

SURGERY (SURGERY)

SURGERY 699 – INDEPENDENT STUDY

0-5 credits.

Independent study projects as arranged with faculty or instructional staff.

Requisites: Consent of instructor

Course Designation: Level - Advanced

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Develop critical, analytical, and independent thinking skills

Audience: Undergraduate

SURGERY 909 – SURGERY INTERNSHIP PREPARATION

1 credit.

High-yield topics that a surgery intern should know to start of residency. Routine communication skills needed in residency, including writing comprehensive orders and effectively handing off patients. Communication and teamwork skills with healthcare team members. Communication and interpersonal skills in difficult situations, including obtaining informed consent, talking with parents of patients who choose to decline recommended management options, and disclosing complications. Common pediatric skills, including IV placement, umbilical line placement, defibrillation, airway management, lumbar puncture, and suturing. Based on the national Educational Curriculum that was developed by the American College of Surgeons, American Program Director Society, and the Association for Surgical Education, which focuses on focused on essential skills for medical students and PGY-1 residents to successfully navigate the first year of surgical residency.

Requisites: MED SC-M 810, 811, 812, and 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2025

Learning Outcomes: 1. Write comprehensive admit, transfer, and discharge orders for surgical patients.

Audience: Graduate

2. Manage common electrolyte abnormalities in the surgical patient.

Audience: Graduate

3. Interpret common ancillary testing in the surgical patient (imaging, EKG, labs).

Audience: Graduate

4. Assess and intervene on basic perioperative situations in the surgical patient.

Audience: Graduate

5. Safely function in the role of first responder to an urgent patient situation.

Audience: Graduate

6. Use universal precautions and maintain sterility appropriately.

Audience: Graduate

7. Master the bedside procedures and minor procedures covered in the course.

Audience: Graduate

8. Suture and tie knots using basic techniques.

Audience: Graduate

9. Describe the basics of wound care and management.

Audience: Graduate

10. Prepare for participation in the operating room.

Audience: Graduate

11. Identify key professional and unprofessional behavioral traits in surgical trainees.

Audience: Graduate

12. Develop strategies for addressing professionally challenging situations in surgical residency.

Audience: Graduate

13. Delineate negative connotations of communication failures.

SURGERY 910 – INDEPENDENT READING AND RESEARCH IN SURGERY

2-8 credits.

Independent research under the direct supervision of Surgery, Orthopedics, or Urology faculty. Projects are individualized to meet research goals within the context of faculty research needs.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Formulate a hypothesis or specific objective if study does not involve hypothesis generating research

Audience: Graduate

2. Conduct a thorough literature review of the specific research question

Audience: Graduate

3. Select and apply statistical knowledge methodologies appropriate for the proposed analyses

Audience: Graduate

4. Interpret results correctly and in context of previous findings from literature review

Audience: Graduate

SURGERY 911 – AORTIC DISEASE FROM BENCH TO BEDSIDE

2 credits.

The basics of vascular biology, as it applies to abdominal aortic aneurysm disease. Gain an understanding of pathophysiology of aneurysm disease, animal models of aortic aneurysm, and knowledge on experimental approaches to develop biomarkers and therapeutic strategies. Experience medical treatment of aneurysm disease in the clinic, and how risk factors identified from basic science techniques are applied at the bedside.

Requisites: MED SC-M 810, 811, 812, and 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2023

Learning Outcomes: 1. Demonstrate mastery of the basics of vascular biology and how this relates to vascular disease

Audience: Graduate

2. Practice techniques involved in studying various aspects of vascular biology

Audience: Graduate

3. Describe the application of vascular biology technique to the study of vascular disease observed in the clinic

Audience: Graduate

4. Demonstrate understanding of the pathophysiology involved in aneurysm development (patient factors and cell biology)

Audience: Graduate

5. Describe how pathophysiology is studied in each of the following: animal models, cell culture, and aortic modeling

Audience: Graduate

6. Identify the factors for aneurysm growth and rupture

Audience: Graduate

SURGERY 912 – AORTIC DISEASE FROM BENCH TO BOARDROOM

2 credits.

The anatomy applicable to abdominal aortic aneurysm repair, how this influenced the development of endografts, and how that development is regulated. Investigate the issues involved in aneurysm screening, and experience aneurysm screening in the clinic and aneurysm repair in the operating room. Discuss what is involved in medical device regulation, and how the medical device industry interacts with physicians to develop and distribute technology. Evaluate how the cost of medical devices is distributed to patients.

