PHAR 6736: Cardiovascular Pharmacotherapy

Course Syllabus Fall 2017
1.9 Credits-Core

This course adheres to the items listed in the College of Pharmacy Central Syllabus: https://docs.google.com/a/umn.edu/document/d/1artQ5e1rbzxe8lEtWo7BE8k8snZAEgMMz_QcW8yJ-ll/edit?pli=1

Course Web Site: http://moodle.umn.edu

**Meeting Times & Locations**

October 10th through December 9th

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Duluth Room</th>
<th>Twin Cities Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>10:10 am - 12:05 pm</td>
<td>LSci 165</td>
<td>MoosT 1-451</td>
</tr>
<tr>
<td>Tuesday</td>
<td>9:05 am - 11:00 pm</td>
<td>Lib 410</td>
<td>WDH 7-135</td>
</tr>
<tr>
<td>Thursday</td>
<td>10:10 am - 12:05 pm</td>
<td>Lib 410</td>
<td>WDH 7-135</td>
</tr>
</tbody>
</table>

Technology Help, Duluth: 218-726-8847  itsshelp@d.umn.edu
Technology Help, Twin Cities: 612-301-4357  help@umn.edu
# Course Instructional Team

**Office Hours:** by appointment

<table>
<thead>
<tr>
<th>Name</th>
<th>Office Location</th>
<th>Office Phone</th>
<th>Email</th>
<th>Preferred contact</th>
</tr>
</thead>
</table>
| **Anne Schullo-Feulner, Pharm.D., BCPS**  
(Course Director)  
Associate Professor and Park Nicollet Methodist Hospital Clinical Specialist  
Pharmaceutical Care and Health Systems  
University of Minnesota College of Pharmacy  
7-103 Weaver-Densford Hall | 7-103 WDH        | 952-993-5319  | (preferred) anne.schullo_feulner@parknicollet.com or (not checked daily) amsf@umn.edu | Email             |
| **Megan R. Undeberg, Pharm.D.**  
(Duluth Faculty)  
Assistant Professor  
University of Minnesota College of Pharmacy  
107 Life Science, 1110 Kirby Drive  
Duluth, MN 55812-3003 | 107 LSci         | 218-726-6039  | undeberg@d.umn.edu                         | Email             |
| **Scott A. Chapman, Pharm.D.**  
(Twin Cities Faculty)  
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Experimental and Clinical Pharmacology  
University of Minnesota College of Pharmacy  
7-115E Weaver Densford Hall  
Minneapolis, MN 55455 | 7-115E WDH       | 612-624-7143  | chapm004@umn.edu                          | Email             |
| **Robert J. Straka, Pharm.D., FCCP**  
(Twin Cities Faculty)  
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University of Minnesota College of Pharmacy  
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| **Sean Stewart, Pharm.D., BCACP, CLS**  
(Clinical Instructor)  
Clinical Pharmacist, Medication Management  
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| **Orly Vardeny, Pharm.D., MS,FCCP,BCACP**  
Associate Professor of Medicine  
University of Minnesota Medical School  
Minneapolis VA, 1 Veterans Drive  
Minneapolis, MN 55417 | N/A             | 612-467-4586  | ovardeny@umn.edu                         | Email             |
| **Paige Skelton, Pharm.D.**  
PGY2 Cardiology Pharmacy Resident  
Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, MN 55407 | N/A             |               | paige.skelton@allina.com                 | Email             |
Course Instructional Team - Continued

**TEACHING ASSISTANTS:**

**Twin Cities:** Jay Wen (wenxx164@umn.edu)
Abhi Sathe (sathe134@umn.edu)

**Duluth:** Ally Kingsbury (kings175@d.umn.edu)

Detailed Course Schedule
For a detailed course outline and schedule, see the course Moodle site.

Course Communications
There will be frequent communication through email, announcements in class, and via the course website about course administrative issues. Please check both the website and your email daily. If you are not in class, please get communications from a classmate.

