**SURGERY - MD (SURG)**

**SURG 700: Surgical Core Clerkship**
15 Credits/Maximum of 15

Fundamental surgical course for medical students designed to provide basic surgical information and clinical exposure.

**Prerequisite:** completion of first two years of medical school

**SURG 710: General Surgery Acting Internship**
5 Credits/Maximum of 5

Four week General Surgery Acting Internship.

**Prerequisite:** successful completion of all third year clerkships and pre-conference with course director

**SURG 711: Cardiothoracic Surgery Acting Internship**
5 Credits

Acting Internship in Adult Cardiothoracic Surgery.

**Prerequisite:** completion of all third-year core clerkships; pre-conference with course director

**SURG 712: Surgical Endocrinology Elective**
5 Credits/Maximum of 5

An in-depth experience involving the medical and surgical management of endocrinological disorders.

**Prerequisite:** completion of all third-year core clerkships

**SURG 713: Vascular Surgery Acting Internship**
5 Credits/Maximum of 5

An opportunity for in-depth experience in vascular surgery.

**Prerequisite:** completion of all third-year core clerkships

**SURG 714: Transplant Surgery Acting Internship**
5 Credits/Maximum of 5

An in-depth experience in the preoperative evaluation, intra-operative procedures, and postoperative management of kidney, liver, and pancreas transplant patients.

**Prerequisite:** third year core clerkships

**SURG 720: Plastic Surgery Acting Internship**
5 Credits/Maximum of 5

Preceptorship with an active plastic surgical service at The Milton S. Hershey Medical Center or an affiliated hospital.

**Prerequisite:** completion of the third-year core clerkships

**SURG 722: Hand Surgery Acting Internship**
5 Credits/Maximum of 5

Surgical Acting Internship experience in Hand Surgery.

**Prerequisite:** completion of all third-year core clerkships

**SURG 733: Plastic Surgery Elective for 3rd Year Students**
5 Credits

Plastic Surgery is a broad surgical specialty in which cosmetic surgery has a relatively small part. This independent one-month rotation has been designed to allow interested 3rd-year medical students at Penn State an in depth exposure to the unique elements of academic plastic surgery. In addition to mastering specialized surgical techniques and applications, plastic surgeons also frequently collaborate with many other types of surgical specialists for specific problems. The duration of this rotation will improve the frequency of such interactions in addition to strengthening the students’ overall experience. During their rotation, students will be expected to pre-round on patients whom they have been following, write notes, round with the Plastic Surgery team every morning, and present and help manage their patients. They will then report to the assigned clinic or OR. They will attend the division didactic sessions. Students will typically be expected to participate in weekend duties on two separate weekends including pre-rounding, rounding with the team, and presenting assigned patients to the on-call attending. Students may elect to participate in any emergencies that present over the weekends, as well. Students should expect to gain exposure in many if not all of the major areas of Plastic Surgery including, but not limited to, oncologic breast reconstruction, general reconstructive surgery (e.g., traumatic and/or oncologic wound coverage, Mohs closures), pediatric craniofacial surgery (e.g., cleft lips and cranial vault remodeling), skin oncology (e.g., cancer resection and reconstruction), hand/wrist surgery (e.g., peripheral nerve decompression and fracture fixation), microsurgery, burn care, cosmetic surgery, treatment of facial fractures, and pressure sore care. To facilitate this experience, students will generally be assigned to 1-week sub-rotations in the following categories: Pediatric Craniofacial Surgery, Hand/Upper Extremity Surgery, Reconstructive (General, Breast, and Trauma) Surgery, and Skin Oncology/Mohs reconstruction. Students can gain additional responsibilities as determined by their level of comprehension and should anticipate assisting in operations, as is feasible and appropriate.

**Prerequisite:** Successful completion of the first two years of medical school. Students will not be permitted to participate in both a 2-week Plastic Surgery rotation during their Surgery Clerkship and a 1-month third-year elective in Plastic Surgery.

**SURG 740: Urology Acting Internship**
5 Credits/Maximum of 5

In-depth experience in evaluation and management of urologic problems.

**Prerequisite:** completion of all third-year core clerkships

**SURG 741: Intensive Respiratory Care – Anesthesia**
5 Credits/Maximum of 5

Students are taught to assess and manage acute respiratory insufficiency.
Prerequisite: successful completion of all 3rd year clinical clerkships

SURG 745: Pediatric Cardiothoracic Surgery Elective

5 Credits/Maximum of 5

This fourth-year elective provides an introduction to the operative repair and peri-operative management of simple and complex congenital heart disease. PED (SURG) 745 Pediatric Cardiothoracic Surgery Elective (5) This elective in pediatric cardiothoracic surgery is offered to fourth-year medical students with an interest in congenital heart disease. It is principally targeted at students who plan a career in pediatrics, surgery, or pediatric or adult cardiology. The course is offered year-round on a monthly basis, with enrollment limited to 1-2 students per rotation. Students will work exclusively with attending surgeons in the clinical environment, and will participate in the comprehensive surgical management of infants, children, and adults with congenital heart disease. Clinical exposure will be provided to the initial surgical consultation, the judgment and rationale for operative versus non-operative management, the preoperative family counseling meeting and informed consent process, and the formulation of the operative plan.

