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WSU Registrar

Washington State University
MAJOR CURRICULAR CHANGE FORM - - COURSE
(Submit original signed form and ten copies to the Registrar's Office, zip 1035.)

Future Effective Date: 01/07/2013 ☑ New course ☐ Temporary course ☐ Drop service course
(effective date cannot be retroactive) ☐ There is a course fee associated with this course (see instructions)

☐ Variable credit _____ ☐ Repeat credit (cumulative maximum _____ hours)

☐ Increase credit (former credit _____) ☐ Lecture-lab ratio (former ratio _____)

☐ Number (former number _____) ☐ Prefix (former prefix _____)

☐ Crosslisting (between WSU departments) **(Must have both departmental signatures)** ☐ Cooperative listing (UI prefix and number _____)
taught by: WSU ☐ UI ☐ jointly taught ☐

☐ Conjoint listing (400/500) ☐ S, F grading

☐ Request to meet Writing in the Major [M] requirement **(Must have All-University Writing Committee Approval)**

☐ Request to meet GER in _____ **(Must have GenEd Committee Approval)** ☐ Fulfills GER lab (L) requirement

☐ Professional course **(Pharmacy & Vet Med only)** ☑ Graduate credit **(professional programs only)**

☐ Other (please list request) _____

Chem | ~~564~~ 542 (1/23/13) | Enzyme Reaction Mechanisms
course prefix | course no. | title

credit	lecture hrs per week	lab hrs per week	studio hrs per week	prerequisite
3	3	0	0	Chem 542

Description (**20 words or less**) Methods used to explore enzyme mechanisms; how enzymes catalyze reactions. Overview of enzyme co-factors and exploration of differing classes of enzyme catalyzed reactions

Instructor: ChulHee Kang Phone number: 335-1409 Email: chkang@wsu.edu
Contact: Scot Wherland Phone number: 335-3360 Email: scot_wherland@wsu.edu
Campus Zip Code: 6430

- Please attach rationale for your request, a current and complete syllabus, and explain how this impacts other units in Pullman and other branches (if applicable).
- Secure all required signatures and provide 10 copies to the Registrar's Office.

Chair/date	Dean/date	General Education Com/date
[signature] 10/12/12	[signature] 10-18-12	

Chair (if crosslisted/interdisciplinary)*	Dean (if crosslisted/interdisciplinary) *	Graduate Studies Com/date

All-University Writing Com/date	Academic Affairs Com/date	Senate/date

***If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.**

* Contact requested to change course # on 1/22/2013. Chem 564 is another course currently offered by the dept.

Rationale for creating a course to be titled "Enzyme Reaction Mechanisms – Chem ~~564~~ 572" 1/23/13

Currently this course is taught under the domain of special topics in organic chemistry, Chem 544. Our normal special topics courses do not have enrollment demand more than every other year. For Enzyme Reaction Mechanisms, our continued year-to-year enrollment warrants it being established outside of special topics. This course would be offered in the spring semester with an estimated enrollment of 15-20 students. This course would primarily serve chemistry graduate students but be open to highly motivated undergraduates as well. There is no other course offered within WSU that covers the material outlined in the attached syllabus.

572 1/23/13

CHEM ~~564~~ Enzyme Reaction Mechanisms
Spring 2013

Instructors:
Jeffrey Jones (Fulmer 455, jpj@wsu.edu)
ChulHee Kang (Fulmer 265, chkang@wsu.edu)

Class Meeting: M/W/F 9:10-10:00am, Fulmer 438

Required Textbook: Enzymatic Reaction Mechanisms; *Perry A. Frey and Adrian D. Hegeman*; ISBN-10: 0195122585

Course Description: This course will first describe the methods used to determine enzyme reaction mechanisms, and how enzymes catalyze reactions. An overview of cofactors important in enzyme catalyzed reaction will be given, followed by examples of different classes of enzyme catalyzed reactions.
Course Objectives: To familiarize students with enzyme reaction mechanisms, enzyme classes, and modern experimental methods used to study enzyme reaction mechanisms.
Learning Outcomes: Student will be proficient at 1) describing all classes of enzymes including the role of cofactors; 2) writing kinetic equations describing enzyme catalysis; 3) designing experiments that probe enzyme reaction mechanism, and 4)critically interpret the results of these experiments.

Grading Scheme: This course will be graded on the basis of the two halves of the course, each worth 50% of your grade. Two exams will be given one on March 2nd and the second on May 2nd. While subject to change the exams will be open book and open note.

Grading Scale:

A	90-100	B	80-83	C	70-73	D	60-63
A-	87-89	B-	77-79	C-	67-69	F	<60
B+	84-86	C+	74-76	D+	64-66		

Topic Coverage:
Section 1 (January 7 to March 1):
1. Enzymes and Catalytic Mechanisms
2. Kinetics of Enzymatic
3. Coenzymes I: Organic Coenzymes
4. Coenzymes II: Metallic Coenzymes
5. Enzyme Inhibition
6. ACYL Group Transfer: Proteases
7. Isomerization
8. Decarboxylation and Carboxylation
9. Addition and Elimination

Section 2 (March 4 to April 26)

1. Phosphotransfer AND NucleotidylTransfer
2. ATP-Dependent Synthetases and Lipases
3. Glycosyl Group Transferases
4. Nitrogen and Sulfur Transferases
5. Carbon-Carbon Condensation and Cleavage
6. Alkyltransferases
7. Oxidoreductases
8. Oxidases and Oxygenases
9. Complex Enzymes

Students with Disabilities:

Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

Academic integrity:

Academic integrity will be strongly enforced in this course. Any student caught cheating on any assignment will be given an F grade for the course and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions: http://conduct.wsu.edu/default.asp?PageID=338

Safety Statement:

The following websites detail the WSU Safety policy and plan. The content of these sites will be discussed on the first day of the term

- http://safetyplan.wsu.edu
- http://alert.wsu.edu
- http://oem.wsu.edu