On the course website you will see the following 2 forums: “Course Announcements,” and the “Clinical Forum/Discussion Board.” Please check the “Course Announcements” forum for information from instructors regarding the course. Please use the “Clinical Forum/Discussion Board” for the following:

1. To post content related questions and/or answers, share ideas and help each other learn. It will be monitored intermittently by course faculty for potential input into discussions as well.
2. To ask course administrative and/or clinical questions. It will be monitored by our faithful TA, Dr. Jay Wen, once daily at the end of the day M-F.

Prerequisites
All students will have completed PHAR 6716 Applied Pharmaceutical Care, PHAR 6722 Principles of Medicinal Agents and PHAR 6726 Pharmacology. Additionally students must be currently enrolled in PHAR 6732 Medicinal Chemistry and Pharmacology. Students are responsible for this material to the extent that basic information taught in such classes will be built upon in this course. Thus, students are encouraged to review basic cardiovascular anatomy and physiology. Instructors may *briefly review* this material but are not expected to.

Computer/Technology Requirements
The University of Minnesota computer requirements are listed here:

- Moodle: This course will use Moodle to distribute resources and host course information. See Moodle setup requirements at http://www1.umn.edu/moodle/start/technical.html.
- Internet-enabled device capable of accessing Moodle (computer, tablet, etc.)
- Internet-enabled device capable of accessing ParticiPoll (computer, tablet, etc.)
Course Materials

Students are urged to review the assigned readings prior to class to aid in the understanding of lecture material. Readings will be outlined in the course schedule and may include chapters from:


Course notes and materials will be provided in electronic formats wherever possible through the Moodle course site. Whenever possible, the materials will be posted one week prior to a lecture. Course packets will not be available in the bookstore. The Moodle course site is organized by each class week. All materials needed for that week will be placed there. Please look at each link in advance of the lecture to ensure preparedness.

Course Goals & Objectives

Course Goals and Related Domain Competencies

1. Explain the pathophysiology of common cardiovascular conditions. (Scientific Inquiry)
2. Contrast and compare available pharmacotherapeutic options to manage patients with one or more common cardiovascular conditions. (Patient Care & Scientific Inquiry)
3. Evaluate, monitor and modify pharmacotherapeutic plans for managing patients with common cardiovascular conditions. (Patient Care & Scientific Inquiry)
4. Identify, resolve and/or prevent drug therapy problems, and develop pharmacotherapeutic goals for patients with cardiovascular conditions. (Patient Care & Scientific Inquiry)
5. Counsel patients receiving cardiovascular medications on appropriate use. (Patient Care & Scientific Inquiry)

Pedagogical Goals and Tools

One of the hallmarks of being a professional is a dedication to lifelong learning. To promote lifelong learning, we expect you to actively participate in your own education while in the College of Pharmacy. In order to be successful in this course you need to:

- Come prepared to class:
  - Watch pre-recorded presentations assigned and be prepared to answer questions
  - Complete assigned readings prior to class
  - Be prepared for quizzes and exams
  - Be prepared for active team based learning activities

- Bring your Internet-enabled device to class each day to facilitate Moodle quizzes and ParticiPoll.

- Participate in class
  - Contribute to solving patient cases which will be presented during lectures
  - Prepare for and participate in Team Based Learning (TBL) exercises

- Seek help when you need it!
Assessments and Grading

Phar 6736 Overall Course Grade: The overall course grade will be determined by the results of: 3 quizzes, 3 TBL sessions, 3 written multiple choice exams, 1 in-class oral case review, 1 comprehensive final, and 3 OPTIONAL case-based extra credit activities.

Missing Grades and/or Grade Book Discrepancies: Each time a grade is added to the Moodle gradebook, students will be notified via the "Course Announcements" forum. Students are responsible for checking the gradebook for missing grades and/or grade discrepancies. If a potential inaccuracy is identified, students have one week from the day/time the announcement is posted to notify the lecturing faculty. After one week grades change requests will not be honored.

Graded Assessments and Rounding: The final grade for the course will be determined according to the formula in the table below. Common rounding rules will be applied when determining the final grade and each of the 3 section exams ONLY (as per Microsoft Excel® where 0.5 and higher values are rounded up). All other assessments will follow "Moodle recording rules" = grades are recorded out to the hundredth place (aka a grade of 5.67777777 is recorded as a grade of “5.67” by Moodle).

