Syllabus Fall 2021 Biochemistry/BMC 701

Credits: 1

Canvas Course URL: https://canvas.wisc.edu/

Course Designations and Attributes: Graduate course

Meeting Time and Location: Tuesdays 3:30-4:30 and Thursdays 3:30-5:00 pm
Room 2131 Biochemical Sciences Building

Instructional Mode: In-person

Specify how Credit Hours are met by the Course: 45 hours of student engagement with the course learning activities over 15 weeks.

INSTRUCTORS

Instructor Titles and Names:
Professors Christina Hull (cmhull@wisc.edu), Course Chair
David Brow (dabrow@wisc.edu)
Robert Kirchdoerfer (rnkirchdoerf@wisc.edu)
Robert Landick (landick@bact.wisc.edu)
Chad Rienstra (crienstra@wisc.edu)
Josh Coon (jcoon@chem.wisc.edu)
Michael M. Cox (cox@biochem.wisc.edu)
John Denu (john.denu@wisc.edu)

Instructor Availability: office hours by appointment

Instructor Email/Preferred Contact: cmhull@wisc.edu

OFFICIAL COURSE DESCRIPTION

Course Description
As approved through governance, presented in the Guide.

Training for the practical aspects of being a scientist and professional responsibility. Will cover research misconduct, the protection of human subjects, the welfare of laboratory animals, conflicts of interest, data management practices, mentor and mentee responsibilities, collaborative research, authorship and publication, peer review, and more.

Enroll Info: Admission to the IPiB or Biophysics Programs

Requisites: Admission to the IPiB or Biophysics Programs

Breadth – Required of all graduate students in the IPiB
Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
LEARNING OUTCOMES

Course Learning Outcomes:
Students will become familiar with all important topics involving professional responsibility and ethics in biomedical research.

GRADING
Grading is based on attendance and participation in Discussion. Attendance is required, and absences must be arranged in advance with instructor. Absence at more than two sessions will lead to class failure and a requirement to re-take the course.

Limited to students in the IPiB (required) and Biophysics Programs
1 credit = 45 hours of student engagement with the course learning activities

Meeting times: Tuesdays and Thursdays at 3:30 PM for 60-90 minutes as indicated; pre-class activities up to 60 minutes per week as requested.

Schedule:

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<th>Date</th>
<th>Topic</th>
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<tr>
<td>9/9</td>
<td>Entering Graduate Research/Safety Considerations</td>
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<td>9/14</td>
<td>NSF GRF Application Workshop by Graduate School</td>
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<td>9/16</td>
<td>Skill Development in Graduate Education</td>
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<td>9/21</td>
<td>Peer Review of Scientific Manuscripts</td>
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<td>9/23</td>
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<td>9/28</td>
<td>Ethics - Research Misconduct</td>
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<td>Case Studies Discussion</td>
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<td>10/5</td>
<td>Authorship in STEM Fields</td>
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<td>Publication in STEM Fields</td>
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<td>10/12</td>
<td>Data Rigor and Reproducibility</td>
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<td>10/14</td>
<td>Laboratory Notebooks and Data Management</td>
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<td>10/19</td>
<td>Ethics - Conflicts of Interest</td>
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<td>10/21</td>
<td>Case Studies Discussion</td>
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<td>10/26</td>
<td>Choosing a Lab/Communicating with Mentors</td>
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<td>10/28</td>
<td>NSOC Check-in meeting/Choosing a Lab</td>
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<td>11/2</td>
<td>Ethics of Animal Research</td>
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<td>11/4</td>
<td>Ethics of Human Subjects Research</td>
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11/9 Collaborative Research in Academia
11/11 Collaborative Research in Industry
11/16 The Importance of Diversity in Science
11/18 Culturally Aware Practices in STEM
11/23 Bias in STEM Environments
11/25 Thanksgiving Break – No Class
11/30 Developing a Career in Science
12/2 Developing a Professional Support Network
12/7 Managing Stress in Graduate School
12/9 Mental Health Resources for Graduate Students
12/14 Realizing Work-Life Satisfaction

Source Materials:

*Entering Research: Research Mentee Training to Support Undergraduate and Graduate Trainees*
These are drawn from *Entering Research* (2nd edition; Branchaw, Butz, & Smith, 2019; Macmillan). The *Entering Research* materials were developed, reviewed, and tested by many partners across the country. Activity developers are acknowledged in the footer of each page. A full listing of partners and funders can be found at CIMERProject.org and in the *Entering Research* book.

CIMER mentor/mentee training curricula (“CIMER Curricula”) are based upon the curricula in the publication *Entering Mentoring* (Pfund, Branchaw, and Handelsman, 2014) and *Entering Research* (Branchaw, Butz, & Smith, 2019) and are used/adapted with permission from W.H. Freeman/Macmillan Learning. Copyrights for the CIMER Curricula are managed by CIMER and the Wisconsin Center for Education Research on behalf of each work's respective author[s]. The user of the CIMER Curricula shall have and is hereby granted a limited license to copy and distribute the CIMER Curricula for personal and educational in-service uses only. Any use of the CIMER Curricula beyond this limited license requires express written permission from CIMER.

Other Resources:

*On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition*

*Protecting Human Research Participants (NIH course and Guide)*
Lab Dynamics: Management Skills for Scientists  
Carl M. Cohen, Suzanne L. Cohen - Science - 2008  
Cold Spring Harbor Laboratory Press

At the Helm, Leading your laboratory  2nd Edition  
Kathy Barker  2010  
Cold Spring Harbor Laboratory Press

At the Bench, A laboratory navigator  updated edition  
Kathy Barker  2005  
Cold Spring Harbor Laboratory Press

Entering Mentoring  
Jo Handelsman, Christine Pfund, Sarah Miller Lauffer, Christine Maidl Pribbenow  
HHMI Free Resource (2005)

Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty:  
HHMI resource (2006)

A Career Development Plan for Postdocs  
http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/1960/a_career_development_plan_for_postdocs/

Individual Development Plan (IDP) Form: FASEB  
IDP Evaluation Form: FASEB