SCIENCE & POLITICS OF THE GMO
CornellX Massive Open Online Course
Fall 2016

INSTRUCTORS
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COURSE OVERVIEW

What exactly are genetically modified organisms (GMOs)? Why do they attract so much attention in politics and society? Why do scientists develop GMOs? Why do many people and nations oppose the GMO? Studying the science of GMOs helps us understand biotechnology's potential role in addressing challenges in agriculture. Studying GMOs in the social and political world helps us understand reasons for contention.

In this introductory Food and Nutrition course, you will learn the basics of genetic engineering, explore the political debate around the GMO, and review the arguments for and against genetic engineering of crops for agriculture.

We will study the politics surrounding the GMO and its impact at both an individual level and to society as a whole, including the problems, perceptions, benefits, and risks associated with GMOs. To understand the complexities around this topic we will not only be looking at the science behind how the GMO works, but also the limitations of this science. We will also discuss the importance of information literacy as a tool for effectively identifying and evaluating issues.

Our goal in making this MOOC is to develop people's understanding of science, the contributions and limits of science, and how scientific information is transmitted. The intent is not to influence how people feel about GMOs, but to give them the critical thinking and scientific literacy tools necessary to make informed decisions — and to understand the broader impacts of those decisions.

To open the course schedule in a new window please click here. You can print by right clicking on your mouse.

LEARNING OUTCOMES

By the end of the course, you will learn to:

- Assess, understand, and apply social science concepts as they affect the development and use of biotechnology products and processes
- Gain an understanding of how biotechnology intersects with globalization, trade, poverty, food security, and environmental sustainability
- Understand and evaluate research articles and research methods related to biotech crops
- Formulate well-structured research questions, recognize appropriate research methods, and assess research reports
- Craft thoughtful and effective arguments, with supporting evidence at the intersection of science and social science on issues of public policy

PREREQUISITES

This course is designed to be accessible for people without a strong biology background. Since there may be references to content that is unfamiliar to some students, we have provided additional information under the glossary tab.

WHAT WILL I BE GRADED ON? (WHAT COUNTS TOWARDS CERTIFICATE COMPLETION?)

Course assessments consist of the following types of activities:

- Check Your Understanding - These problems occur after many of the video lecture segments or readings. They are designed to assess whether you can apply the concepts to answer questions and solve problems. Point values are found next to the question title. You have two attempts to submit the correct answer for most of these problems.

- Transmission Activity - You will conduct an online peer discussion on a given article. Students will be randomly assigned to one of two groups, where one group will use the voice version of the tool, while the other group will use the text version.
- Case Study - You will consider whether to support or oppose the use of a new GMO to address a serious problem in a particular country. We have made up the country, the problem, and the GMO, but they are all based on real-world scenarios and informed by what we've learned thus far. You will work with other students, consider the issue from the perspective of different stakeholders (government ministers, scientists, activists, etc.), and apply what you've learned to recommend a course of action.
- GMO Journal Activity - We will encourage you to keep a journal to record the evolution of how you define "GMO," and to map your personal development and reflections throughout the course. Each week we will prompt you to return to your journal and consider how the points of view and course materials are shaping your definition.
- Word Clouds - You and your classmates will enter words associated with the question prompt. A "cloud" will be generated with the most common or important words being the largest. You will be given participation points for completing word clouds.
- Polls - Several polls occur throughout the course following many video lectures and readings. You will be given participation points for completing the polls.

CERTIFICATION

Participants who enroll in the verified certificate option and achieve an overall course average of **70%** or more will earn a certificate of mastery.

These certificates will indicate you have successfully completed the course, but will not include a specific grade. Verified certificates will be issued by edX under the name of CornellX.

COURSE GUIDELINES

Before beginning this course please read the discussion guidelines. We expect that everyone will strive to create a positive learning environment. Course instructors, TAs, and staff will be monitoring the discussion forums to ensure that this positive environment is maintained by all.

COURSE READINGS

There is no required text for this course. All readings are included in each module either as a text or a downloadable PDF file.

HONOR CODE AND ACADEMIC INTEGRITY

This course is offered online and we encourage collaboration and help between students, but please avoid asking for and posting final answers. Violations of the honor policy undermine the purpose of education and the academic integrity of the course. We expect that all work submitted will be a reflection of one's own original work and thoughts.

Please review our discussion guidelines to understand how we expect our students to conduct themselves in this course. Additionally all students are expected to follow the edX Honor Code.

OPTIONAL RESOURCES

To help you explore topics further, you will find optional resources at the end of each module. Additionally, we have provided a central location for all resources used or referred to in the course under the Additional Resources tab.

ACKNOWLEDGEMENTS

The development of this GMO MOOC would not be possible without the generous support of others. For a list of our supporters, please visit the Acknowledgements course page.

Information, policies and schedule subject to change at the discretion of the instructors.

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