<table>
<thead>
<tr>
<th>Evaluation Tool</th>
<th>Point Value</th>
<th>% of Final Grade</th>
<th>Minimum Passing Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 quizzes</td>
<td>3 x 2.5</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>3 TBL sessions</td>
<td>3 x 2.5</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>In-Class Oral Case Review</td>
<td>5</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Exam I: HTN &amp; HLD</td>
<td>20</td>
<td>20%</td>
<td></td>
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<tr>
<td>Exam II: CSA &amp; ACS</td>
<td>20</td>
<td>20%</td>
<td></td>
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<tr>
<td>Exam III: HF &amp; Arrhythmia</td>
<td>20</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Final Exam: Cumulative</td>
<td>20</td>
<td>20%</td>
<td>≥ 60%</td>
</tr>
<tr>
<td>3 Extra Credit Cases</td>
<td>3 x 1.67</td>
<td>5%</td>
<td></td>
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<tr>
<td>Final Grade</td>
<td>105</td>
<td>105%</td>
<td>≥ 60%</td>
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Final Course Grade and Minimum Passing Level: Letter grade assignments appearing on transcripts are as follows. Per University and College Policy, students who do not pass this course must successfully repeat the course before advancing to courses which require this course as a prerequisite.

<table>
<thead>
<tr>
<th>Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>100-93</td>
<td>92-90</td>
<td>89-87</td>
<td>86-83</td>
<td>82-80</td>
<td>79-77</td>
<td>76-73</td>
<td>72-70</td>
<td>69-60</td>
<td>59-0</td>
</tr>
</tbody>
</table>
Exam Information

Exams: Exams will be given during scheduled class time. Exams will not be graded on a curve. The use of electronic devices such as phones, computers, programmable calculators, and other devices with electronic data bases is not permitted during exams unless specified by administrator. Exams will be comprehensive and build on previous knowledge covered in each section. Analysis of composite class response (Item Difficulty and Point Biserial) for all questions will be conducted prior to releasing the grades.

Exams will not be returned to students. Faculty will facilitate the student's ability to view their exams during the optional post exam review sessions. This will be your only chance to comprehensively review your exam. If you have extenuating circumstances (illness, family emergency, etc.), you may request to schedule an appointment with teaching assistants to review your exam. Please notify us within 48 hours from the post-exam review if you need special accommodations. Grades will not be given out over the telephone or by email.

Post Exam Reviews and the Re-grade Policy: Post exam reviews are intended to provide students with the opportunity to continue their educational development. They are forums for a professional and collaborative exchange of ideas and instruction – please do your part to maintain a professional and positive educational environment. Discussions in this forum are not re-grade requests and decisions regarding re-grades will NOT be made during exam reviews. Only written re-grade requests may be considered. If you would like to submit a question/s for re-grade, please email your request directly to the instructor for the exam, with information that details the question number and reasons why you feel your answer is optimal within 48 hours from the day/time of the post-exam review.

Exam Dates: Exam dates will not be changed from those printed in the course schedule. Should the University be closed due to an unforeseen event, the exam will be rescheduled.

Quizzes: 3 quizzes will be given via Moodle. Students will have access to the quiz for 30 minutes in a 22 hour period (noon to 10 AM the following day). You will be able to take the quiz any time in that 22 hour period, however once the quiz is opened you will have 30 minutes to complete it. Although the quizzes are open-resource, they are not group projects. Each student is expected to take the quiz independently and submit their own work. Each student is responsible for ensuring that they are appropriately logged into the course website when taking assigned quizzes.

Technical Support for Online Quizzes: If you require assistance please take the following steps: Step 1: Consider visiting the technical support website http://umn.edu/moodle to troubleshoot your problem through self-help pages. Step 2: Call the One Help desk at 218-726-8847 in Duluth or 612-301-4357 in the TC. Following these steps will ensure that you get the assistance that you need in a timely manner. Please do not hesitate to contact Tech Support. They are there to help! If you have technical difficulties during an online quiz, or if you are uncertain your quiz submitted properly, email the instructor for that material immediately, including your chosen answers for the quiz questions. Note: Late quizzes will not be accepted if a student has technical difficulties and all avenues of technical support to correct the problem were not attempted.

