

685U Surgical Intensive Care

This course satisfies the UCI requirement for UCI students

Course Name Surgical Intensive Care
Course Director Sebastian Schubl, MD

Academic Year 2020-2021

1. Course Director, Coordinator and General Administrative Information

FACULTY AND STAFF

| Name | Office Location | Phone | Email |
|---------------------------------|-------------------------------|--------------|------------------|
| Director: Sebastian Schubl, MD | City Tower, Ste. 1600 | 714-456-5532 | sschubl@uci.edu |
| Coordinator: Staci Reichenecker | 333 City Blvd., W., Ste. 1600 | 714-456-5532 | reichens@uci.edu |

DESCRIPTION

This is a four week rotation offered at UC Irvine Medical Center. Students function as sub-interns, becoming integral members of the ICU team, and serve as primary caregivers under supervision.

PREREQUISITES

This course is intended for 4th-year students enrolled in the undergraduate medical education program at University of California, Irvine School of Medicine (UCISOM).

RESTRICTIONS

This course is intended for 4th-year students enrolled in the undergraduate medical education program at University of California, Irvine School of Medicine (UCISOM).

This rotation does not accept international students.

COURSE DIRECTOR

Dr. Schubl has worked in higher education since Dr. Schubl was raised and trained on the east coast before completing a fellowship in trauma and critical care surgery at the University of California at Irvine Medical Center. Prior to that he attended Johns Hopkins University, the University of Virginia and New York Presbyterian Hospital/Weill Cornell Medical Center in New York City. He has an active interest in surgical outcomes, surgical infections and translational research involving the care of the injured patient and the critically ill. He is a member of several national

UCI School of Medicine
Curriculum and Educational Policy Committee

societies including the Society for Critical Care Medicine, the Eastern Association for the Surgery of Trauma, the Surgical Infections Society, the Chest Wall Injury Society and is a Fellow in the American College of Surgeons. Prior to relocating to Southern California he was a member of the faculty in the Department of Surgery at Weill Cornell Medical Center and served as the Trauma Medical Director at that institution's trauma affiliate in Queens, Jamaica Hospital, an ACS verified level one trauma center.

Staci Reichenecker is the course coordinator for 685U course.

Instructing Faculty: Michael Lekawa, MD; Matthew Dolich, MD; Cristobal Barrios, MD; Allen Kong, MD; Sebastian Schubl, MD; Jeffrey Nahmias, MD; Victor Joe, MD; Nicole Bernal, MD - Surgery Trung Vu, MD; Govind Rajan, MD; Waylan Wong, MD – Anesthesiology/Critical Care

INFORMATION FOR THE FIRST DAY

Who to Report to on First Day: If you have questions regarding any details prior to or during your rotation, you should contact the critical care clerkship team at your chosen site.

Location/Time to Report on First Day: 6 AM, Douglas Hospital, 6th floor, SICU

SITE

UC Irvine Medical Center

DURATION: 4 weeks

Scheduling Coordinator: UC Irvine students please call (714) 456-8462 to make a scheduling appointment.

Periods Available: The time of the course must be pre-approved by the elective director at least 3 months prior to the start of the course. No exceptions.

NUMBER OF STUDENTS ALLOWED: 4 per rotation

WHAT STUDENTS SHOULD DO TO PREPARE FOR THE COURSE

Study course competencies & topics.

COMMUNICATION WITH FACULTY

Communication with Faculty is under the Director of Dr. Jeffrey Nahmias. Questions about logistics should be directed to the Course Coordinator. Direct questions, comments, or concerns about the course can be directed to the Course Director. Contact information and office location are at the beginning of this document. The Course Director is also available to meet in person. Please email reichens@uci.edu to arrange an appointment. To ensure that your email will not be

lost in the large volume of email received, please use the following convention for the subject line:

SUBJECT: COURSE NAME, your last name, your issue (e.g. XXX, Smith, Request for appointment)

2. Course Objectives and Program Objective Mapping

The following are the learning objectives for the 685U course. Students are expected to demonstrate proficiency in these areas in order to satisfactorily complete the course. In addition, the extent of a student's mastery of these objectives will help guide the course evaluation and grade.

| Course Objective | Mapped UCI School of Medicine Program Objective | Sub Competency | Core Competency |
|---|---|-----------------------|------------------------|
| Assess patients' overall status – the ABC's. | B-1. The ability to competently conduct a medical interview and counseling to take into account patient health beliefs, patient agenda and the need for comprehensive medical and psychosocial assessment | Medical Interview | Skillful |
| Improve basic skills in chest radiograph review, intravenous and arterial cannulation, order writing, and oral case presentation. | B-3. The ability to articulate a cogent, accurate assessment and plan, and problem list, using diagnostic clinical reasoning skills in all the major disciplines | Patient Management | Skillful |
| Interpret and manage hemodynamic variables. | B-6. The ability to function effectively within the context of complexity and uncertainty in medical care | Patient Management | Skillful |
| Interpret normal and abnormal ECGs. | B-6. The ability to function effectively | Patient Management | Skillful |

