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: 01/09/2012
☐ 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
☐ Increase credit (former credit ________ )
☐ Number (former number ________ )
☐ Crosslisting (between WSU departments) (Must have both departmental signatures)
☐ Conjoint listing (400/500)
☐ 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)

<table>
<thead>
<tr>
<th>PharS</th>
<th>579</th>
<th>Advances in Pharmaceutical Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>course prefix</td>
<td>course no.</td>
<td>title</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

credit  lecture hrs  lab hrs  studio hrs  prerequisite
per week  per week  per week

Description (20 words or less)  See attached

Instructor: Dr. Sayed Daoud  Phone number: 335-8910  Email: daoud@wsu.edu
Contact: Deb Howe  Phone number: 335-2227  Email: drhowe@wsu.edu
Campus Zip Code: 6510

- 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.

Mary Allen  9/7/11  Dean/grade  General Education Com/grade

Chair (if crosslisted/interdisciplinary)  Dean (if crosslisted/interdisciplinary)  Graduate Studies Com/grade

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

*If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.
The course introduces entering graduate students to diverse concepts regarding advances in pharmaceutical sciences in the areas of drug discovery, targeted drug actions & reactions, molecular mechanisms of drug actions and nutriceuticals.
Course Logistics

Course Title: Advances in Pharmaceutical Sciences – Spring Semester

Course Number: PharmS 579 – Spring Semester

Credits: 3

Pre-requisites: Admission to the Graduate Program

Instructor of Record (include contact information and office hours):
   Sayed S. Daoud, BPharm, PhD, Associate Professor of Pharmacology;
   daoud@wsu.edu; 5-8910; by appointment

Participating Instructors:
   Lawrence Cohen, PharmD, Professor, Pharmacotherapy, ljc@wsu.edu
   David Koh, PhD, Assistant Professor, Pharmaceutical Sciences,
   dwkoh@wsu.edu
   Kay Meier, PhD, Professor and Director, NEP, kmeier@wsu.edu
   Raymond Quock, PhD, Professor and Chair, Pharmaceutical Sciences,
   quock@wsu.edu
   Beth Vorderstrasse, PhD, Clinical Associate Professor, Pharmaceutical
   Sciences, vordersb@wsu.edu
   John White, PharmD, Professor and Chair, Pharmacotherapy, whitej@wsu.edu

Course Communication:
WSU Spokane and Pullman use the Angel LMS (Learning Management System). If you have not used Angel before, please take a few minutes to become familiar with the system prior to the start of the semester. There is a short student orientation video on Angel at:

How do I access Angel?
   1. Go to lms.wsu.edu
   2. Log in with your WSU Network ID and Password

Where can I find more information on Angel?
   - Inside Angel, look for the question mark button on the left hand edge “powerstrip.”
   - Visit http://angel.wsu.edu/ for additional help.

Course Time and Location: Tuesdays and Thursdays, 9:00am – 10:30am, WEG G70.
Spokane-based faculty will meet with students during the scheduled course time via
PolyCom from Spokane, WA.
Course Objective:
The course introduces entering graduate students to diverse concepts regarding advances in pharmaceutical sciences in the areas of drug discovery, targeted drug actions & reactions, molecular mechanisms of drug actions and nutriceuticals.

Rewarded outcomes.
- Describe basic principles of drug action
- Describe various mechanisms of drug toxicity and reactions
- Understand various molecular mechanisms of cell signaling
- Understand various mechanisms of cell death
- Understand the role of immune system and CNS in drug action
- Understand the regulatory processes involved in drug discovery and development
- Understand the role of genes in drug response

Required and Optional Textbooks, References and other resources
- No required textbook. Reading assignments and/or handouts will be provided to the students prior to the class session.

Class Format and Schedule
- Instructions in this course will be largely didactic in nature.
- Three semester credits are recommended for this course. The class should meet for two 11/2-hour sessions weekly.
- Spokane-based faculty will meet with the class via Polycom.