In-Class Oral Case Review: The in-class oral case review accounts for 5% of the overall course grade. This active learning activity will require the application of knowledge gained from each of the three sections. Students will be asked to review a patient case in Moodle and answer multiple choice questions regarding the patient’s hypertension and hyperlipidemia. This same patient case story will continue during the in-class session. Working in groups, students will be given the second half of the story (your patient will develop either heart failure, a coronary event (MI) and/or an arrhythmia) and orally answer questions.
Exam Information – Continued

**Team Based Learning (TBL):** These assignments are designed to assist students in learning relevant content from class at a depth beyond memorization, and apply it to patient care vignettes. We will hold 3 TBL sessions each worth 2.5 points (accounting for 7.5% of the overall grade). Each session will consist of three phases. The first and second phases take place in class and consist of the “readiness assurance testing” - one set of questions first testing your individual knowledge (iRAT) and then an identical set testing your knowledge as a group (tRAT). The third and final phase is “applied exercises.” The applied exercises are case based scenarios you will work on as a group. TBL sessions will be conducted on Moodle (*bring a device*) and will be closed note.

- **TBL Grading:** The iRAT will count for 50% of the grade, while the tRAT will count for the remaining 50%. TBL sessions are intended to be an active learning experience, thus students must be present in class to earn a TBL grade. Working remotely does not demonstrate professionalism and will not be awarded credit. Further, tRAT credit is not available to students who do not complete an iRAT. tRAT scores can only be submitted by one group member - if 2 or more scores are recorded, the lowest grade will be recorded for the group. Students are responsible for bringing all items needed to complete the readiness assessments (this may include computers, batteries, etc.). Students without a working device will not be awarded credit - paper and/or verbal answers will not be accepted.

- **TBL Absentee policy:** The iRATs will start on time - questions missed due to tardiness will be forfeited. If a student receives a Ø for the iRAT a Ø will also be recorded for the tRAT. In the event of an excused absence, students will receive the class average for the iRAT and tRAT.

**Comprehensive Final Exam:** A comprehensive final exam for all three sections will contribute 20% toward the overall course grade. Approximate contributions of each section for this exam will be 30% Dr. Straka, 30% Dr. Schullo-Feulner and 40% Dr. Chapman. Students must pass the final exam with a grading of 60% or greater in order to pass the course. Exceptions will not be granted.

**Extra Credit Cases:** During the course 3 extra credit activities will be available to students as OPTIONAL exercises. These activities will be complex cases and pharmacotherapy issues related to material presented in the course. Each extra credit activity will be aligned with a section of the course (section I: CSA and ACS, section II: HTN and HLD, section III: HF and arrhythmias). These activities will involve patient case scenarios and multiple choice questions.

Each extra credit activity will be available as a Moodle-based quiz at the beginning of each section, and will be **due prior to the Pre-Exam Review for that section.** Students will be able to save partial work and go back into the quiz at will to work on it. However, once an extra credit quiz is “submitted,” students are not able to change answers.

In order to receive credit for each question, the correct answer will need to be chosen with a referenced rationale statement. An acceptable rationale is a detailed and patient specific justification as to why the chosen answer is correct, including supporting references (lecture slides, guidelines, readings, etc). To receive full credit, each answer must also include a reason why each incorrect option is not correct/ideal. The answers to the extra credit case activity will be reviewed at the Pre-Exam Review - this session will not be taped.