Requisites: MED SC-M 810, 811, 812, and 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2024

Learning Outcomes: 1. Describe how aortic aneurysm physiology have informed trials that established criteria for repair

Audience: Graduate

2. Describe how aortic aneurysm anatomy influences options for endovascular or surgical repair

Audience: Graduate

3. Describe the biological, clinical, and public health factors influencing successful endograft development

Audience: Graduate

4. Explain the process for regulatory evaluation of devices from an engineering standpoint to a patient's perspective.

Audience: Graduate

5. Describe the anatomical details involved in evaluating an endograft for device regulation

Audience: Graduate

6. Describe the science behind the imaging techniques involved in regulating and following endografts clinically.

Audience: Graduate

7. Describe the anatomy and physiology relevant to open abdominal aortic aneurysm repair, and how this may influence a patient's operative course.

Audience: Graduate

8. Describe the anatomy and physiology behind endoleaks, and how this influences post-operative endograft surveillance and need for re-intervention.

Audience: Graduate

9. Explain the biological, clinical, and socio-economic factors involved in advocacy to implement screening for abdominal aortic aneurysm

Audience: Graduate

10. Analyze the costs and charges associated with specific procedures and how this influences treatment choice for specific patient populations

Audience: Graduate

11. Synthesize acquired knowledge of basic science and public health implications of aortic aneurysm disease, clinic trials, repair options, and regulatory evaluation of devices to defend application of a device to specific patient populations.

Audience: Graduate

SURGERY 919 – INDIVIDUALIZED PHASE 3 CLINICAL ELECTIVE IN SURGERY

2-4 credits.

Care for hospitalized patients on general surgery or surgical specialty services. Admit new patients, round on previously admitted patients, participate in multidisciplinary rounds, and work to transition patients to the next level of care. Evaluate and manage patient with both common inpatient conditions and medically complex patients requiring collaboration with consulting specialties. Direct supervision by house staff and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Complete other patient care related learning activities as assigned by instructors.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

SURGERY 920 – GENERAL SURGERY ELECTIVE

2-4 credits.

Direct supervision by General Surgery senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 938 – INPATIENT ACTING INTERNSHIP-SURGERY

4 credits.

Provides an in-depth exposure to inpatient and operative management of complicated surgical patients. Work under the direct supervision of a senior resident, fellows and faculty. This rotation will provides an opportunity to function at the intern level and play an active role in inpatient management of surgical patients.

Requisites: MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2025**Learning Outcomes:** 1. Develop an evidenced-based understanding of the pathophysiology and appropriate management options for common surgical disorders.

Audience: Graduate

2. Discuss the surgical anatomy, common procedural indications, comorbidities, and prophylactic strategies to reduce post-operative complications.

Audience: Graduate

3. Demonstrate basic knowledge regarding common post-operative complications and the appropriate management of each.

Audience: Graduate

4. Describe indications and list the appropriate preoperative evaluations including lab tests, radiographic imaging, and ECG.

Audience: Graduate

5. Identify and describe use of common instruments used in surgery.

Audience: Graduate

6. Discuss common intraoperative complications associated with procedures and the appropriate management of each.

Audience: Graduate

7. Gather a history and perform a physical examination for a surgical patient

Audience: Graduate

8. Prioritize a differential diagnosis following a clinical encounter

Audience: Graduate

9. Recommend and interpret common diagnostic and screening tests

Audience: Graduate

10. Enter and discuss patient orders

Audience: Graduate

11. Document a clinical encounter in the patient record

Audience: Graduate

12. Provide an oral presentation of a clinical encounter

Audience: Graduate

13. Form clinical questions and retrieve evidence to advance patient care

Audience: Graduate

14. Give or receive a patient handover to transition care responsibility

Audience: Graduate

15. Collaborate as a member of an interprofessional team

Audience: Graduate

SURGERY 939 – ADULT ORTHOPEDICS FOR THE FUTURE ORTHOPEDIST ELECTIVE

2-4 credits.