<table>
<thead>
<tr>
<th>Dates/Weeks</th>
<th>Content/Topic</th>
<th>Instructor</th>
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<tbody>
<tr>
<td><strong>Week 1:</strong></td>
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<tr>
<td>Jan. 10</td>
<td>Introduction and Review</td>
<td>Dr. Daoud</td>
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<tr>
<td>Jan. 12</td>
<td>Membranes and Drug Action</td>
<td>Dr. Daoud</td>
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<td><strong>Week 2:</strong></td>
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<tr>
<td>Jan. 17</td>
<td>Drug Absorption</td>
<td>Dr. Daoud</td>
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<tr>
<td>Jan. 19</td>
<td>Drug Transporters</td>
<td>Dr. Daoud</td>
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<td><strong>Week 3:</strong></td>
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<tr>
<td>Jan. 24</td>
<td>Drug Distribution</td>
<td>Dr. Daoud</td>
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<tr>
<td>Jan. 26</td>
<td>Drug Excretion</td>
<td>Dr. Daoud</td>
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<td><strong>Week 4:</strong></td>
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<tr>
<td>Jan. 24</td>
<td>Drug Metabolism I</td>
<td>Dr. Koh</td>
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<tr>
<td>Feb. 02</td>
<td>Drug Metabolism II</td>
<td>Dr. Koh</td>
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<tr>
<td><strong>Week 5:</strong></td>
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<tr>
<td>Feb. 07</td>
<td>Receptor-ligand Interaction</td>
<td>Dr. Daoud</td>
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<tr>
<td>Feb. 09</td>
<td>Exam #1 (33%)</td>
<td>Drs Daoud &amp; Koh</td>
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<tr>
<td><strong>Week 6:</strong></td>
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<td>Feb. 07</td>
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| Week 6:  | Cell Signaling Pathways I | Cell Signaling Pathways II | Dr. Meier  
|         | Feb. 14                    |                            | Dr. Meier  
|         | Feb. 16                    |                            |          
| Week 7:  | Cell Death I               |                            | Dr. Koh   
|         | Feb. 21                    |                            | Dr. Koh   
|         | Feb. 23                    |                            |          
| Week 8:  | Immunopharmacology I       |                            | Dr. Vorderstrasse  
|         | Feb. 28                    |                            | Dr. Vorderstrasse  
|         | March 01                   |                            |          
|         | Immunopharmacology II      |                            |          
| Week 9:  | Immunopharmacology III     |                            | Dr. Vorderstrasse  
|         | March 06                   |                            | Drs Meier, Koh &  
|         | March 08                   | Exam #II (26%)              | Dr. Vorderstrasse  
| Week 10: | SPRING VACATION            |                            | NO CLASS  
| Week 11: | Drug Tolerance & Dependence|                            | Dr. Quock  
|         | March 20                   | Drug Addiction             | Dr. Quock  
|         | March 22                   |                            |          
| Week 12: | Drug Toxicity              |                            | Dr. White  
|         | Mach 27                    | Drug Adverse Reactions     | Dr. White  
|         | March 29                   |                            |          
| Week 13: | Drug Discovery, Development & Pre-clinical Evaluations | Clinical Evaluations and FDA | Dr. Cohen  
|         | April 03                   |                            |          
|         | April 05                   |                            |          
| Week 14: | Nutriceuticals I           |                            | Dr. Meier  
|         | April 10                   |                            | Dr. Meier  
|         | April 12                   |                            |          
| Week 15: | Pharmacogenetics & Pharmacogenomics I | Pharmacogenetics & Pharmacogenomics II | Dr. Daoud  
|         | April 17                   |                            | Dr. Daoud  
|         | April 19                   |                            |          
| Week 16: | Pharmacogenetics & Pharmacogenomics III | Course Evaluation | Dr. Daoud  
|         | April 24                   |                            | Howe      
|         | April 26                   |                            |          
| Week 17: | Exam #III (41%)            |                            | Drs. Quock, White, Cohen, Meier & Daoud |
**Course Expectations**

- There will be assigned reading for each lecture. It is expected that students will do the required reading prior to the lecture so that lecture time will be spent for clarification or in-depth explanation of difficult concepts and discussion of clinical examples to illustrate basic principles.
- Students are expected to attend all lectures and complete all assignments and examinations.

**Methods of Assessment**

- Three examinations will be given during the semester. Students must take all exams during the scheduled time. Early examination is not allowed. Should a student miss an exam for an **excused** reason, that exam may be rescheduled at the discretion of the instructor. If a student misses the final exam for an **excused** reason, the student will receive an incomplete in the course and can reschedule the final exam at the discretion of the instructor. **Students who miss an exam without PRIOR approval from Dr. Daoud will NOT be allowed to make up the exam and will receive a zero for that test.**
- Although we try our best to avoid mistakes in grading exams, we may make mistakes. Students who feel their exam was incorrectly graded may submit the exam for re-grade within a time frame announced by the instructor. The exam should be accompanied by a **written** explanation as to why question(s) was (were) incorrectly graded. No oral explanations will be accepted (except counting errors). At the discretion of the professor, the entire exam may be re-graded. All decisions of the course director are final.
- Examinations will be largely objective but may include other testing methods at the discretion of the instructor responsible for that examination.

