**BIOCHEMISTRY (BIOCHEM)**

**BIOCHEM 198 Supervised Study (1-6 Units) Fall, Winter, Spring, Summer**

*Instructor(s):* Staff

Prerequisite(s): Consent of instructor.

Restrictions: None.

Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects

Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department.

**School:** Medicine
**Department:** Biochemistry And Biophysics

May the student choose the instructor for this course? Yes

Does enrollment in this course require instructor approval? Yes

Course Grading Convention: Letter Grade, P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)

Graduate Division course: No

Is this a web-based online course? No

Is this an Interprofessional Education (IPE) course? No

May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? No

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**BIOCHEM 200A Structure of Macromolecules (3 Units) Fall**

*Instructor(s):* Dyche Mullins

Prerequisite(s): Calculus, physical chemistry, organic chemistry, and an advanced course in biology.

Restrictions: Instructor approval required for non-Tetrad students.

Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects

Training in the fundamental principles governing the behaviors of biological macromolecules and the use of modern techniques in the study of these behaviors. Topics covered are: thermodynamics (entropy, equilibrium, cooperative interactions); kinetics and catalysis; structure and function of macromolecules (DNA, membranes, proteins) by X-ray and electron optics; kinetics and structure of cooperative enzymes and systems of biological control. Special emphasis on small group discussion format.

**School:** Graduate Division
**Department:** Biochemistry And Molecular Biology Program

May the student choose the instructor for this course? No

Does enrollment in this course require instructor approval? Yes

Course Grading Convention: Letter Grade, P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)

Graduate Division course: Yes

Is this a web-based online course? Yes

Is this an Interprofessional Education (IPE) course? Yes

May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes

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**BIOCHEM 210 Special Topics (3 Units) Fall, Winter, Spring**

*Instructor(s):* Staff

Prerequisite(s): None

Restrictions: First-year graduate students. All other graduate and professional students with permission of Program and instructor.

Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects

Discussion of selected areas in biochemistry, biophysics, and biomathematics.

**School:** Graduate Division
**Department:** Biochemistry And Molecular Biology Program

May the student choose the instructor for this course? Yes

Does enrollment in this course require instructor approval? No

Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)

Graduate Division course: Yes

Is this a web-based online course? No

Is this an Interprofessional Education (IPE) course? No

May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes

Repeat course for credit? Yes
BIOCHEM 215 Laboratory Rotation (3 Units) Fall, Winter, Spring, Summer  
Instructor(s): Kaveh Ashrafi  
Prerequisite(s): Consent of instructor  
Restrictions: Must be enrolled in the Tetrad Graduate Program  
Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects  
A laboratory rotation course to familiarize new departmental graduate students with various approaches to biochemical and biophysical research.  
School: Graduate Division  
Department: Biochemistry And Molecular Biology Program  
May the student choose the instructor for this course? No  
Does enrollment in this course require instructor approval? No  
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)  
Graduate Division course: Yes  
Is this a web-based online course? Yes  
Is this an Interprofessional Education (IPE) course? Yes  
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes  
Repeat course for credit? Yes  

BIOCHEM 221 Selected Topics (1 Units) Fall, Winter, Spring  
Instructor(s): Kaveh Ashrafi  
Prerequisite(s): None  
Restrictions: Must be a current Tetrad student  
Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects, Lab skills, Lab science, Conference, Discussion  
Presentations of selected topics in biochemistry by graduate students in the Department of Biochemistry.  
School: Graduate Division  
Department: Biochemistry And Molecular Biology Program  
May the student choose the instructor for this course? No  
Does enrollment in this course require instructor approval? No  
Course Grading Convention: Letter Grade, P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)  
Graduate Division course: Yes  
Is this a web-based online course? Yes  
Is this an Interprofessional Education (IPE) course? Yes  
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes  

BIOCHEM 241 Startup 101 (3 Units) Winter  
Instructor(s): Charles S. Craik  
Prerequisite(s): None  
Restrictions: No  
Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects  
This course examines how to build impactful, scalable life science/healthcare businesses from a science/technology base. Guest lectures will be delivered by entrepreneurs, investors and industry experts on topics such as opportunity recognition, business models, intellectual property, clinical/regulatory, reimbursement, capital and investor presentations. The final session will be an opportunity to pitch to investors for feedback. Enrollment is by application.  
School: Graduate Division  
Department: Biochemistry And Molecular Biology Program  
May the student choose the instructor for this course? No  
Does enrollment in this course require instructor approval? Yes  
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)  
Graduate Division course: Yes  
Is this a web-based online course? No  
Is this an Interprofessional Education (IPE) course? No  
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes  

BIOCHEM 250 Research (1-8 Units) Fall, Winter, Spring, Summer  
Instructor(s): Staff  
Prerequisite(s): Completion of 2 quarters of Biochem 215 in the year prior  
Restrictions: Students must be in year 2 or above  
Activities: Lecture, Seminar, Clinical, Fieldwork, Independent Study, Project, Web work, Workshop, Practical Experience, Special Projects  
The course is intended to give students hands-on experience in investigation of a fundamental question in biology using modern techniques and approaches in Biochemistry. The scope of the research project, formulation of hypothesis, and the necessary experimental approaches taken to test the hypothesis will be determined based on active input from the student and the lab's Principle Investigator. The student is expected to become increasingly independent in each of these aspects of the project.  
School: Graduate Division  
Department: Biochemistry And Molecular Biology Program  
May the student choose the instructor for this course? Yes  
Does enrollment in this course require instructor approval? Yes  
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)  
Graduate Division course: Yes  
Is this a web-based online course? No  
Is this an Interprofessional Education (IPE) course? Yes  
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes  
Repeat course for credit? Yes