Direct supervision by orthopedic Surgery senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Present a case of interest based on involvement in and a brief literature review on the treatment or condition. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Perform a hypothesis driven history and complete a targeted limb and spinal exam

Audience: Graduate

2. Develop and present a diagnosis and treatment plan and/or surgical indications for common orthopedic conditions/injuries

Audience: Graduate

3. Be able to read and interpret plain radiographs of the limbs and spine

Audience: Graduate

4. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

5. Develop and implement effective patient management plans

Audience: Graduate

6. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

7. Review, interpret, and present current literature to support patient care

Audience: Graduate

8. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

9. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

10. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

11. Avoid medical jargon when communicating with patients and families

Audience: Graduate

12. Recognize limitations and seek assistance as appropriate

Audience: Graduate

13. Understand the process of obtaining informed consent prior to surgical intervention

Audience: Graduate

SURGERY 940 – ADULT ORTHOPEDICS FOR THE NON- ORTHOPEDIST ELECTIVE

2-4 credits.

Direct supervision by community orthopedic senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

**SURGERY 944 – UPPER EXTREMITY ORTHOPAEDIC CLERKSHIP-
MARSHFIELD CLINIC**

2-12 credits.

Clinical elective for fourth year medical students.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2024

SURGERY 948 – OTOLARYNGOLOGY ELECTIVE

2-4 credits.

Direct supervision by Otolaryngology senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2025

Learning Outcomes: 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 954 – PERIPHERAL VASCULAR ELECTIVE

2-4 credits.

Direct supervision by Peripheral Vascular Surgery senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 956 – PLASTIC AND RECONSTRUCTIVE SURGERY ELECTIVE

2-4 credits.

Direct supervision by Plastic Surgery senior residents and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

SURGERY 960 – TRANSPLANTATION ELECTIVE

2-4 credits.

Direct supervision by Transplant fellows and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 962 – SURGICAL CRITICAL CARE ELECTIVE

2-4 credits.

Direct supervision by General Surgery senior residents, fellows, and attending physicians. Participate in regularly scheduled supervisor-student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 963 – CARDIOTHORACIC SURGERY ELECTIVE

2-4 credits.

Direct supervision by Cardiothoracic fellows and attending physicians. Participate in regularly scheduled supervisor–student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned general surgery service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 967 – UROLOGY ELECTIVE

2-4 credits.

Direct supervision by Urology residents, fellows, and attending physicians. Participate in regularly scheduled supervisor–student meetings, which involve some or all of the following: rounding on service patients, participating in scheduled operative procedures, presenting cases and teaching topics, and discussing patient cases. Complete independent activities including some or all of the following: reading about patient conditions and preparing for direct patient care as needed. Attend conferences associated with the assigned Urology service. Complete other patient care related learning activities as assigned by instructors; these are dependent on the individual student, the patients under the student's care, and the location.

Requisites: Graduate/professional standing**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** Yes, unlimited number of completions**Last Taught:** Spring 2025**Learning Outcomes:** 1. Perform a hypothesis driven history and complete a targeted exam

Audience: Graduate

2. Develop and present a weighted differential diagnosis for medical and surgical conditions

Audience: Graduate

3. Using clinical evidence, adapt and justify the working diagnosis

Audience: Graduate

4. Present a diagnostic plan including laboratory and imaging modalities

Audience: Graduate

5. Correctly interpret imaging and laboratory findings and communicate results to patients and team members

Audience: Graduate

6. Develop and implement effective patient management plans

Audience: Graduate

7. Complete written documentation in a comprehensive, concise, accurate and timely manner

Audience: Graduate

8. Review, interpret, and present current literature to support patient care

Audience: Graduate

9. Communicate effectively with patients, families, physicians and non-physician team members

Audience: Graduate

10. Communicate and collaborate with consultants and/or primary team and other providers to coordinate care

Audience: Graduate

11. Engage patients in shared decision making regarding tests, orders, and procedures

Audience: Graduate

12. Avoid medical jargon when communicating with patients and families

Audience: Graduate

13. Recognize limitations and seek assistance as appropriate

Audience: Graduate

14. Observe the process of obtaining informed consent prior to surgical

SURGERY 973 – OPTIMIZING VALUE, QUALITY AND SAFETY IN HEALTHCARE

2 credits.

