

**RENTON TECHNICAL COLLEGE**  
**Surgical Technologist/Anesthesia Technician**  
**Syllabus**

**Course Title & Number:** SURG 132 – Pharmacology / ANES 105 – Pharmacology I

**Instructor:** Karrah Rogers, CST

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**Office Location:** B126

**Office Hours:** 2:30pm – 3:30pm T, W

**Web site:** <http://www.quia.com/pages/asrba/pharmacology>

**Class Room:** \_\_\_\_\_

**Class Times:** \_\_\_\_\_

**Credits:** 3

**Class Hours:** 36

**Prerequisites:** Enrollment in Surgical Technologist/Anesthesia Technician Program

**Course Description:** Students will study a practical application of the drugs used in the operating field and room as well as those drugs that affect the surgical patient.

**Methods of Instruction:** The primary form of instruction is lecture with group discussion. The *Quia* web site listed above is provided to allow the student to view class materials, assignments, and study resources. The course calendar will be maintained on this website. Students need to have internet access to make use of this website. There is a classroom computer available to students as well as the college library and open computer lab to access the internet. Use of this website is highly recommended.

**Course Outcomes/Objectives:**

**UNIT I – INTRODUCTION TO PHARMACOLOGY**

1. BASIC PHARMACOLOGY – Identify drug sources, classifications, medication orders and abbreviations, drug distribution systems, drug forms or preparations, drug administration routes, four processes of pharmacokinetics, and pharmacodynamics.
2. MEDICATION DEVELOPMENT, REGULATION AND RESOURCES – Demonstrate knowledge of laws pertaining to medication regulation and drug development, and review available medication references.
3. PHARMACOLOGY MATH – Demonstrate basic knowledge of military time, fractions, decimals, percentages, ratio and proportion, temperature conversions, and measurement systems.
4. MEDICATION ADMINISTRATION – Describe the surgical technologist's and anesthesia technician's roles in medication administration, the six "rights" of medication administration, processes of medication identification, proper steps in delivery of medication to the sterile field, handling requirements and necessary supplies.

**UNIT III –ANESTHESIA**

13. PREOPERATIVE MEDICATIONS – Define terminology related to preoperative medications; identify the purpose of preoperative patient evaluation and components; list sources of patient information; identify classification of preoperative medications, the purpose of each, and give examples.
14. PATIENT MONITORING AND LOCAL AND REGIONAL ANESTHESIA – Demonstrate knowledge of the pain pathway, various methods and drugs for local and regional anesthesia, and the risks and procedure to use of local anesthesia on the field. Identify basic EKG arrhythmias.
15. GENERAL ANESTHESIA – Identify terms and demonstrate knowledge of the physiology of general anesthesia, selection criteria, monitoring, phases/stages, components, methods to delivery, drug categories as well as muscle physiology and use of muscle relaxers and reversal agents.
16. EMERGENCY SITUATIONS – Demonstrate knowledge of allergic and transfusion reactions, respiratory obstructions and aspiration, fluid and electrolyte imbalance, cardiac arrest procedure and drugs and malignant hyperthermia physiologic response, drugs and procedural response.

**UNIT II – APPLIED SURGICAL PHARMACOLOGY**

5. ANTIBIOTICS – Identify how antibiotics work, antibiotic resistance, and categories of antibiotics.
6. DIAGNOSTIC AGENTS – Distinguish between contrast media, dyes and staining agents; identify drugs and their uses on the surgical field.
7. DIURETICS – Demonstrate knowledge of the physiology of the kidney, use of diuretics, generally and in the operating room, and risks of ongoing diuretic therapy.

8. HORMONES – Identify hormones, medical and surgical uses, actions and side effects on the surgical patient of steroids.
9. MEDICATIONS THAT AFFECT COAGULATION – Describe the clotting process and drugs that affect coagulation, tests used to measure the patient's clotting ability, actions of drugs that affect coagulation, administration routes and use on the sterile field and reversing agents.
11. FLUIDS AND IRRIGATION SOLUTIONS – Identify purpose and types of volume expanders and other IV fluids and electrolytes used in the operating room; describe the procedure to spike and hang an IV fluid; identify blood function and types, components, replacement, ordering procedures, various procurement methods including autotransfusion, procedure for administration and blood substitutes.
12. ANTINEOPLASTIC CHEMOTHERAPY AGENTS – Identify terms related to atypical cells and Cancer and have a general understanding of chemotherapeutic drugs.

**Calendar/Schedule:** Chapters will be covered in the order listed above. The actual calendar is available on the *Quia* website listed above. It is recommended that students check this calendar on a regular basis for changes.

