SURGICAL TECHNOLOGY PROGRAM
SURG 440: Basic Sciences for Surgical Technology

Course Summary: This course covers Surgical Anatomy to prepare the student for the structures and landmarks encountered by the surgeon. Physiological concepts are taught so the student can comprehend diseases and indications for surgery. Related Sciences include an overview of Microbiological Principles so the student can assist with Infection Control, a survey of Operating Room Pharmacology in order for the student to be able to safely pass medications to the surgeon, and a brief look at Conceptual Physics so the student can understand the workings of specialized surgical equipment.

Class Hours: Monday through Thursday, 8 to 11:30 am Location: Room 7205
TBA: 6 hours per week. These hours are set aside for written assignments and Self-learning Modules. See below for more information.
Note: Hospital work shifts begin on the hour, so the class does too!

STUDENT LEARNING OUTCOMES (SLO's):

Upon completion of this course, the student shall be able to

- Recognize the structure and function of the human body in healthy and diseased states
- Use principles of microbiology to explain the Chain of Infection
- State the indications for medications commonly used in the operating room
- Apply concepts of physics to equipment used in the operating room

SPECIFIC INSTRUCTIONAL OBJECTIVES:

Upon completion of this course, the student should be able to

a. Identify three anatomical structures of each organ system
b. Given an organ system, describe three pathologies for which surgery is performed.
c. List three microbes and the roles they play in normal human function and in disease.
d. Relate mechanisms of infection with aseptic practices.
e. List three medications and their surgical indications.
f. Apply math skills in preparing medication solutions.
g. Given a principle of physics, describe its application in the operating room.

Required Texts:

Understanding Anatomy and Physiology, Sloan Thompson; 2013, FA Davis

Any Medical Dictionary

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Graded Work: (A Student's lowest score will be dropped before averaging)

- Weekly quizzes (about 2 per week)
- Final Exam
- Professionalism (Participation in class, Attendance, Communication Skills)
- Written Assignments:
  - Medical Terminology- Translate a section from a surgical textbook into lay terms.
  - Pharmacology- Research and report on an Ophthalmic medication using a Physician's Desk Reference or the Internet

Non-Graded Work:

- Self-Learning Modules for
  O.R. Pharmacology Microbiology Physics
  These assigned modules require reading and completing fill-in questions.

Grade Weight: Quizzes and Assignments = 50% of Overall grade
Final Exam = 50% of Overall grade

NOTE: For each violation of Professional Behavior, **five (5) points** are subtracted from the Overall grade. (See Student Handbook)

Grades:
93 – 100% = A
85 - 92% = B
78 - 84% = C
<78% = F

Instructor: Alice Erskine, MSN, RN, CST, CNOR Office: Room 7209 Phone: 650-738-4470
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Office Hours: Monday through Thursday- 12:30 to 5:00 pm Friday- 8 am to 5 pm (For Friday, please make an appointment)

SURGICAL TECHNOLOGY PROGRAM
2012-13
SURG 440: Basic Sciences for Surgical Technology

DATE	Anatomy & Physiology	Related Sciences	Readings and Assignments
June 10 **Monday**	**A & P:** Orientation to the Body Chemistry of Life	**Review:** Student Handbook Take-home Quiz	**Understanding A & P**: Chapters 1 & 2
June 11 **Tuesday**	**A & P:** Cells Cancer	**Medical Terminology Exercise** **Due June 19**	**A & P:** Ch. 3 **Cancer Handout**
June 12 **Wednesday**	**A & P:** Tissues Integumentary System	**Microbiology:** Introduction & Historical Theories	**A & P:** Ch. 4, & 5 **Microbiology** Module #1
June 13 **Thursday**	**A & P:** Review Ch. 1- 5 & Cancer Handout Bones and Bone Tissue	**Micro:** Cell Structure and Classification	**Micro:** Module #2 **A & P:** Ch. 6
June 17 **Monday**	**QUIZ:** Ch. 1 – 5 & Cancer Handout Skeletal System	**Micro:** Classification	**A & P**: Ch. 7 **Micro:** Module #2
June 18 **Tuesday**	**A & P:** Joints & Muscle System	**Micro:** Humans and Microbial Agents	**A & P**: Ch. 8 & 9 **Micro:** Module #2
June 19 **Wednesday**	**A & P**: Muscle System	**Medical Terminology Exercise due**	**A & P**: Ch. 9
June 20 **Thursday**	**A & P**: Review Ch. 6 - 9 Nervous System	**Micro:** Process of Infection	**A & P**: Ch. 10 **Micro:** Module #3
June 24 **Monday**	**QUIZ**: Ch. 6 - 9 Nervous System & Pathology	**Micro:** Defense Against Disease	**A & P**: Ch. 10 **Micro**: Module #4
June 25 **Tuesday**	**A & P**: Sense Organs & Pathology	**Micro:** Review All Modules	**A & P**: Ch. 11
June 26 **Wednesday**	**A & P:** Sense Organs & Pathology	**O.R. Pharmacology**: Math Review	**A & P**: Ch. 11 **Pharmacology:** Unit I

