1 –Environmental Science	NONE
Session 2: 16 September	<b>The Living Planet</b>	Fisher Textbook Chapter 2 – Matter, Energy, and Life Chapter 3 – Ecosystems and the Biosphere  After reading, you may want to also familiarise yourself with the content here: <a href="https://www.epa.gov/nutrientpollution">https://www.epa.gov/nutrientpollution</a>  (You will be using the site for an assignment in class)	Assignment: Online quiz – session 2 content – <b>must be completed by 25 September at 12 noon</b>
Session 3: 23 September	<b>Ecosystems and Ecosystem Change</b>	Fisher Textbook Chapter 4 – Community and Population Ecology  Introduction and Chapters 1-3 in The Human Planet  Optional: Wong, S. (2016, January 7). Marks of the Anthropocene: 7 signs we have made our own epoch. <i>New Scientist</i> . URL: <a href="https://www.newscientist.com/article/dn28741-marks-of-the-anthropocene-7-signs-we-have-made-our-own-epoch/">https://www.newscientist.com/article/dn28741-marks-of-the-anthropocene-7-signs-we-have-made-our-own-epoch/</a>	In-class assignment
Session 4: 30 September	<b>Biodiversity and Ecosystem Services</b>	Fisher Textbook Chapter 5 – Conservation & Biodiversity Newbold, T., Hudson, L. N., Arnell, A. P., Contu, S., De Palma, A., Ferrier, S., . . . Purvis, A. (2016). Has land use pushed terrestrial biodiversity beyond the planetary boundary? A global assessment. <i>Science</i> , 353(6296), 288-291. URL: <a href="https://getit.library.nyu.edu/go/9404898">https://getit.library.nyu.edu/go/9404898</a>  Recommendation: keep reading your Human Planet book for next week	Online quiz - covers sessions 3 & 4 content - <b>must be completed by 2 October at 12 noon.</b>

Session/ Date	Topic	Reading	Assignment Due
Session 5: 7 October	<b>The Anthropocene Wrap-Up and Self-guided Trip</b>	Remainder of The Human Planet	Self-guided visit.  The Anthropocene worksheet due by <b>16 October 12 noon.</b>
Session 6: 14 October	<b>Urbanisation and Nature-Based Solutions</b>	In-class presentations Botkin & Keller: Chapter 22 Urban Environments (find online at NYU Classes)  Raymond, C.M., Frantzeskaki, N., Kabisch, N., Berry, P., Breil, M., Nita, M.R., Geneletti, D. and Calfapietra, C., 2017. A framework for assessing and implementing the co-benefits of nature-based solutions in urban areas. <i>Environmental Science &amp; Policy</i> , 77: 15-24. <a href="https://www.sciencedirect.com/science/article/pii/S1462901117306317">https://www.sciencedirect.com/science/article/pii/S1462901117306317</a>	Presentation slides <b>must be submitted after class.</b> Please submit them by <b>16 October at 12 noon at the latest.</b>
Session 7: 21 October	<b>The Climate System and Climate Change</b>	Maslin: Chapters 1 to 4  Met Office Video. How Does the Climate System Work? URL: <a href="https://www.youtube.com/watch?v=lrPS2HiYVp8">https://www.youtube.com/watch?v=lrPS2HiYVp8</a>  Optional reading: Cook, J., Lewandowsky, S. (2011). <i>The Debunking Handbook</i> . St. Lucia, Australia: University of Queensland. November 5. ISBN 978-0-646-56812-6. URL: <a href="http://sks.to/debunk">http://sks.to/debunk</a>	In-class assignment using <i>The Debunking Handbook</i>
Session 8: 28 October	<b>Climate Change Impacts, Solutions, and Politics</b>	Maslin: Chapters 5 to 8	Science Briefing due on 30 <b>October 12 noon</b>