**Textbook (required):** *Snyder & Keegan, Pharmacology for the Surgical Technologist Rev 2<sup>nd</sup> Ed.*

**Additional Materials (required):** Pharmacology notes packet

**Course Policies:** Each student is expected to attend class on time and participate in a professional manner. Study time outside of class is necessary to read, study and retain course material. Scheduled chapters should be read prior to lecture to facilitate discussion. Students are responsible for all material covered in class and are expected to turn in assignments at the date and time specified by the instructor.

Unless otherwise instructed, assignments are to be completed and turned in by the individual student. Copying assignment, quiz or exam answers is considered cheating and will result in the student receiving a grade of zero for that work. Late assignments will receive half credit. Assignments that are not 80% correct will be marked F&R (fix and return) and returned to the student. Students must correct any errors and resubmit the assignment; resubmitted assignments that are 80% correct will receive half credit.

Students are expected to arrive for exams on time. Late students will not be allowed to enter the classroom until the exam and review is finished and will forfeit Professionalism Points for time missed.

Missed exams will result in forfeiture of 10 points resulting in a maximum possible score of 90% (90 points). Missed exams must be scheduled with the instructor and must be made up during the next available make-up test day (Tuesday or Thursday following return to class). Failure to take the missed exam on the next available make-up test day will result in forfeiture of an additional 10 points resulting in a maximum possible score of 80% (80 points).

### **Grading policy, criteria and scales**

**Final Grade:** Each student must achieve an overall grade of 2.0 (80%) to pass this course. Grading scale is on the next page. Course points are explained as follows.

**Professionalism Points:** Each student will be given 36 Professionalism points. To maintain those points, the student is expected to attend and participate in class in a professional manner. Missing class due to absence or tardiness will result in forfeiture of one Professionalism point per hour of class missed (exceptions may be made for extenuating circumstances). Disrupting class (use of cell phones, excessive talking, etc) is grounds for loss of Professionalism points. Professionalism points are weighted at 10% of the final grade.

**Assignments:** Assignments are worth 10 points each unless otherwise specified. Late assignments/corrected F&R assignments are worth 5 points. Each student will participate in a group assignment worth 50 points. The group assignment will require the students to work together outside class to research a specific topic, then design a visual aid on provided poster board and do a 5-10 minute presentation. The group assignment may not be made up if missed. Assignments are weighted at 40% of the final grade.

**Quizzes/Exams:** Quizzes may be given following completion of a chapter. Quizzes may be given without prior notice. The student will be allowed twenty minutes to complete the quiz. Quizzes will be corrected and returned to the student and will be reviewed in class. Quizzes must be signed and returned to the instructor or the score will not be recorded. Students will receive one point for each correct answer for a maximum of 10 points. Quizzes will be done during class only and may not be made up if missed.

Three unit exams will be given during the course to assess student learning. Unit I exam will cover chapters 1-4. Unit II exam will cover chapters 5-12. Unit III exam will cover chapters 13-16. Each unit exam will have 50 questions and will be worth a maximum of 100 points. Use of cellular phones/electronic devices during an exam will result in forfeiture of said exam. Exams must be signed and returned to the instructor or the score will not be recorded. Quizzes & exams are weighted at 50% of the final grade.

**Grading Scale:**

**Allied Health Grading Scale 2011**

Decimal Grade	Grade Percent	Letter Grade Equivalent
4.0	100	A
3.9	99	
3.8	98	A-
3.7	97	
3.6	96	
3.5	95	
3.4	94	B+
3.3	93	
3.2	92	
3.1	91	B
3.0	90	
2.9	89	
2.8	88	B-
2.7	87	
2.6	86	
2.5	85	
2.4	84	C+
2.3	83	
2.2	82	
2.1	81	C
2.0	80	
1.9	79	C-
1.8	78	
1.7	77	
1.6	76	
1.5	75	
1.4	74	D+
1.3	73	
1.2	72	
1.1	71	D
1.0	70	
0.9	69	D-
0.8	68	
0.7	67	
0.6	66	F
0.5	65	
0.4	64	
0.3	63	
0.2	62	
0.1	61	
0.0	60 or less	

## **Additional information related to course content and requirements.**

**Learning Resources:** For library policies, learning assistance/tutoring policies, counseling services, academic dishonesty, and grievance procedures, see the Student Handbook, Allied Health Policies and Surgical Technology Program Policies.

**Americans with Disabilities Act Statement:** *If you need course adaptations or accommodation because of a disability, if you have emergency medical information to share with your instructor, or if you need special arrangements in case the building must be evacuated, please make an appointment with your instructor as soon as possible.*

This document is subject to change.

Adapted from:

Draft for Field Test, 5/15/88, by Malcolm Lowther, Joan Stark and Gretchen Martens, "Writing Course Syllabi for Improved Communication," The National Center to Improve Post-Secondary Teaching and Learning, The University of Michigan, Ann Arbor, Michigan. (Used at the Alternative Pedagogies Project Workshops, SCCC, Seattle, WA, 1988-91)

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