An in-depth understanding of the key concepts of value, quality and safety is critical to the education of future physicians. The majority of adverse events experienced by hospitalized patients occur in surgery. Surgery offers the ideal setting to explore these three components critical to improving the US healthcare system. Examine factors that influence the care we provide and critically consider the value of this care. Observe efforts to improve value in surgery focusing on quality, safety and appropriate utilization of critical resources and consider areas for improvement. Follow patients in all processes of care from clinic, to the operating room, through their postoperative course, to discharge, and consider how important measures to secure safety and quality are encountered and impact care in the clinical arena. Consider price and allocation of scarce resources. Gather information for their analysis of the patient experience.

Requisites: MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2025**Learning Outcomes:** 1. Demonstrate understanding of system efforts to promote high value healthcare.

Audience: Graduate

2. Integrate understanding of complex care for individuals with policy or institutional level strategies to improve health

Audience: Graduate

3. Identify processes or attitudes that may (or may not) provide for the fair and just distribution of healthcare resources.

Audience: Graduate

SURGERY 974 – PATIENT EDUCATION AS A STRATEGY FOR ADVOCACY

2 credits.

Develop knowledge of how people learn, adult learning principles, and how these apply to medicine. Learn and practice effective interpersonal communication techniques. Reflect on your own strategies for communicating with patients, and develop and implement a plan to improve your communication with patients. Effective communication and patient education allows physicians to act as advocates for their patients. Discuss barriers to patient education, and strategies to mitigate those barriers. Gain insight into communication and education strategies for patients with communication issues.

Requisites: MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2025**Learning Outcomes:** 1. Demonstrate understanding of how people learn and adult learning principles and how these apply to medicine

Audience: Graduate

2. Apply effective interpersonal communication techniques.

Audience: Graduate

3. Recognize how effective communication and patient education allows physicians to act as advocates for their patients.

Audience: Graduate

4. Identify barriers to patient education and use strategies to mitigate those barriers.

Audience: Graduate

5. Demonstrate knowledge of communication and education strategies for patients with communication issues.

Audience: Graduate

SURGERY 975 – MULTIDISCIPLINARY APPROACHES TO COLON CANCER PREVENTION/TREATMENT

2 credits.

Explore the reasons behind failure of colorectal cancer screening programs. Learn the standard of care for prevention, diagnosis, and treatment of colorectal cancer. Focus on all facets of the disease, with active engagement in dialogue to improve screening programs for colorectal cancer. Learn to identify methods to improve medical care and population health. Explore background studies to integrate emerging information on individual's biologic and genetic risk with population-level factors when deciding upon prevention and treatment options. Work with the various members of the healthcare team involved in treating colorectal cancer and educate the public on the importance of colorectal cancer screening.

Requisites: MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2025**Learning Outcomes:** 1. Identify the principles of developing a successful cancer screening program.

Audience: Graduate

2. Identify the limitations of current cancer screening strategies.

Audience: Graduate

3. Identify barriers to participation in colon cancer screening program.

Audience: Graduate

4. Identify the pros and cons of various tests to screen for colorectal cancer and determine which are ideal from the physician's and patient's perspective as well as from the public health perspective.

Audience: Graduate

5. Identify the group of patients who will benefit from chemotherapy and radiation therapy.

Audience: Graduate

6. Identify the goals of radiation therapy.

Audience: Graduate

7. Identify the negative side effects of various therapies.

Audience: Graduate

8. Examine the role of surgery in the treatment of colorectal cancer.

Audience: Graduate

9. Effectively utilize the principles and optimal timing of the workup of colorectal cancer.

Audience: Graduate

10. Better identify the genetics of colorectal cancer and the impact on screening programs.

Audience: Graduate

SURGERY 976 – THE SCIENCE OF OBESITY AND DIABETES

2 credits.

The science of diabetes and obesity as it correlates to the clinical setting. The history of endocrinology and discovery of insulin will provide the basis for understanding hormonal mechanisms controlling fuel metabolism and how these processes become dysfunctional in different disease states. Topics will include pancreatic and extrapancreatic control of metabolism, and diseases linked with obesity, including PCOS, type 2 diabetes, and cancer. Lifestyle, medical, and surgical treatments of obesity and diabetes, including pharmacologic mechanisms of insulin and non-insulin diabetes therapeutics and bariatric surgery, will be highlighted. The public health perspective will shine light on societal factors that influence obesity and diabetes care. Provides an advanced scientific foundation with which to approach evidence-based care and treatment of individuals with obesity and/or diabetes.

