**Biohacker 101**Wednesday’s starting Jan. 9th at 4PM PT at <http://youtube.com/TheODINInc/live/>

Wed. Jan 16th

Wed. Jan 23rd

Feb 6th

Feb. 20th

March 6th

March 20th

April 6th

Last Class is Wednesday April 24th

**Instructor(s)**

Dr. Josiah Zayner ([case@the-odin.com](mailto:case@the-odin.com))

Esther Kim ([esther@the-odin.com](mailto:esther@the-odin.com))

Dr. Kate Adamala Jan 23rd 4PM

Dr. George Church March 20th 4PM

Facebook group: <https://www.facebook.com/groups/270222920311706/>

Protocols and Guides: <https://drive.google.com/open?id=1HtVs_C1ex0s9OG5VRcFTe-g7t6k3J-WZ>

Molecular biology of the Cell: <https://drive.google.com/file/d/1rCcsybOZGc0pok5-HRHvXlZAVYkdk-Xs/view>

***Course Description***

*This course will go from cells to DNA to protein. It will give students a basic understanding of how to genetically edit cells and what that means. The course also provides an extensive hands-on component so that students by the end should be able to genetically modify cells on their own and understand physically what that constitutes.*

***Course Goals***

Students who complete this course successfully will be able to:

* Use laboratory equipment like scales and pipettes
* Understand sterile technique and antibiotic usage
* Culture bacteria and yeast
* Genetically modify bacteria and yeast
* Use CRISPR and design their own CRISPR experiments

***Required Texts, Materials, or Equipment***

* Molecular Biology of the Cell Book
* Snapgene Viewer [http://www.snapgene.com/products/snapgene\_viewer](http://www.snapgene.com/products/snapgene_viewer/)/
* VMD <https://www.ks.uiuc.edu/Research/vmd/>
* All physical materials are included in price of class

***Weekly Work/Homework***

Each week there will be assigned readings and experiments to perform. They should take no more than a few hours investment each week.

***Major Assignments: Descriptions***

At the end of each month we will ask you to write a one page summary of an experiment that you wish to perform to understand a topic you are interested covered during that month.

***Scientific Papers***

*Each month you will be assigned scientific papers on the topic to read. We will setup discussion threads in the Facebook group and are available to answers questions during live chat. The papers are available in the G-Drive folder under the month.*

***Course-Specific Support or Supplementary Instruction***  
The internet has a wealth of information on the topics presented in class. If you don’t understand something search it out. If you still don’t understand it then ask.

When trying to access papers behind paywalls use <http://sci-hub.tw> for free access to most any paper

***Preliminary Schedule of Topics, Readings, and Assignments***

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| --- | --- | --- |
| **Start Date** | **Topics/Assigned Readings/Homework** | **Finish By** |
| **Week of Jan 9** | MBotC Chapter 1  MBotC Chapter 2\*Optional Reading | **Week of Jan 30** |
| **Week of Feb 6** | MBotC Chapter 3 | **Week of Feb 27** |
| **Week of March 6** | MBotC Chapter 6  MBotC Chapter 7\*Optional Reading | **Week of March 27** |
| **Week of April 3** | CRISPR Readings will be assigned | **Week of April 24** |
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