CREDITS: 1

COURSE DESCRIPTION: This seminar course will provide a forum for interdisciplinary discussion on a broad range of critical care topics ranging from state of the art therapeutics and research opportunities to ethical dilemmas. Analysis and discussion of current, controversial and classic publications will be a significant component of this course. The course format will be:

1) Expert faculty from the Center for Excellence in Critical Care will present an introduction to a critical care topic. This presentation may be research-focused, a state of the art lecture or a discussion of a controversial aspect of critical care.

2) Students will present a relevant scientific publication (selected by faculty) to the group and lead a discussion on the studies’ strengths and weaknesses.

3) The interdisciplinary group will discuss the application of the study(s) findings to current clinical practice and potential research opportunities.

4) The final class will be a Jeopardy game with questions taken from lectures and papers read throughout the course.

CORE FACULTY: Course Director: Debra J. Skaar, PharmD, FCCM

Duluth faculty: Stephanie Grube, PharmD

Teaching Assistant: Manda Johnson, PharmD, Critical Care PGY-2, UMMC

OBJECTIVES: At the conclusion of this course, students will be able to:

1) Identify current and emerging issues related to the care of critically ill patients.

2) Analyze and critique research conducted in critically ill patients.
3) Identify challenges in conducting clinical research in the critically ill and applying results to patient care
4) Discuss the role of clinical practice and research in identifying and resolving problems in the care of critically ill patients.
5) Develop a better understanding of interdisciplinary concerns and issues in caring for critically ill patients.

CLASS TIME: Mondays, 2:30-4:25, Room 7-193 WDH (TC); 160 LSci (Duluth)

STUDENTS WITH DISABILITIES: It is University policy to provide on a flexible and individual basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact the Course Directors and the Director of Student Services as soon as possible to discuss their individual needs. All discussions will remain confidential.

GRADING: A, A-, B+, B, B-, C+, C, C-, D+, D, D- or F
S/N available
70% required for C- or S

METHODS OF EVALUATION:
1. Participation in weekly Seminar Discussions: 20%
2. Oral presentations (literature critique and effectiveness as a discussion leader): 30% (please email your slides to the course director and TA for posting on Moodle by 8 am on the Monday of your presentation).
3. Jeopardy game questions from assigned papers/presentations (75%/25%): 10% for submitting your question with highlighted correct answer (10 total short multiple choice questions) to the TA by Wednesday noon following class. Please list class week # in the subject line (e.g., Jeopardy Week 1 or 2 or #).
4. The final 30% of your grade will be your performance for the Jeopardy! game. The Jeopardy! game will be an on-line “exam” the final week of class worth 30% (due April 18th by 0800 before class). Please bring a copy of your “Jeopardy exam” to class on April 18th; we will review and discuss the Jeopardy game with a focus on the best answer rationale. The final class period discussion and participation is worth 10% of your grade.
5. Because of the seminar format of this course, oral presentations cannot be made-up. If a student is sick or must miss for personal reasons, he/she should try to trade
presentation dates with another student. In the event of an emergency, the course director may offer an evaluation for 50% of the available credit only.

**COURSE ATTENDENCE IS REQUIRED.** All materials (papers to read and handouts) will be posted on Moodle. Handouts for faculty presentations will be provided in class.

**CLASSROOM ETIQUETTE**
Please be professional and on time. For guest speakers, please refrain from using laptop computers during their presentations. Papers should be read before class, not during class while a faculty or students are presenting.

**OFFICE HOURS:**
Please make appointments to discuss your paper or ask questions in advance by email. Friday hours are limited due to teaching commitments in other courses.

**TC: Debra Skaar, PharmD, FCCM**
WDH 7-109, office hours by appointment
Phone: 612-626-3005; email: **skaar006@umn.edu**

**Duluth: Stephanie Grube, PharmD**
Critical Care Pharmacist
St. Mary’s Medical Center
Duluth, MN
Email: [Stephanie.Grube@essentiahealth.org](mailto:Stephanie.Grube@essentiahealth.org)
Preferred method of contact: email
Office Hours: By appointment