**Academic Honesty, Conduct, and Behavior**

Students are reminded that they must adhere to the policies agreed to in writing when entering the Graduate Program. These are detailed in the Student Handbook. Departures from this CODE may have serious consequences for academic standing in the class and/or continued enrollment in the College of Pharmacy. Sanctions for violation of the CODE will depend upon the seriousness of the infraction. Furthermore, depending on the nature of the CODE violation, students will be referred to the Student Progress Committee, Director of Student Services or the WSU Office of Student Conduct (www.conduct.wsu.edu). Any CODE violations that constitute an alleged violation in Washington State University’s academic integrity standards will be handled directly by the Office of Student Conduct as set forth in “Procedure for academic integrity violations” (WAC 504-26-404). For detailed information on Academic Dishonesty definitions and procedures, see: http://www.conduct.wsu.edu/default.asp?PageID=343. To learn more about what might be considered plagiarism please see: http://www.wsulibs.wsu.edu/plagiarism/main.html
It is the responsibility of students and faculty to promote academic integrity and intellectual honesty. All assignments should demonstrate independent effort and thought unless otherwise instructed. Evidence of cheating, copying of homework, working as a group on an independent assignment, plagiarism or not citing references properly will result in a conference with the instructor. The possible consequences of breaching academic integrity include the following: failing grade on the quiz or assignment, a full letter grade drop for the course or a failing grade in the course. The student will also be referred immediately to the office of the Associate Dean and/or the WSU Office of Student Conduct.

Course Evaluations

Student evaluations of courses/course sections and faculty effectiveness are a valuable and important component of the College's commitment to provide quality-learning experiences and contribute to our efforts to assure that students achieve the objectives of our professional degree program. Thus, all evaluations are given serious consideration as part of the assessment process and are read first by the Department Chair before they are processed, analyzed, and given to the faculty. Because the most effective way to impact positive changes is through constructive comments, we encourage you to provide feedback as you would wish to receive it. This will allow the faculty member to focus on improvements or affirm students' perspective on effective elements of the course.

Students with Disabilities Statement

All students requesting reasonable accommodation must meet with the instructor prior to or during the first week of the course to review all proposed accommodations in relation to course content and requirements. Please note that written evaluations can be accommodated but performance evaluations are considered analogous to job skill performance, therefore expectations will not be adjusted.

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations MUST be approved through the DRC (Washington Bldg, 217). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

Campus Safety

The WSU Campus Safety Plan, which can be found at [http://safetyplan.wsu.edu](http://safetyplan.wsu.edu), contains a comprehensive listing of university policies, procedures, statistics, and information relating to campus safety, emergency management, and the health and welfare of the campus community. Please visit this web site as well as the University emergency management web site at [http://oem.wsu.edu/Emergencies](http://oem.wsu.edu/Emergencies) to become familiar with the campus safety and emergency information provided. Everyone should also become familiar with the WSU ALERT site ([http://alert.wsu.edu](http://alert.wsu.edu)) where information about emergencies and other issues affecting WSU will be found. This site also
provides information on the communication resources WSU will use to provide warning and notification during emergencies. It should be bookmarked on computers. Finally, all faculty, staff, and students should go to the zzusis portal at http://zzusis.wsu.edu and register their emergency contact information for the Crisis Communication System (CCS). Enter your network ID and password and you will be taken to the zzusis portal page. Look for the Pullman Emergency Information box on the left side of the page and click on Update Now to be taken to the registration page where you can enter your cell, landline, and email contact information as well as arrange for emergency text messages to be sent to your cell phone.

| Course Grading Criteria and Grading Scale |

Each examination represents a discrete block of material (i.e., sections) and is worth 100 points. Grades are not curved. The final course grade will be based on a maximum of 300 points summed from each of the 3 examinations. Grades will be assigned according to the following scale:

- 90 - 100 = A
- 80 - 89 = B
- 70 - 79 = C
- 65 - 69 = D
- <65 = F