Session/ Date	Topic	Reading	Assignment Due
Session 9: 4 November	<b>Science-based policy and policy-relevant science</b>	<p>Lovejoy and Keller (2019): Chapter 28  <a href="https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/reader.action?docID=5607598&amp;pg=383">https://ebookcentral-proquest-com.proxy.library.nyu.edu/lib/nyulibrary-ebooks/reader.action?docID=5607598&amp;pg=383</a></p> <p>Then read/listen to the following press on changes to the Endangered Species Act (I suggest you read them in this order):</p> <p>The Endangered Species Act is incredibly popular and effective. Trump is weakening it anyway. URL:  <a href="https://www.vox.com/science-and-health/2019/8/12/20802132/endangered-species-act-trump-weakening">https://www.vox.com/science-and-health/2019/8/12/20802132/endangered-species-act-trump-weakening</a></p> <p>Endangered Species Act reforms will benefit wildlife and people. URL:  <a href="https://thehill.com/opinion/energy-environment/457534-endangered-species-act-reforms-will-benefit-wildlife-and-people">https://thehill.com/opinion/energy-environment/457534-endangered-species-act-reforms-will-benefit-wildlife-and-people</a></p> <p>Resources for the Future Podcast:  <a href="https://www.rff.org/news/press-releases/new-episode-resources-radio-trump-administrations-proposed-changes-endangered-species-act-ya-wei-li/">https://www.rff.org/news/press-releases/new-episode-resources-radio-trump-administrations-proposed-changes-endangered-species-act-ya-wei-li/</a></p>	
Session 10: 11 November	<b>Energy, the Environment, and a Lower Carbon Future</b>	<p>Fisher textbook:  Chapter 10 – Air pollution, climate change, &amp; ozone depletion  Chapter 11 – Conventional and sustainable energy</p> <p>The Myth of “Clean Coal”:  <a href="https://www.skepticalscience.com/the-myth-of-clean-coal.html">https://www.skepticalscience.com/the-myth-of-clean-coal.html</a></p>	Online quiz – covers session 9 and 10 – <b>must be completed by 13 November at 12 noon.</b>
Session 11: 18 November	<b>Water, Conflict &amp; Development</b>	<p>Fisher textbook:  Chapter 7 – Water availability and use</p> <p>Podcast: Reveal – Water Wars. URL:  <a href="https://www.revealnews.org/episodes/water-wars/">https://www.revealnews.org/episodes/water-wars/</a></p>	Work on Science-Based White Paper

Session/ Date	Topic	Reading	Assignment Due
Session 12: 25 November	<b>Agriculture, Food Production, and the Environment</b>	<p>Fisher textbook: Chapter 9 – Conventional and sustainable agriculture</p> <p>Godfray, H.C.J., 2015. The debate over sustainable intensification. <i>Food Security</i>, 7(2), pp.199-208. URL: <a href="https://getit.library.nyu.edu/go/9474787">https://getit.library.nyu.edu/go/9474787</a></p> <p>Gerten, D., Heck, V., Jägermeyr, J. <i>et al.</i> Feeding ten billion people is possible within four terrestrial planetary boundaries. <i>Nat Sustain</i> 3, 200–208 (2020). <a href="https://doi.org/10.1038/s41893-019-0465-1">https://doi.org/10.1038/s41893-019-0465-1</a> <a href="https://getit.library.nyu.edu/go/9478893">https://getit.library.nyu.edu/go/9478893</a></p>	In class assignment Work on Science-Based White Paper and Debate for next week
Session 13: 2 December	<b>Feeding the World: Land Sparing, Land Sharing, and Biotechnology</b>	<p>Recommended, but not required: Ramankutty, N., Mehrabi, Z., Waha, K., Jarvis, L., Kremen, C., Herrero, M. and Rieseberg, L.H., 2018. Trends in global agricultural land use: implications for environmental health and food security. <i>Annual review of plant biology</i>, 69: 789-815. <a href="https://getit.library.nyu.edu/go/9459541">https://getit.library.nyu.edu/go/9459541</a></p> <p>Readings on GMOs are provided online to prepare for the in-class debate (details in class and on NYU Classes)</p>	<p>In-class debate (see NYU Classes)</p> <p>Submit Science-based policy white paper by <b>27 November at 12 noon.</b></p>
Session 14: 9 December	<b>Environmental Pollution and Human Health</b>	<p>Fisher Textbook: Chapter 6 – Environmental Hazards and Human Health</p> <p>Ocean Conservancy Report: Stemming the Tide. Report URL: <a href="https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf">https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf</a></p>	Online quiz – covers session 14. This quiz <b>must be completed by 12 noon 11 December.</b>
Final Exam: 16 December	<b>FINAL EXAM</b>	Review readings and lectures, as advised in class.	Exam details being finalised with Academic Office

## Hygiene/Physical Distancing policies

- Students will be assigned/choose a seat on the first day of class. For NYU COVID-19 Safety protocols, please use the same seat for the duration of the semester.

## Attendance and Tardiness

Studying at Global Academic Centers is an academically intensive and immersive experience, in which students from a wide range of backgrounds exchange ideas in discussion-based seminars. Learning in such an environment depends on the active participation of all students. And since classes typically meet once or twice a week, even a single absence can cause a student to miss a significant portion of a course. **To ensure the integrity of this academic experience, class attendance at the centers or online through NYU Classes if the course is remote synchronous/blended, is expected promptly when class begins. Unexcused absences will affect students' semester participation grade.** Students are responsible for making up any work missed due to absence. Repeated absences in a course may result in failure.