Each activity will be worth 1.67% extra credit added to the final grade. Students can earn up to 5% total extra credit toward the final grade for the course. **NOTE: STUDENTS ARE EXPECTED TO WORK ON THE EXTRA CREDIT ACTIVITY INDEPENDENTLY.**
Exam Information - Continued

Make-Up Policy for Examinations, Quizzes, TBLs, Oral Case Review, Extra Credit:
Please note MAKE-UPS WILL NOT BE OFFERED EXCEPT UNDER THE FOLLOWING CIRCUMSTANCES:
Personal illness, a family emergency, or an University-sponsored event. Additional circumstances will be
considered at the discretion of the instructor, but are not likely to be granted. If a student is unable to attend:

1. **Course Exams, TBL Sessions or the Oral Case Review:** The relevant instructor AND Course Director
must be notified (by email) at least 24 hours in advance of the exam time (where possible) to provide
information to explain the absence. Verification for absences (medical professional note, event
registration, etc.) is required. If an acceptable circumstance or adequate documentation is not provided,
a grade of zero will be assigned. If you do not receive a reply to your request, please do NOT assume
that your request has been granted; contact us again to confirm that your request was received and
processed. Depending on the circumstances, the make-up exam date will not be more than one week
after the original exam date and will, if possible, occur before the original exam date. In the event more
than one student miss an exam, a simultaneous makeup exam will be scheduled.

2. **Course Quizzes:** The relevant instructor AND Course Director must be notified (by email) at least 24
hours in advance (where possible), but no later than 24 hours after the due day/time to provide
information to explain the absence. Verification is not required for the first absence, but is for any
subsequent absence. Make-up quizzes for students who unintentionally overlooked the due date/time
(and/or without an accepted circumstance as above) will not be granted.

3. **Extra Credit Quiz:** There are no “make-up” options for these optional, extra credit quizzes.

Disability Accommodations
Students with a documented disability (eg. physical, learning, psychiatric, vision, hearing, etc.) already
registered with the Disability Resource Center must contact the course director within the first week of class to
discuss your accommodations. Accommodations take advance planning to implement. Students who do not
present documentation from Disability Services a minimum of one week before an assessment will adhere to
original/traditional expectations for that assessment. All students are welcome here and all discussions
concerning this issue will remain confidential.

Please contact Disability Services to quantify and arrange the necessary accommodations:

<table>
<thead>
<tr>
<th>Twin Cities:</th>
<th><a href="http://ds.umn.edu/">http://ds.umn.edu/</a></th>
<th>612-626-1333</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duluth:</td>
<td><a href="http://www.d.umn.edu/access/">http://www.d.umn.edu/access/</a></td>
<td>218-726-8217</td>
</tr>
</tbody>
</table>
Honor Code

Each student is bound by the honor code which defines academic misconduct as any unauthorized act which may give a student an unfair advantage over other students, including but not limited to: falsification, plagiarism, misuse of test materials, receiving unauthorized assistance and giving unauthorized assistance. Specifically, each student will be required to do their own work on all quizzes, tests, extra credit assignments, oral and written exams unless otherwise advised by the course instructors. For exams & other assessments it will be considered a “misuse of test materials,” and therefore a violation of the honor code to copy, scan, photograph, share, or otherwise re-construct such assessment content. Instructors or a fellow student should report academic misconduct during an exam to the Course Director and the Honor Council for investigation.

You signed the following statement upon accepting placement in the College of Pharmacy:
“I hereby affirm that I have read and understood the provisions and stipulations of the University of Minnesota Pharmacy Student Code of Ethical Responsibility and Professional Behavior.”

The Code was established in the belief that central to any intellectual and professional endeavor is an atmosphere of mutual trust and respect. Your professional community starts here at the College of Pharmacy with your peers, faculty, preceptors, staff and administrators.

It is our expectation that you will exhibit professional behavior towards other students and to faculty in the classroom at all times. In turn, we will treat you with the professional respect you deserve as the future of the profession of pharmacy.

Course Evaluations

Students will have an opportunity to complete online course evaluations for course instructors as well as the overall course. We value your opinion. It’s our intention to provide a good backdrop for educational and professional development. To accomplish this it is vital that our students provide us with constructive assessment of our progress so far.

University of Minnesota and College of Pharmacy Policy Reference (Centralized Syllabus)

This page includes all required UMN and CoP policies, e.g., Academic Freedom; Copyright; Course Evaluations; Disability Accommodations; FERPA, etc.