Requisites: MED SC-M 810, 811, 812, and 813**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement**Repeatable for Credit:** No**Last Taught:** Spring 2025**Learning Outcomes:** 1. Describe the prevalence of obesity and diabetes and discuss the impact of these conditions on health care costs

Audience: Graduate

2. Describe the history of endocrinology and the discovery of insulin and illustrate how key scientific contributions have influenced the modern practice of medicine

Audience: Graduate

3. Discuss the biology of digestion and calorie expenditure on weight regulation and the development of obesity.

Audience: Graduate

4. Illustrate the interplay among neurological, microbiota, and hormonal effects driving insulin resistance, obesity, and type 2 diabetes.

Audience: Graduate

5. Illustrate the roles of insulin-sensitive tissues in the development of the pathological inflammatory, hyperglycemic, and dyslipidemic state(s) of obesity and diabetes.

Audience: Graduate

6. Identify obesity-related diseases and syndromes, and discuss unique challenges these pose in the care of the obese/diabetic patient

Audience: Graduate

7. Discuss the mechanisms behind pediatric obesity and summarize the effects on childhood development and ways to combat and prevent pediatric obesity

Audience: Graduate

8. Identify the unique challenges in assessing the adult patient with obesity, including history and physical considerations as well as lab abnormalities commonly seen in the obese

Audience: Graduate

9. Discuss the available lifestyle, medical, and surgical treatments for obesity and diabetes, demonstrating knowledge of the science behind these treatments

Audience: Graduate

10. Identify ways that discrimination and prejudice of obese/diabetic patients exists and affects their care and outcomes

Audience: Graduate

SURGERY 977 – INJURY AND VIOLENCE PREVENTION

4 credits.

The concept of injury prevention is inherently challenging, despite the systemic global public health problem of violence and injuries. Provides a foundation to approach injury prevention and control. Incorporates curriculum from TEACH-VIP (Training, Educating, and Advancing Collaboration in Health on Violence and Injury Prevention).

Requisites: Graduate/professional standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2020

Learning Outcomes: 1. Identify resources for injury prevention at the state, national, and international level

Audience: Graduate

2. Identify community partners at the local and state level in injury prevention

Audience: Graduate

3. Place an injury into the Haddon matrix and identify places for intervention

Audience: Graduate

4. Explain the concept of cost-effective analysis and demonstrate basic use of cost-effective analysis.

Audience: Graduate

5. Describe a variety of successful injury prevention interventions.

Audience: Graduate

6. Examine the role of legislation in injury prevention.

Audience: Graduate

SURGERY 980 – SEX, GENDER, AND SEXUALITY HEALTH EQUITY

2 credits.

An overview of how concepts of sex, gender, and sexuality in society and medicine impact medical care and lived experience for patients who are LGBTQ, transgender, gender-diverse and/or have variations in sex characteristics (VSC). Topics include shared decision-making, allyship, trauma-informed care, gender-affirming care, and unique health disparities in patients who are LGBTQ, transgender, gender-diverse and/or those with VSC. Gain insight into patient experience of medical care through patient-centered shadowing/observer opportunities.

Requisites: MED SC-M 810, 811, 812, and 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Learning Outcomes: 1. Describe differences between the terms "sex," "gender," and "sexuality," identify potential for conflation of these terms, and apply these terms correctly in the context of clinical care and daily life.

Audience: Graduate

2. Summarize how historical approaches to medical care for those with variations in sex characteristics (VSC) have impacted the patient-provider relationship on the individual and community level, and identify ethical principles that influence decision-making for early childhood medical care for people with VSC.

Audience: Graduate

3. Identify how medical and non-medical systems level barriers and societal awareness of needs unique to these populations impact health care interactions and overall health of patients with variations in sex characteristics (VSC), trans and gender-diverse patients, and LGBTQ patients.

Audience: Graduate

4. Integrate knowledge of health disparities experienced by LGBTQI+ patients and apply understanding of available resources and care support for these populations in future clinical practice.

Audience: Graduate

SURGERY 981 – MINDFULNESS TRAINING FOR RESIDENCY

1 credit.

