

Intro to Synthetic Biology!
Syllabus
Summer HSSP 2019

Staff

Roopsha Bandopadhyay (S13084-teachers@esp.mit.edu)

Course objectives

The intention of this course is to provide a framework in which students are familiar with current synthetic biology advances. Students will learn technical scientific concepts pertaining to synthetic biology as well as policies and media responses that frame these issues in society. Students will understand how biological information is generated and measured. They will also draw connections between synthetic biology and their own lives and the lives of those around them.

Website

Class documents will be posted in the link below. If you are unable to view them, please let me know.

https://esp.mit.edu/learn/HSSP/2019_Summer/Classes/S13084/index.html

Lectures

Lectures are held on Saturdays, 11:35 - 12:25 in room 5-234. (If you have trouble navigating campus, <http://whereis.mit.edu/> is helpful.)

- Since lectures are essential for understanding, attendance is required. Please email me if you have extenuating circumstances and cannot attend.
- Most lectures will have associated notes and slides that will be posted to the class website the day before lecture.

Weekly Schedule

The following is a brief overview of the topics that we will cover during the course.

- Week 1 - Introduction
- Week 2 - Design Principles
- Week 3 - Circuits and Design

- Week 4 - Assembly and Execution
- Week 5 - Outside the Lab
- Week 6 - Case Studies - assign groups and research
- Week 7 - Case Studies - class presentations

Grades and Assignments

No assignments or coursework are graded. Assignments in this class include:

- In-class exercises
- Article discussions
- Case study analysis

Article Discussions

Towards the end of the course, articles will be assigned for students to prepare for in-class discussions. All students are required to complete reading assignments and participate during discussion with comments or questions. Adequate preparation will provide a better experience for everyone!

Case Studies

At the end of the course, students will be split into different groups, with each receiving a different situation or challenge to address using synthetic biology. Relying on knowledge and principles learned in the course, groups will brainstorm ways to address their issue and present them during the last class. Students will be evaluated on depth and accuracy of content, innovativeness of argument, organization, clarity, and presentation form. During other groups' presentations, students are expected to listen attentively and respond with comments or questions.