UCI School of Medicine
Curriculum and Educational Policy Committee

| | | | |
|---|---|------------------------------------|-----------|
| | within the context of complexity and uncertainty in medical care | | |
| Assess adequacy of ventilation/oxygenation and treat dysfunction. | B-5. The ability to practice effective preventive medicine by identifying, addressing and advocating for strategies to maintain health and well-being, to identify and treat disease early where appropriate and to advise on lifestyle practices | Patient Management | Skillful |
| Understand fluid, electrolyte, and acid-based management. | A-2. Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease | Disease Pathogenesis and Treatment | Knowledge |
| Understand blood product transfusion indications and concerns. | A-2. Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease | Disease Pathogenesis and Treatment | Knowledge |
| Recognize and manage shock and shock states. | B-6. The ability to function effectively within the context of complexity and uncertainty in medical care | Patient Management | Skillful |
| Recognize and manage single and multiple organ dysfunction. | B-2. The ability to competently perform a complete and organ-system-specific examination including a mental health status examination | Physical Exam | Skillful |

UCI School of Medicine
Curriculum and Educational Policy Committee

| | | | |
|--|--|------------------------------------|------------|
| Understand inherent post-operative changes and problems. | A-2. Knowledge of the pathogenesis of diseases, interventions for effective treatment, and mechanisms of health maintenance to prevent disease | Disease Pathogenesis and Treatment | Knowledge |
| Perform sedation and pain management skills. | B-6. The ability to function effectively within the context of complexity and uncertainty in medical care | Patient Management | Skillful |
| Understand social and ethical aspects of critically ill patient care and end-of-life issues. | C-3. Sensitivity and awareness of diverse cultures, health beliefs and social factors impacting patient health and illness | Cultural and Social Awareness | Altruistic |
| Understand ventilator management and modes. | B-6. The ability to function effectively within the context of complexity and uncertainty in medical care | Patient Management | Skillful |
| Perform ACLS. | B-2. The ability to competently perform a complete and organ-system-specific examination including a mental health status examination | Physical Exam | Skillful |
| Perform ATLS. | B-2. The ability to competently perform a complete and organ-system-specific examination including a mental health status examination | Physical Exam | Skillful |

Key Topics: Focus your attention and energy on these basic disease processes treatment modalities:

- Respiratory failure types/diagnosis/treatment, ALI, ARDS
- Ventilator therapy, modes and weaning
- Invasive hemodynamic monitoring, placement and interpretation
- Cardiogenic shock & cardiovascular dynamics
- Venous thromboembolic disease, pulmonary embolism
- Cardiac dysrhythmias & ACLS
- Fluid, electrolyte and acid/base management
- Sepsis and infection control
- Renal insufficiency & failure
- Coagulopathy and blood component therapy
- Hepatic/gastrointestinal dysfunction and failure

Competencies:

- Assessing patient's overall status – the ABCs
- Interpreting & managing hemodynamic variables
- Recognizing an abnormal ECG
- Advanced Cardiac Life Support protocols
- Advanced Trauma Life Support protocols
- Assessing adequacy of ventilation/oxygenation and treating dysfunction
- Understanding fluid, electrolyte, and acid-base management
- Understanding blood product transfusion concerns
- Recognizing & managing shock and shock states
- Recognizing & managing single and multiple organ dysfunction
- Understanding inherent post-operative changes and problems
- Sedation and pain management skills
- Understanding the social & ethical aspects of critically-ill patient care
- Understanding ventilator management
- Improving basic skills in chest radiology review, intravenous and arterial cannulation, ultrasound, order writing and oral case presentation

Attitudes and Commitment:

- Competence
- Compassion
- Professionalism
- Integrity
- Sensitivity
- Respect
- Commitment

Educational Activities:

Simulation: There will be a mandatory Critical Care Simulation Session conducted from 1 to 4 PM at the UC Irvine Medical Education Simulation Center. It is usually scheduled on a Tuesday or Thursday afternoon on the second or third week of your rotation. You will receive an email informing you of the exact date and time. Please make sure that you have familiarized yourself with the sections in the FCCS book pertaining to shock; hemodynamic failure and monitoring; treatment of shock; vasopressors; causes, types and diagnosis of respiratory failure; and initiation and basics of mechanical ventilation. Familiarity with these topics will ensure that you have a more productive and interactive simulation session. The simulation session takes place on the UC Irvine Campus at:

Medical Education, Building 836

Irvine, CA 92697-4089

Phone: 949.824.8835

A map can be found at: <http://www.medsim.uci.edu/contact01.html>

For all of us, the ICU is the best ILU (Intensive Learning Unit). The diversity and intensity of pathology to which you are exposed is incomparable to any other clinical setting. You are privileged to take care of the sickest patients in the hospital. Cherish the experience, and do your best to make the most of it. Your faculty is there to make your learning experience as meaningful and effective as possible. If there are problems hampering your growth, approach them. Show enthusiasm and interest; you will be taken seriously, and will witness reciprocal enthusiasm. Try to carry 2-3 patients at each time. You will learn more if you expose yourself to a variety of pathophysiologic processes, so work with your team to try and avoid repetitive cases. Every patient on the team is "your patient." Pay attention to all the patients on rounds. You will multiply your experience. Offer to do short 5-10 minute presentations on topics relevant to your patients. The best way to master a topic is to teach it.