Gain familiarity with Mindfulness-Based Stress Reduction interventions that have been shown to increase physician well-being and build resiliency. Cultivate non-judgmental and calm awareness of the present moment. Learn and practice formal and informal mindfulness meditation practices. Research mindfulness skills and their benefits to physicians. Understand guided mindful activities. Adapt individualized mindfulness techniques.

Requisites: Declared in Doctor of Medicine program with fourth year standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2025

Learning Outcomes: 1. Effectively practice the principles of mindfulness-based stress reduction

Audience: Graduate

2. Gain experience and practice in contemplative movement, 3-point body scan, and breath awareness practice

Audience: Graduate

3. Develop body and breath awareness and how they can be used to be present with emotions and sensations present during everyday clinical practice

Audience: Graduate

4. Explore the evidence surrounding the neuroscience and clinical applications of meditation

Audience: Graduate

5. Develop self-compassion and loving-kindness meditations and practices

Audience: Graduate

6. Enhance communication skills and compassionate relationships with patients and colleagues

Audience: Graduate

SURGERY 982 – SURGICAL AND PROCEDURAL CARE EDUCATION TEACHING ELECTIVE

2 credits.

Learn effective methods of teaching procedural skills and of small group case-based learning (CBL) facilitation. Demonstrate effective teaching strategies when instructing more junior medical students in in-person procedural skills (e.g., suturing, knot-tying, ultrasound/doppler, intubation) and facilitating virtual CBL learning. Bolster mastery in surgical and procedural education.

Requisites: MED SC-M 810, 811, 812, and 813 and declared in Doctor of Medicine with fourth-year standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2025

Learning Outcomes: 1. Use effective surgical and procedural teaching practices.

Audience: Graduate

2. Develop effective small-group facilitation skills.

Audience: Graduate

3. Demonstrate effective teaching strategies alongside resident and faculty teachers in the Sim lab and CBL didactic sessions

Audience: Graduate

4. Mentor Phase 2 (more junior) students and assist them in their introduction to surgical and procedural care

Audience: Graduate

5. Reflect on specific feedback on applied education and facilitation skills

Audience: Graduate

SURGERY 983 – COMMON ANORECTAL DISEASES

2 credits.

The diagnosis and treatment of common anorectal diseases in the context of anatomical and physiological basis as it correlates to the clinical setting. The medical and surgical treatment of anorectal disorders will be discussed from the historical background to modern management algorithms. Topics will include fissures, perirectal abscess, fistula-in-ano, external and internal hemorrhoidal diseases, pruritus ani, fecal incontinence, rectal prolapse, obstructive defecation, sexually transmitted infections, and various anorectal manifestations of irritable bowel disease. Symptomatic presentation and natural progression of each of these disease processes will be discussed. Provide a sound scientific foundation with which to approach evidence-based diagnosis, triage, and treatment of patients with acute versus chronic anorectal disorders.

Requisites: MED SC-M 810, 811, 812, and 813

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2025

Learning Outcomes: 1. Describe the normal anatomy of the male and female pelvic floor, structural relationships of the pelvic organs, with special focus on the rectum, anal canal, and perianal spaces

Audience: Graduate

2. Describe the physiology and function of the anal sphincter complex and various defecatory reflexes

Audience: Graduate

3. Discuss the biology of stool formation, propulsion, and expulsion

Audience: Graduate

4. Describe the dietary roles of soluble and insoluble fiber in digestion, and its role in treatment strategies of benign anorectal disorders

Audience: Graduate

5. Describe the anatomical basis of symptomatic internal and external hemorrhoidal disorders in relation to their presentation and natural progression

Audience: Graduate

6. Discuss the surgical options in the treatment of different grades of internal hemorrhoids and the complications associated with each

Audience: Graduate

7. Discuss the etiology of perirectal abscesses and their progression/relationship to fistula-in-ano

Audience: Graduate

8. Describe the various types of fistula-in-ano, diagnostic techniques and imaging modalities, and treatment strategies

Audience: Graduate

9. Explain the rationale for medical versus surgical treatment options for anal fissures

Audience: Graduate

10. Identify the various lifestyle and dietary etiologies for pruritis ani, and explain the rationale for treatment algorithm

Audience: Graduate

11. Differentiate between presentations of thrombosed external hemorrhoid, strangulated or prolapsed internal hemorrhoid, and rectal prolapse

Audience: Graduate