

**BIOCHEMISTRY BOOT CAMP**  
Carpenter Engineering, Room 112  
June 5-7, 2023

**(TENTATIVE) PROGRAM OF EVENTS**

All events are scheduled to take place in **Carpenter Engineering Building, Room 112** unless otherwise noted. For updates and more information, please visit the Biochemistry Boot Camp website at <https://fitzkee.chemistry.msstate.edu/bootcamp/>.

*Monday, June 5*

---

*Morning Session*

- 8:00 am "No-Frills" Breakfast  
Bagels, doughnuts, coffee, and juice
- 9:00 am Introductory Remarks Nick Fitzkee
- 9:05 am **Session 1:** Protein Structure Matt Thompson  
Primary, secondary, tertiary structure; origins of function
- 10:20 am Break
- 10:30 am **Session 2:** Protein Properties and Online-Databases Nick Fitzkee  
Computer tools for understanding proteins; ExPASy, Entrez
- 11:50 am Group Photo
- 12:00 pm Break for Lunch (on your own)

*Afternoon Session*

- 1:00 pm **Session 3:** DNA Structure and Properties Chris Johnson  
Basic properties, PCR, predicting melting temperatures
- 1:50 pm Break
- 2:00 pm **Session 4:** DNA Properties and Online Databases Chris Johnson  
Predicting melting temperature, PCR, and cloning
- 2:50 pm Break
- 3:00 pm **Session 5:** Introduction to UNIX Nick Fitzkee  
Filesystem, running programs, X-windows, working with files
- 4:50 pm Discussion and Day 1 Wrap-Up Participants
- 5:00 pm Break for Dinner (on your own)

**BIOCHEMISTRY BOOT CAMP**  
Carpenter Engineering, Room 112  
June 5-7, 2022

**(TENTATIVE) PROGRAM OF EVENTS**

All events are scheduled to take place in **Carpenter Engineering Building, Room 112** unless otherwise noted. For updates and more information, please visit the Biochemistry Boot Camp website at <https://fitzkee.chemistry.msstate.edu/bootcamp/>.

Tuesday, June 6

---

*Morning Session*

**Session 6:** TBD

9:00 am **TBD: New Content!** TBD

10:50 am Break

11:00 am **Session 7:** Publication-Quality Graphics Nick Fitzkee  
Excel Tricks, Learning the GIMP and InkScape

11:50 am Break for Lunch (on your own)

*Afternoon Session*

1:30 pm **Session 8:** Model Fitting and GnuPlot Nick Fitzkee  
Model basics, uncertainties and errors, chi-squared

2:50 pm Break

3:00 pm **Session 9:** The PDB and Molecular Visualization Nick Fitzkee  
Using PyMOL for analysis and figures

4:15 pm Break

4:30 pm **Session 10:** Keeping a Lab Notebook Dhanush Amarasekara

5:20 pm Discussion and Day 2 Wrap-Up Participants

**Take Home Lab:** GNUPlot for Chemists

**Take Home Lab:** Practice Using PyMOL

5:30 pm Break for Dinner (on your own)

**BIOCHEMISTRY BOOT CAMP**  
Carpenter Engineering, Room 112  
June 5-7, 2022

**(TENTATIVE)** PROGRAM OF EVENTS

All events are scheduled to take place in **Carpenter Engineering Building, Room 112** unless otherwise noted. For updates and more information, please visit the Biochemistry Boot Camp website at <https://fitzkee.chemistry.msstate.edu/bootcamp/>.

*Wednesday, June 7*

---

*Morning Session*

- 9:00 am **Session 11:** Basic Bioinformatics Nick Fitzkee  
Homology, sequence alignment, and BLAST
- 10:20 am Break
- 10:30 am **Session 12:** Getting Started with Python Nick Fitzkee  
A very basic introduction to programming and workflow
- 11:50 am Break for Lunch (on your own)

*Afternoon Session*

- 1:30 pm **Session 13:** Literature Databases and **Zotero (NEW!)** Nick Fitzkee  
Constructing a library, Getting a perfect bibliography
- 2:20 pm Survey and Day 3 Wrap-Up Participants