Key information on NYU London's absence policy, how to report absences, and what kinds of absences can be excused can be found on our [website](http://www.nyu.edu/london/academics/attendance-policy.html) (<http://www.nyu.edu/london/academics/attendance-policy.html>)

## Classroom Etiquette/Expectations

Things to consider:

- Please be mindful of your microphone and video display during synchronous class meetings. Ambient noise and some visual images may disrupt class time for you and your peers.
- If you are not using your cell phone to follow the lesson, cell phones should be turned off or in silent mode during class time.
- Make sure to let your classmates finish speaking before you do.
- Please do not eat during class and minimize any other distracting noises (e.g. rustling of papers and leaving the classroom before the break, unless absolutely necessary)
- If deemed necessary by the study away site (ie COVID related need), synchronous class sessions may be recorded and archived for other students to view. This will be announced at the beginning of class time.
- Students should be respectful and courteous at all times to all participants in class. Consider using the chat function or "raise hand" function in order to add your voice to class discussions especially if leaving the video on presents challenges.

## Final Exams

Final exams must be taken at their designated times. Should there be a conflict between final exams, please bring it to the attention of the London Academics team ([nyul.academics@nyu.edu](mailto:nyul.academics@nyu.edu)) as soon as this is known to facilitate alternate arrangements. Final exams may not be taken early, and students should not plan to leave the site before the end of the finals period.

## **Incomplete Grade Policy**

An “incomplete” is a temporary grade that indicates that the student has, for good reason, not completed all of the course work. This grade is not awarded automatically nor is it guaranteed; rather, the student must ask the instructor for a grade of “incomplete,” present documented evidence of illness, an emergency, or other compelling circumstances, and clarify the remaining course requirements with the instructor.

In order for a grade of “incomplete” to be registered on the transcript, the student must fill out a form, in collaboration with the course instructor and the academic administration at the site; it should then be submitted to the site’s academic office. The submitted form must include a deadline by which the missing work will be completed. This deadline may not be later than the end of the following semester.

## **Academic Honesty, Plagiarism and Late Work**

As the University's policy on "[Academic Integrity for Students at NYU](#)" states: "At NYU, a commitment to excellence, fairness, honesty, and respect within and outside the classroom is essential to maintaining the integrity of our community. By accepting membership in this community, students take responsibility for demonstrating these values in their own conduct and for recognizing and supporting these values in others." **Students at Global Academic Centers must follow the University and school policies.**

The presentation of another person’s words, ideas, judgment, images, or data as though they were your own, whether intentionally or unintentionally, constitutes an act of plagiarism.

You can find details on these topics and more on this section of our NYUL website (<https://www.nyu.edu/london/academics/academic-policies.html>) and on the Policies and Procedures section of the NYU website for students studying away at global sites (<https://www.nyu.edu/academics/studying-abroad/upperclassmen-semester-academic-year-study-away/academic-resources/policies-and-procedures.html>).

## **Inclusion, Diversity, Belonging and Equity**

NYU is committed to building a culture that respects and embraces diversity, inclusion, and equity, believing that these values – in all their facets – are, as President Andrew Hamilton has said, “...not only important to cherish for their own sake, but because they are also vital for advancing knowledge, sparking innovation, and creating sustainable communities.” At NYU London, we are committed to creating a learning environment that:

- fosters intellectual inquiry, research, and artistic practices that respectfully and rigorously take account of a wide range of opinions, perspectives, and experiences; and
- promotes an inclusive community in which diversity is valued and every member feels they have a rightful place, is welcome and respected, and is supported in their endeavours.

## **Moses Accommodations Statement**

Academic accommodations are available for students with documented and registered disabilities. Please contact the Moses Center for Student Accessibility (+1 212-998-4980 or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu)) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center **as early as possible in the semester for assistance**. Accommodations for this course are managed through the site sponsoring the class once you request it.

## **Instructor Bio/About Your Instructor**

Dr Sarah Clement specialises in human-environment interactions, with particular interests in how climate change and human activity affect ecosystems and how society can respond more effectively to environmental problems. Her three main research projects at the moment are: 1) Governing the Anthropocene, examining how ecosystems are transforming globally, and what we can do about it, from a policy and governance perspective, and 2) Urban GreenUP, testing the efficacy of nature-based solutions for solving urban environmental challenges (e.g. climate change, air quality, biodiversity loss, social justice, etc), and 3) NEPTUNUS, examining the intersection between climate change, fisheries, nutrition, and the circular economy. Sarah is a full-time faculty member in the School of Environmental Sciences at the University of Liverpool. Before settling in the UK, she worked in the United States and Australia as an environmental scientist, policy analyst, researcher and lecturer. Her B.Sc. is from Michigan State University (USA) and her PhD is from Murdoch University (Australia). Her book, *Governing the Anthropocene: Novel ecosystems, transformation, and environmental policy* is to be published later this year.