

Instructor: Rock Mancini
Class meetings: FULMER 124 **Mon/Wed 11:10 -12:30 pm**
Office Hours: Mon/Wed 12:30-1:30pm
Email: rmancini@wsu.edu

Recommended Texts:

- Current bioorganic chemistry journals (see handout)
- **The Grant Application Writer's Workbook:**
http://www.grantcentral.com/workbook_nih_sf424_shortened.html

Grading Policy: Grades will be assigned according to the scale below. See relevant class information for more details.

			<u>Grading Scale</u>
	Exam	500 pts	≥ 90 % A
	Journal Club Discussion	250 pts	≥ 80 % B
	<u>Research Proposal</u>	<u>250 pts</u>	≥ 70 % C
TOTAL		1000 pts	

In this class you will:

1. **Evaluate** current literature in bioorganic chemistry performing a critical analysis of the reported experiments.
2. **Create** new research proposals that could be used as a starting point for your preliminary exam proposal.
3. **Learn** to approach and solve problems that span diverse topics in bioorganic chemistry.

Relevant Class Information

1. **Exam:** A Take-Home exam will be distributed on **April 27** and will be due on **May 2**. Questions may be drawn from any topic relevant to bioorganic chemistry but will primarily consist of material discussed in class and recent advances presented in journal club. **The format will be similar to your written qualifying exam.** *You are on your honor to follow all instructions given on the exam.*
2. **Journal Club:** Leading the *discussion* on a *research and review article* will be required. The topic may be selected by the student or assigned by the instructor. The student will present and summarize the work in the article(s). You may use PowerPoint slides or the chalkboard. You should organize the discussion of a *research article* as follows:
 - a. Discuss *rationale* for selection of the article.
 - b. Describe the *authors*, institution and relevant previously published works

- c. Identify the *journal* in which the article appeared and discuss any significance.
- d. Present instructional *background* relevant to the article *and include it in a pre-prepared handout*.
- e. Present *methodology* and adequacy of methods. Critically evaluate appropriate controls, quantitation, and statistics that are used.
- f. Present *results* on a figure-by-figure basis and explain each figure carefully. Comment on quality of the data, images, figures, and tables in support of the conclusions.
- g. Contribute to the discussion of articles presented by fellow classmates.

3. **Research MiniProposal:** You will craft a research miniproposal (see in class handout for more information). Proposals must be typed/formatted according to NIH guidelines and will include the following parts:

- a. Abstract (0.5 page & 1 TOC Style Figure)
- b. Specific Aims (1 page)
- c. Innovation (0.5 page) and Significance (0.5 page)
- d. Approach (5 pages, ≥ 1 figures, ≥ 1 schemes)

Week 1:

1/11 - Course Overview

1/13 - Journal Club - Discussion 1

Week 2:

1/18 - MLK Day - No Class

1/20 - Journal Club - Discussion 2

Week 3:

1/25 - Polypeptides (Solid-Phase Synthesis) - Rock Mancini

1/27 - Polypeptides (Solid-Phase Synthesis) - Rock Mancini

Week 4:

2/1 - Polypeptides (Polymerization) - Rock Mancini

2/3 - Polypeptides (Applications) - Rock Mancini

Week 5:

2/8 - Grant/Proposal Writing - Cliff Berkman

2/10 - Grant/Proposal Writing - Cliff Berkman

Week 6:

2/15 - President's Day - No Class

2/17 - Intellectual Property -OR- In-Class Peer Review of Miniproposals

Week 7:

2/22 - Qualitative SAR & Lead Optimization - Cliff Berkman

2/24 - Qualitative SAR & Lead Optimization - Cliff Berkman

Week 8:

2/29 – Drug Metabolism & Enzyme Kinetics – Jeff Jones

3/2 – Drug Metabolism & Enzyme Kinetics – Jeff Jones

Week 9:

3/7 – Drug Metabolism & Enzyme Kinetics – Jeff Jones

3/9 – Drug Metabolism & Enzyme Kinetics – Jeff Jones

Week 10:

3/14 – Spring Break

3/16 – Spring Break

Week 11:

3/21 – Bioorthogonal Reactions – Ming Xian

3/23 – Bioorthogonal Reactions – Ming Xian

Week 12

3/28 – Bioorthogonal Reactions – Ming Xian

3/30 – Bioorthogonal Reactions – Ming Xian

Week 13

4/4 – Biosynthetic Reactions (terpenes) – Rob Ronald

4/6 – Biosynthetic Reactions (terpenes) – Rob Ronald

Week 14

4/11 – Biosynthetic Reactions (terpenes) – Rob Ronald

4/13 – Biosynthetic Reactions (terpenes) – Rob Ronald

Week 15

4/18 – Post-translational Modifications / Glycoprotein Synthesis – Phil Garner

4/20 – Post-translational Modifications / Glycoprotein Synthesis – Phil Garner

Week 16

4/25 – Post-translational Modifications / Glycoprotein Synthesis – Phil Garner

4/27 – **Miniproposals Due - Final Exams Distributed**

Week 17

5/2 – **Final Exam Deadline**