Clinical & Patient Care Responsibilities of the Student: Students function as sub-interns, becoming integral members of the ICU team and serving as primary care givers under supervision.

Call Schedule of the Student: Students are expected to work the same shifts as their team.

Procedures Students will Learn:

- Airway management
- Peripheral & central IV catheter placement
- Arterial line placement
- Critical care ultrasound

- Lumbar puncture

Conference/Lecture/Small Group Sessions:

Mandatory attendance at Thursday afternoon conferences at 2:30pm and 3:15pm in Conference Room 6843 on the 6th floor of UCI Douglas Hospital, during which you will learn about topics such as:

Hemodynamic Monitoring & Optimization Fluid & Shock management

Respiratory Failure & Ventilation

ARDS

Trauma and Head Injury Ethics and End of Life Issues

Pediatrics Critical Care

3. Course Resources

TEXTS AND READINGS: SUGGESTED

Your syllabus is the FCCS, the main text provided by the Society of Critical Care Medicine for medical students. You are required to study it during your 4-week rotation, discuss any questions with your faculty, and will be tested based on it on your end-of-rotation written MCQ exam.

Contact your site clerkship coordinator to collect the book at the beginning of the rotation, and make sure you return it at the end. For additional recommended reading please see:

- Handbook of Critical Care - Jesse B. Hall (September, 2009)
- Critical Care Medicine: The Essentials - John J. Marini and Arthur P Wheeler (November - 2009)
- The Washington Manual of Critical Care - Marin H Kollef, Timothy J Bedient, Warren Isakow, and Chad A Witt (October - 2007)
- Irwin and Rippe's Intensive Care Medicine 6th edition - Richard S Irwin and James M. Rippe (August - 2007)
- The ICU Book, 3rd Edition - Paul L. Marino (September - 2006)

4. Major Exams, Assignments and Grading

MAJOR ASSIGNMENTS AND EXAMS

No structured exam for this acting internship. Evaluations from Faculty are major contributors to student grading.

GRADING

Medical Students are graded using the following scale: Honors (H), Pass (P), Fail (F) and Incomplete (I). For further information, please review the [Grading Policy](#).

Students will receive a final grade of Honors, Pass or Fail. Your final grade for this rotation is a composite based upon your end-of-rotation written MCQ exam, and your clinical evaluations. The written examination is comprised of 50 multiple-choice questions, which are derived directly from the FCCS content. The student's final evaluation will be submitted on the standard UC Irvine Elective Evaluation Form. The final evaluation will be derived from input from Attendings, Fellows and Residents, and it will be based upon the following aptitudes:

- Knowledge base of relevant basic & clinical science
- Observed history & physical examination skills
- Ability to present a patient case with appropriate coherence, organization & length
- Ability to create an appropriate & prioritized differential diagnosis
- Ability to devise a rational plan of care appropriate to the differential diagnosis
- Motivation for learning & enthusiasm for teaching others
- Informatics & critical appraisal skills
- Self-directed learning skills and likelihood of becoming an effective lifelong learner
- Therapeutically & ethically sound patient relationships
- Use of open-ended and facilitative interviewing techniques
- Integrity, accountability & teamwork
- Humanistic qualities & respect for diversity
- Sensitivity & responsiveness to patients' culture, age, gender and disabilities
- Understanding of health systems, population health & socioeconomic implications of care

You have 30 days from the date of the grade to appeal any aspect of this grade. Please contact your Clerkship/course Director should you have any questions.

Requirements for "Pass": To receive a grade of Pass, students must demonstrate successful performance in all the following areas:

- Knowledge
- Patient Care
- Practice-Based Learning
- Interpersonal & Communication Skills
- Professionalism
- Systems-Based Practice

Requirements for "Honors": To receive a grade of Honors, students must demonstrate exceptional performance all the following areas:

- Knowledge
- Patient Care
- Practice-Based Learning

UCI School of Medicine
Curriculum and Educational Policy Committee

- Interpersonal & Communication Skills
- Professionalism
- Systems-Based Practice

Grounds for “Incomplete”: You will not be issued a grade until all elements of the course have been completed.

REMEDIATION

Remediation, if needed will be designed by the Course Director to suit the issue at hand.

Grounds for “Fail”: You will receive a grade of "Fail" if the requirements for passing the course have not been met. Please refer to the [Grading Policy](#) for the impact of the "Fail" grade to the transcript.

Attendance: You are expected to participate as a team member every weekday and for one day every weekend, except for the last weekend. You are encouraged to take overnight call with one of your team interns; you should coordinate the details regarding hours of attendance and the call schedule with your site clerkship director and SICU faculty.

Absence: *With prior notification*, you are allowed a maximum of three (3) days of absence during your 4-week rotation. You will need to reschedule your rotation for another date if you miss more than 3 days.