**Syllabus**

**Overview**

Welcome to Northeastern University’s Real World Global Challenge opportunity! As a critical member of a student team, you will contribute significantly to the development of an original solution to a real world challenge posed by a Northeastern faculty member and leading researcher in the field.

Throughout the process, you will have access to your Instructor for support and assistance. By utilizing your Instructor as a support resource, you will be able to obtain answers to your questions and receive feedback and guidance.

Through this unique opportunity, you will practice a key set of skills, habits of mind, and attitudes that are absolutely invaluable in solving the complex, large-scale problems of today’s world. Further, you will learn how to learn—a skill that will serve you throughout your lifelong journey.

**Your Challenge**

*The Problem:* Bacterial infections have been treated with antibiotics, compounds that specifically kill bacteria, for many years. These compounds are key to maintain individuals healthy after injury, surgery, or whenever individuals are immunocompromised due to viral infections, and chronic diseases. Antibiotics are one of the elements that sustain health systems in countries around the world. However, the misuse and overuse of antibiotics have resulted in selection of bacterial antibiotic resistance. Furthermore, pharmaceutical companies have closed their platforms for discovery and production of new antibiotics. Bacterial infections caused by antibiotic resistant bacteria result in unwanted deaths and cost the US health system billions of dollars every year. This problem is critical to solve as our way of life depends on maintaining bacterial infections at bay. The solution to bacterial antibiotic resistance will encompass efforts that are inter- and trans-disciplinary across the country and the globe.

*Driving Question:* What government controls should or should not be in place regarding distribution and production of antibiotics, and how should the government allocate funding toward production of antibiotics and/or research into alternative therapies? Through focused inquiry and iterative development, you and your team members will work to answer this question.

*Proposal:* Your group will communicate your response by developing a government policy recommendation (15-20 pages) to the World Health Organization.

**Complex Problem Solving Attributes**

In a global society, complex problem solving requires holistic thinking and approaches. Your solution to the challenge should as well. This means the solution you propose will:

* Incorporate multiple world views from various disciplines (part of the SAIL Social Consciousness & Commitment dimension)
* Inclusively represent needs and values of a diverse set of stakeholders (SAIL skill: inclusivity/inclusive action)
* Consider potential global consequences for people, the environment, and various aspects of society (SAIL skill: systems thinking).

By developing a solution with these attributes (from the SAIL framework), you will simultaneously develop your complex, real world problem solving skills. These skills are the learning outcomes of this project course.

*For more information about these attributes, please see sail.northeastern.edu.*

**Skills You Will Develop**

Through your group inquiry and proposal development, you will practice key skills (from the SAIL framework) that will serve you not only during the project, but also during your journey at Northeastern and in your lifelong journey. These skills include:

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* Self-directed learning
* Inquiry and analysis
* Teamwork and collaboration
* Systems Thinking
* Inclusivity/Inclusive action
* Problem solving
* Creative thinking/innovation

*For definitions of these skills, see the SAIL Skills Glossary in the Project Resources.*

*For additional information about these skills, see sail.northeastern.edu.*

**How the Course Works**

This is a fully online, asynchronous, inquiry-based course. This means that there are no pre-set class meeting times. You will learn by finding your assignments in Canvas and following the instructions to complete your work. In addition, this is an inquiry-based course. Instead of learning from textbooks and lectures, you and your team members will develop your knowledge through the process of inquiry and analysis. Your team will develop its solution to the challenge through an iterative process that you create and manage yourselves.

You will have the opportunity to decide what you need to know to respond to the challenge, and how you will work together. You will collaboratively construct a project plan, evaluate sources, synthesize and prioritize information, seek help when you need it, and collaboratively generate a solution—all of which are essential skills in the higher education and in the contemporary workplace. You and your team members will also benefit from scheduling regular real-time check-ins and planning sessions as well.

You will also have the opportunity to share your work and receive feedback throughout the process. A significant portion of the learning will take place through this process. Many of your interactions with your instructor will take place through email and the discussion board in the Canvas course environment. Some real-time check-ins may also be scheduled.

There is no one correct solution to the challenge that you will be working on. More important than your solution is evidence of the thinking behind your solution, along with what you learned about the problem solving process.

**STUDENT INQUIRY IN SMALL GROUPS**

**Grading and Evaluation**

Final Proposal 35 %

Final Presentation 10 %

Peer Review Assignments 10 %

Teamwork and Self-Assessment 10 %

Final Course Reflection 5 %

Other Assignments 30 %