

## **BIMM 194: Plant Development and Biotechnology Winter 2021 Yanofsky**

### **GENERAL INFORMATION**

**Time and Place:** Thursdays 10:00am-11:20am, OnLine via Zoom  
**Professor:** Martin (Marty) Yanofsky email: myanofsky@ucsd.edu  
**Office Hours:** OnLine via Zoom by appointment

**ALL CLASS INFORMATION AND ALL LECTURES WILL BE POSTED ON CANVAS.**

### **CLASS CONTENT**

This course will focus on molecular and genetic studies that have revealed the underlying mechanisms controlling development of plant stem cells, embryos, roots, flowers and fruit. An emphasis will also be placed on how basic science research in plant biology is being translated into major biotechnology breakthroughs that are having an impact on modern agriculture.

### **ATTENDANCE IS EXPECTED**

This is a seminar course and therefore attendance is expected. Because this class will be taught remotely I will rely on your honesty regarding attendance, either synchronously by watching the lectures live, or asynchronously by watching recordings of lectures.

### **COURSE PROJECT (25% of Grade) Due FRIDAY MARCH 12**

You will research and write a short paper on a topic related to this course. I will suggest one or more topics by the end of the second week of class or you can choose your own topic. If you choose your own topic you must first submit the topic to me for my approval **before February 19**. I will likely approve any topic related to plant biology and agriculture.

This project is intended to be a **short summary paper** and the **MAXIMUM** length of your paper will be **three single-spaced pages**. In addition to the three pages, you should also include a list of references for any facts that you cite in your paper so that readers of your paper will be able to verify your research. Note that your facts need to come from reliable sources!

### **UCSD POLICY ON INTEGRITY OF SCHOLARSHIP**

You are expected to read and abide by the UCSD POLICY ON INTEGRITY OF SCHOLARSHIP. Breach of policy will likely result in a failing grade.

<https://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>

### **FINAL EXAM (75% of Grade)**

A final exam covering material from the lectures will be on **Saturday March 20th at 8am**.

## **COURSE LECTURES:**

- January 7:** (Yanofsky) Agrobacterium: Nature's genetic engineer.
- January 14:** (Yanofsky) Genetic modification of plants: From crop domestication to genome editing.
- January 21:** (Yanofsky) Embryo and stem cell development.
- January 28:** (Yanofsky) Flower development, part 1.
- February 4:** (Yanofsky) Flower development, part 2.
- February 11:** (Yanofsky) Fruit development and crop improvement.
- February 18:** (Busch) Root growth and development.
- February 25:** (Schmidt) Jatropha for fuel and other products.
- March 4:** (Mayfield) Algal biotechnology.
- March 11:** (Estelle) Plant hormones.
- March 20:** (Yanofsky) Final Exam at 8am-11am online.