In the operating room, students will second-assist with pediatric heart surgery and will gain first-hand appreciation of the anatomic defects and their surgical repair. Postoperatively, students will participate in clinical rounds on pediatric heart surgery patients, and will follow the patients to discharge. The elective will emphasize the multi-disciplinary approach to the management of congenital heart disease, with collaborative exposure to pediatric cardiology, pediatric critical care, cardiac anesthesia, and cardiology for adults with congenital heart disease. Didactic lectures, case presentations, and reviews will be provided to students as an introduction to the major heart defects. Students will gain skill in the interpretation of echocardiograms, and will have the opportunity to view, in real-time, intraoperative transesophageal echo images, and correlate those images to the live, beating heart. Students will also gain skill in interpretation of cardiac MRI and CT angiography. The course is offered as an elective for students seeking an advanced introduction to surgery for congenital heart defects. The course is not intended as an acting-internship; thus, there is no in-house call, and limited night or weekend clinical requirements. A pre-test and a post-test will be administered.

Prerequisite: third-year core clerkships

Cross-listed with: PED 745

SURG 770: Otolaryngology Acting Internship

5 Credits/Maximum of 5

A clinical experience devoted to disorders of the ears, nose, throat, and head and neck.

Prerequisite: completion of all third-year requirements

SURG 771: Otolaryngology - Head and Neck Surgery Elective for Third Year Medical Students

2.5 Credits/Maximum of 2.5

This course provides exposure to basic concepts for diagnosis and management of ear, nose and throat problems in children and adults.

SURG 771 Otolaryngology - Head and Neck Surgery Elective for Third Year Medical Students (2.5) This course is designed to introduce third year medical students to the basics of evaluation and management of patients with ear, nose, throat and neck problems. Students on this elective will serve as an integral part of the Otolaryngology - Head & Neck Surgery team. This rotation should serve to enhance the head and neck history and examination skills of the student. Student will be expected to personally evaluate patients in the clinic, as well as possibly through the emergency room and inpatient consultation service. Management of these patients will be discussed with resident and attending faculty in formulating a treatment plan. Operative experience will be directed mostly towards routine ear, nose, throat, and neck surgeries. More intense head and neck cases may be utilized as opportunities for head and neck anatomy experiences for all students. For those expressing an interest in otolaryngology - head and neck surgery as a potential career, operative experience can be tailored for the exposure necessary to demonstrate the breadth of otolaryngology - head and neck surgery. Daily conferences and lectures will serve as formal didactics, in addition to the teaching opportunities provided in outpatient clinics and inpatient rounds. The goals of this elective rotation are to enhance head and neck skills and to reinforce for students the otolaryngologic pathology they are likely to see in their clinical practice, regardless of specialty. Evaluation methods will include subjective evaluation of students’ funds of knowledge and patient care skills by the attending otolaryngology - head and neck surgery faculty. This course will be offered throughout the entire academic year.

Prerequisite: successful completion of any third year course which includes direct patient care

SURG 780: Pediatric Surgery Acting Internship

5 Credits/Maximum of 5

Expose to the surgical crises of the pediatric patient and their treatment.

Prerequisite: completion of all third-year requirements

SURG 790: Junior Medical Student Surgery Capstone Course

2.5 Credits

This course is designed for graduating medical students that have applied to or matched a surgical residency (general surgery, orthopedics, neurosurgery, urology, plastic surgery, and ENT) to provide them with an advanced cognitive knowledge base and experience with procedural skills frequently required of surgical interns. Additionally, this course will allow students to gain invaluable experience with interdisciplinary professionalism and case-based problem solving. Curriculum includes didactic lectures, case-based and small group learning sessions, simulation based procedural instruction and practice, as well as standardized patient encounters. Upon completion of the course students will have better knowledge of surgical patient care, be able to proficiently perform surgical skills frequently required of surgical residents, and have improved confidence in their preparation for surgical residency. A pre- and post-survey will focus on participants’ confidence in specific procedural skills and common on-call surgical problems. Pre- and post-exams will also be given to measure student’s knowledge on peri-operative patient care and complications. Grading will be Pass-Fail. Additionally, students that complete the skills sessions and pass skill proficiency exams may receive a letter addressed to their residency program director from the course directors to attest to their proficiency of the skills taught in this course.

Prerequisite: Open to students in Phase III/IV; successful completion of all phase I, II and III coursework. Students should have applied to/ matched into a surgical internship.
SURG 796: Surgery Individual Studies

5 Credits/Maximum of 5

Creative projects including nonthesis research, supervised on an individual basis and which fall outside the scope of formal courses.

**Prerequisite:** successful completion of 3rd year core clerkships. Student must contact course director for approval prior to registering for course.

SURG 796A: Surgery Individual Studies for 3rd Year Medical Students

2.5 Credits

Surgery Individual Studies for 3rd Year Medical Students.

**Prerequisite:** successful completion of one 3rd year core clerkship

SURG 797: Surgery Special Topics

5 Credits/Maximum of 5

Formal courses given on a topical or special interest subject which may be offered infrequently.

**Prerequisite:** successful completion of 3rd year core clerkships. Student must contact course director for approval prior to registering for this course.