**Manda Johnson, PharmD, Critical Care PGY-2, UMMC**
Email: Email: mjohn117@fairview.org

<table>
<thead>
<tr>
<th><strong>Seminar Schedule</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week</strong></td>
</tr>
</tbody>
</table>
| Week 1 Jan 25, 2016 | **Introduction of Course**  
**Critical Care Topic #1**  
**Stress Ulcer Prophylaxis – the U in FASTHUG**  
Debra Skaar, PharmD, FCCM | Course introduction and faculty presentation with modeling of scientific paper presentation. Assessment is attendance and 1 multiple choice question with answer submission by noon Jan 27 for final exam. **Required studies to read:** *Risk factors for gastrointestinal bleeding in critically ill patients. N Engl J Med* |
<table>
<thead>
<tr>
<th>February 1 – no class</th>
<th>OSCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 2</strong> February 8</td>
<td><strong>“Early” Goal-Directed Therapy? Cardiovascular Support in Sepsis, Fluids and Vasopressors</strong></td>
</tr>
</tbody>
</table>
| | Jon Jancik, PharmD, HCMC  
*Clinical Pharmacy Manager*  
*Clinical Pharmacy Specialist - Critical Care Residency Director PGY-2 Critical Care* |
| **Student:** | Faculty presentation followed by student led scientific paper analysis and review. Assessment is attendance and 1 multiple choice question with answer submission by noon Feb 10 for final exam. *Required reading: Early goal-directed therapy in the treatment of severe sepsis and septic shock. N Engl J Med 2001;345:1368-77.*  
*Supplemental:* A Randomized Trial of Protocol-Based Care for Early Septic Shock  
*Supplemental - The Surviving Sepsis Campaign: International Guidelines for Management of Severe Sepsis and Septic Shock: 2012* |
| **Week 3** Feb 15 | **Steroids in Sepsis: Who, When & What Dose?** |
| | Debra Skaar, PharmD, FCCM |
| **Student:** | Faculty presentation followed by student led scientific analysis of the CORTICUS study. Assessment is attendance and 1 multiple choice question with answer submission by noon Feb 17 for final exam. *Required:*
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Reading Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 4 February 29</td>
<td>Drug Alterations in the Critically Ill</td>
<td><em>Student:</em> Faculty presentation followed by student led scientific paper analysis and review. Assessment is attendance and 1 multiple choice question with answer submission by noon March 2 for final exam. Required: <em>Effects of hypothermia on the disposition of morphine, midazolam, fentanyl, and propofol in intensive care patients. Drug Metab Dispos</em> 2013; 41:214-233.</td>
</tr>
<tr>
<td>Week 5 March 7</td>
<td>New Anticoagulants in the ICU and Their Reversal?</td>
<td><em>Student:</em> Faculty presentation followed by student led scientific paper analysis and review. Assessment is attendance and 1 multiple choice question with answer submission by noon March 7 for final exam. Required scientific paper: <em>Efficacy and safety of a 4-factor prothrombin complex concentrate in patients on vitamin K antagonists presenting with major bleeding. Circulation</em> 2013;128:1234-1243.</td>
</tr>
<tr>
<td>Week 6 March 21</td>
<td>Nursing Research in the ICU: Focus on Complementary Therapies</td>
<td><em>Student:</em> Faculty presentation followed by student led scientific paper analysis and review. Assessment is attendance and 1 multiple choice question with answer submission by noon March 24 for final exam. Required: <em>Effects of</em></td>
</tr>
</tbody>
</table>
| Week 7 | **March 28** | Does it make a difference? The Role of rTPA in Stroke  
Jared Larson, PharmD  
MICU Pharmacist, UMMC, Fairview | **Student:**  
Faculty presentation followed by student led scientific paper analysis and review. Assessment is attendance and 1 multiple choice question with answer submission by noon March 31 for final exam.  
Required: The benefits and harms of intravenous thrombolysis with recombinant tissue plasminogen activator within 6 h of acute ischaemic stroke (IST-3): a randomized controlled trial. The Lancet 2012.  
379:2352-2363. |
|---|---|---|---|
| Week 8 | **April 4** | ICU Systems for Critical Care  
Greg Beilman, MD  
Frank B. Cerra Professor of Surgery, Chief, General Surgery Division Director and Vice Chair, Critical Care/Acute Care Surgery and COL, USAR | **Student:**  
Student led scientific paper analysis followed by faculty presentation. Students read Dr. Beilman and UMMC colleagues paper on tele-ICU care. Assessment is attendance and 1 multiple choice question with answer submission by noon April 7 for final exam.  
| Week 9 | **April 11** | Outcomes of Critical Care/Chronic Critical Illness  
Craig Weinert, MD, MPH | **Student:**  
Faculty presentation followed by student led scientific paper analysis and |
### Associate Professor of Medicine

**Pulmonary, Allergy, Critical Care and Sleep Medicine, University of Minnesota Medical Director for Adult In-Patient Services, University of Minnesota Medical Center**

**review.** Assessment is attendance and 1 multiple choice question with answer submission by **noon April 13** for final exam. **Required:** *Long term cognitive impairment after critical illness. N Engl J Med 2013;369:1306-16.*

<table>
<thead>
<tr>
<th>Week 10</th>
<th>Final Exam (on-line) and in-class discussion/review</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 18</td>
<td>Final exam is on-line at least 72 hours between April 14-17; in-class discussion of rationale for correct answers will be on April 18 at 2:30. Final exam is worth 30% of the final grade and rationale for answers shared in-class discussion worth 10% of the final grade.</td>
</tr>
</tbody>
</table>

### RELEVANT POLICY STATEMENTS

University of Minnesota Policy Statements applicable to this course include, but not limited to:

- [Grade definitions from the Administrative Policy: Grading and Transcripts](#)
- [Scholastic Dishonesty](#)
- [Teaching and Learning: Instructor and Unit Responsibilities](#)
- [Makeup Work for Legitimate Absences (Administrative Policy)](#)
- [Use of Personal Electronic Devices in the Classroom (Administrative Policy)](#)
- [Appropriate Student Use of Class Notes and Course Materials (Administrative Policy)](#)
- [Student Conduct Code](#)
- [Board of Regents Sexual Harassment Policy](#)
- [Academic Freedom and Responsibility Statement](#)

Additional College of Pharmacy-specific Requirements include, but not limited to:

- [Attendance Policy](#)
- [ITV Recording of Required Courses](#)
- [Participation and Communication Between Campuses via ITV](#)
- [Grading Information](#)
- [Student Honor Code](#)