

# SURG 7540 Syllabus

## Cardiothoracic Surgery

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### Contact Information

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### Course Information

#### Brief Description of Course

The overall educational goal is to provide the medical student with an introductory experience to general thoracic and 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.

#### Course Goals

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

1. Describe basic cardiovascular and thoracic physiology.
2. Describes the basics of thoracic imaging, including CT scans of the chest and vasculature as well as the interpretation of chest x-rays.
3. Understand indications for various preoperative studies of the chest and become familiar with their interpretation (Chest x-rays, angiography, echocardiograms, EKGs, PFTs)
4. 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).
5. Describe fundamentals of hemodynamics including:
  - a. Determinants of cardiac output
  - b. Determinants of oxygen delivery
  - c. Normal cardiac chamber pressures and saturations
6. Know various operative approaches to the chest.
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 the 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.
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. Discuss the co-morbid conditions in patients undergoing cardiothoracic operations and how to appropriately stratify their operative risk.
13. Observe and participate in the evaluation and pre-operative management of patients requiring surgery.

14. Participate in the intra-operative care of cardiac and thoracic patients, and to improve basic surgical technique.
15. Demonstrate the ability to appropriately diagnose and intervene in the postoperative care management of patients with cardiovascular instability following surgery.
16. 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.
17. Interact with patients and their families in a respectful, sensitive and ethical manner.
18. Interact with other members of the Cardiac Surgery Team, Patient Care Units and ambulatory clinic personnel in a respectful, responsible and professional manner.
19. Demonstrate ability to utilize scientific studies to provide high quality cardiothoracic surgical care.
20. Appropriately utilize hospital information technology systems to manage patient care and to access online medical information to deliver high quality care.
21. Facilitate and supports the education of other medical students, junior residents and other healthcare team members.
22. Demonstrate skill in effective information exchange with patients, their families and other members of the cardiac surgery team.
23. Demonstrate ability for accurate and timely information exchange between other members of the healthcare team, both verbally and in writing, with appropriate use of the medical record.

## Course Format & Schedule

### Role of the Student in this Course

1. Medical Student will work under the direct guidance of the CT Attending Surgeon and/or CT Fellow.
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 several 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. Work hour regulations are expected to be followed for PGY1.

### Additional Resources

<https://www.sts.org/>

<http://www.tsranet.org/>

## Assessment & Grading

### Grading Criteria

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

1. Active participation in the daily care of the cardiothoracic surgery patients.
2. Daily presentation during rounds.
3. Ability to work 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 based on willingness to learn, assist and perform at a level commensurate with level of training.
8. Ability to access and utilize the electronic health record.
9. Communication and professionalism.
10. Participation in active learning (reviewing the medical literature, utilizing educational resources).

### Grading System

Students will receive a final letter grade of PASS (P), or FAIL (F) for this course.

**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 Affairs website) for these policies:

**Accommodations**

**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 papers, 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 accommodations 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 accommodations. 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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University of Utah Center for Disability and Access

Olpin Student Union Building, Room 162, Phone (Voice/TDD): (801) 581-5020

<http://disability.utah.edu>