DATE	Anatomy & Physiology	Related Sciences	READINGS
June 27 **Thursday**	**A & P:** Review Nervous System & Sense Organs	**QUIZ: Microbiology** **Pharm:** Math Review	**Pharm**: Unit I
July 1 **Monday**	**QUIZ:** Ch. 10 & 11 **A & P:** Blood & Pathology	**Pharm:** Math Exercises	**A & P:** Ch. 13 **Pharm:** Unit I
July 2 **Tuesday**	**A & P:** Lymphatic System & Pathology	**Pharm:** Math Exercises	**A & P**: Ch. 16 **Pharmacology:** Unit I
July 3 **Wednesday**	**A & P:** Review Ch. 13 & 16 The Heart	**Pharm:** O.R. Medications **Medication Presentation Due 7/ 9**	**A & P:** Ch. 14 **Pharm**: Unit II
July 4 **Thursday**	**INDEPENDENCE DAY**		
July 8 **Monday**	**QUIZ:** Ch. 13 & 16 Cardio-vascular System	**Pharm:** O.R. Medications	**A & P**: 14 & 5 **Pharm:** Unit II
July 9 **Tuesday**	**A & P:** Cardiovascular System & Pathology	**Pharm: Medication Presentations**	**A & P**: Ch. 14 & 5
July 10 **Wednesday**	**A & P:** Review Cardiovascular System Respiratory System	**Pharm:** Handling Medications	**A & P**: Ch. 17 **Pharm:** Unit III
July 11 **Thursday**	**A & P:** Respiratory System & Pathology	**Pharm:** Handling Medications	**A & P**: Ch. 17 **Pharm:** Unit III
July 15 **Monday**	**QUIZ:** Ch. 14 & 15 **A & P**: Urinary System & Pathology	**Pharm:** Patient Interventions	**A & P**: Ch. 18 **Pharm:** Unit IV
July 16 **Tuesday**	**A & P:** Urinary System & Pathology	**Pharm:** Review All **Physics:** Mechanics	**A & P**: Ch. 18 **Physics:** Unit I
July 17 **Wednesday**	**A & P:** Fluids, Electrolytes & Acid-Base Balance	**Physics**: Energy & Work	**A & P**: 19 **Physics:** Unit II

DATE	ANATOMY & PHYSIOLOGY	Related Sciences	READINGS
July 18 Thursday	**A & P**: Review Respiratory, Urinary, & Fluids, E-lytes, pH Balance	**QUIZ: Pharmacology**	**A & P**: Ch. 17 - 19
July 22 Monday	**QUIZ:** Respiratory & Urinary, Fluids, E-lytes, pH Balance **A & P:** Digestive System	**Physics:** Properties of Matter	**A & P**: Ch. 20 **Physics** Unit III
July 23 Tuesday	**A & P**: Digestive System	**Physics:** Heat, Vibrations & Sound	**A & P**: Ch. 20 **Physics** Unit IV,
July 24 Wednesday	**A & P**: Nutrition & Metabolism	**Physics:** Electricity	**A & P**: 21 **Physics** Unit V **VIDEO:** "Hernias: Usual and Unusual"
July 25 Thursday	**A & P:** Review Digestive System & Metabolism Reproductive System	**Physics:** Light	**A & P**: Ch. 22 **Physics** Unit VI
July 29 Monday	**QUIZ:** Digestive System **A & P**: Reproductive System & Pathology	**Physics:** Review Questions	**A & P**: Ch. 22 Physics: All Units
July 30 Tuesday	**A & P**: Pregnancy & Human Development		**A & P**: Ch. 23
July 31 Wednesday	**A & P:** Review Reproductive System & Human Development		**A & P**: Ch. 22 & 23
August 1 Thursday	**A & P:** Endocrine System & Pathology	**QUIZ: Physics**	**A & P:** Ch.12
August 5 Monday	**QUIZ:** Reproduction & Development **A & P:** Endocrine System (Chapter 12 is on the Final Exam)		**A & P:** Ch. 12
August 6 Tuesday	**Off to Study for Final Exam**		
August 7 Wednesday	**Off to Study for Final Exam**		
August 8 Thursday	**FINAL EXAM: A & P, Micro, Pharm, Physics**		

Fall Semester begins August 19, 2013.