HEALTH
UNIVERSITY OF UTAH

Academic Year 2026-2027

SURG 7540 Syllabus Cardiothoracic Surgery

Contact Information

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Course Information

Brief Description of Course

This is 4-week course.
The overall educational goal is to provide the medical student with introductory experience of general thoracic and/or cardiac surgery, including preoperative assessment of patients, exposure to surgical procedures and involvement in postoperative care.
Students will have the opportunity to develop their application of focused history and physical exam skills, formulation of relevant differential diagnoses, improve familiarity with basic cardiac and thoracic surgical anatomy, and develop an understanding of cardiac and thoracic surgical goals and expected outcomes.
Students will be assigned to the Cardiac Service only. There will be no experience with the Thoracic Service.

Course Goals

As a result of successfully completing SURG 7540 Course, students will be able to:

1. Understand the multidisciplinary role of the Cardiac Surgeon, ICU Team, Nurses, and the Operating Room Team in the provision of safe and high-quality cardiac surgery care.
2. Describe basic cardiovascular and thoracic physiology.
3. Describes the basics of thoracic imaging, including CT scans of the chest and vasculature as well as the interpretation of chest x-rays.
4. Understand indications for various preoperative studies of the chest and become familiar with their interpretation (Chest x-rays, angiography, echocardiograms, EKGs, PFTs)
5. Demonstrate understanding of pathogenesis, pathophysiology, treatment, and outcome of the disease processes most frequently encountered in cardiothoracic practice (coronary artery disease, valve disease heart failure, and lung cancer).

Cardiac

6. Describe fundamentals of hemodynamics including:
    a. Determinants of cardiac output
    b. Determinants of oxygen delivery
    c. Normal cardiac chamber pressures and saturations
7. Understand and demonstrate knowledge of basic theory and physiology of cardiopulmonary bypass, intra-aortic balloon pumps, ventricular assist devices, and ECMO.
8. Discuss principles of postoperative cardiothoracic surgery patient care including:
    a. Pharmacological support of recovering myocardium and maintaining stable hemodynamics.
    b. Interpretation of invasive and noninvasive cardiac monitoring (right and left atrial pressures, mixed venous saturations, ECG, oxygen saturations, urine output, arterial wave forms, and arterial blood gas interpretation)
    c. Fundamentals of postoperative hemostasis.
    d. Fundamentals of cardiac pacing.
    e. Fundamentals of mechanical ventilation including weaning parameters.

OR

Thoracic

9. Describe the staging and classification of lung and esophageal cancer.
10. Discuss the multidisciplinary approach to treating thoracic malignancies.
11. Discuss the treatment of pleural space problems including pneumothoraces, hemothoraces, empyema and pleural effusions.
12. Observe and participate in the evaluation and pre-operative management of patients requiring surgery.
13. Participate in the intra-operative care of cardiac and thoracic patients and improve basic surgical technique.

Course Format & Schedule

Role of the Student in this Course

1. Medical Student will work under the direct guidance of the Cardiothoracic Attending Surgeon, Cardiothoracic Fellow, and Cardiovascular Intensive Care Team.
2. Participate in all inpatient and outpatient clinical and educational activities while on this service.
3. Participate in the performance of operative cases according to abilities and always with attending present. Students should collaborate with CT fellows on which operative cases to participate in at least one day in advance. Expectation is the student will familiarize themselves with planned procedure prior to entering the operating room.
4. Participate in the didactic weekly teaching conference (Tuesdays at 5:15 PM) as well as treatment planning conferences.
5. Students should follow 2-3 patients at a time. Students are expected to present these patients on morning rounds and should plan to observe any scheduled studies being done on their assigned patients that they have not seen before.
6. Students should be familiar with the Recommended Reading list in the Cardiothoracic Surgery Canvas Course.

Additional Resources

https://www.sts.org/
http://www.tsranet.org/

Assessment & Grading

Grading Criteria

Medical students will be evaluated by the involved Cardiothoracic Attending Surgeons and Cardiothoracic Fellows with whom they work and according to Program Curriculum requirements. Areas of evaluation will include:

1. Active participation in the daily care of cardiothoracic surgery patients.
2. Daily presentation during rounds.
3. Ability to collaborate with all members of the health care team.
4. History taking and physical exam performance skills.
5. Clinical judgment.
6. Ability to develop differential diagnoses.
7. Procedural competency is based on willingness to learn, assist and perform at a level commensurate level of training.
8. Ability to access and utilize electronic health records.
9. Communication and professionalism.
10. Participation in active learning (reviewing medical literature, utilizing educational resources).

Grading System

Students will receive a final letter grade of H (HONORS), HP (HIGH PASS), I (INCOMPLETE), P (PASS), F (FAIL)

PASS: A student who achieves the criteria will be assigned a grade of PASS for the course.
FAIL: A student who fails to achieve the criteria for PASS will be assigned a grade of FAIL for the course.

Student Feedback

Student feedback is an important aspect of curriculum quality improvement. Thus, students are expected to complete all assigned feedback surveys specific to a course by the due date.

Standard Policies

Please refer to the Student Handbook (on the Student Affair's website) for these policies:

Accommodation
Addressing Sexual Misconduct
Attendance policy
Dress Code
Examination and Grading Policies
Grade or Score Appeal
Professionalism, Roles & Responsibilities
Mistreatment

Alternate Name and/or Personal Pronoun

Class rosters are provided to the instructor with the student's legal name as well as 'Preferred' first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, we will honor you by referring to you with the name and pronoun that feels best for you in class, on paper, exams, group projects, etc. Please advise us of any name or pronoun changes (and please update CIS) so we can help create a learning environment in which you, your name, and your pronoun will be respected.

Center for Disability & Access Services

The School of Medicine seeks to provide equal access to its programs, services, and activities for all medical students. The Center for Disability and Access (CDA) provides accommodation and support for the educational development of medical students with disabilities. Medical students with a documented disability and students seeking to establish the existence of a disability and to request accommodation are required to meet with the CDA Director for recommended accommodations. The CDA will work closely with eligible students and the Academic Success Program to plan for approved accommodation. The School of Medicine and CDA maintain a collegial, cooperative, and collaborative relationship to ensure compliance with federal and state regulations for students with disabilities.

Steven Baumann EdD, School of Medicine Senior Director of Academic Success Program, serves as the liaison between the School of Medicine and the CDA.

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http://disability.utah.edu