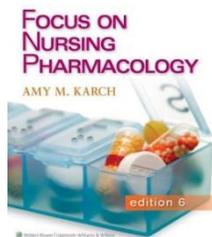
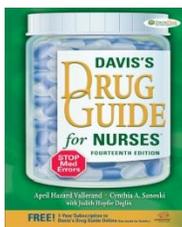


	<p align="center"><b>RNSG 1018</b>  <b>Pharmacological Concepts &amp; Drug Calculation</b>  <b>COURSE SYLLABUS</b>  <b>Fall Semester 2015</b></p>
<p><b>Semester: Fall 2015</b></p>	<p><b>Instructor: Donna Jean Braddy MSN, RN</b>  <b>(Another ASN instructor may fill in and teach at any time)</b></p>
<p><b>Course Title: Pharmacological Concepts &amp; Drug Calculation</b></p>	<p><b>Office Hours:</b>  <b>M,T,W,R: 7am-9am; 3:00-5pm</b></p>
<p><b>Course Number: RNSG 1018</b></p>	<p><b>Office Location:</b>  <b>HSAW Room 124</b></p>
<p><b>Credit Hours/ Minutes: 4/3750</b></p>	<p><b>Email Address:</b>  <b>dbraddy@southeasterntech.edu</b></p>
<p><b>Class Location: Health Science Annex West Classroom 1</b></p>	<p><b>Phone: 912-538-3172</b></p>
<p><b>Class Meets: Wednesdays</b>  <b>9:00 A.M.-12:00 noon / 1:00 P.M. -3:00 P.M.</b>  <b>Clinical rotations will begin July 15, 2015.</b>  <b>Please see clinical schedule for specifications.</b></p>	<p><b>Fax Number: 912-538-3259</b></p>
<p><b>CRN: 20210</b></p>	<p><b>Tutoring Hours: please schedule an appointment</b></p>

**REQUIRED TEXT:**

1. Vallerand, A & Sanoski, C. (2014). *Davis's Drug Guide for Nurses® 14th Edition*. Davis Company, F. A.
2. Karch, A. (2013). *Focus on nursing pharmacology (6<sup>th</sup> ed.)* and PrepU. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins.
3. ATI testing web service



**REQUIRED SUPPLIES & SOFTWARE:** pen, pencil, paper, large 3 ring binder, highlighter, computer access, ear phones (for ATI skills Modules), large spiral notebook, and calculator

**COURSE DESCRIPTION:** This course introduces the student to basic principles of pharmacology and the basic mathematical concepts utilized in calculating medication dosages for safe administration to patients throughout the lifespan. The concepts of legal implications, pharmacokinetics, pharmacodynamics, therapeutic effects, adverse effects, factors affecting drug therapy, calculation of drug dosages, and medication preparation will be areas of focus. The student is also introduced to the role of the nurse in assessment, planning, intervention, and evaluation of the patient receiving pharmacologic therapy. Students will demonstrate competency of 100% accuracy in computation of medication dosages.

**MAJOR COURSE COMPETENCIES:**

1. Major concepts associated with pharmacology including pharmacodynamics, pharmacokinetics, therapeutic effects, adverse effects, and factors affecting drug therapy
2. Medication Administration and Calculations
3. Endocrine Agents
4. Diabetic Agents
5. Chemotherapeutic Agents
6. Autonomic Nervous System Agents
7. Respiratory Agents
8. Cardiovascular Agents
9. Immune Agents
10. Central and Peripheral Nervous Systems Agents
11. Renal Agents
12. GI Agents

**PREREQUISITE (S):** Program Admission, BIOL 2117/2117L, PSYC 2103

**COREQUISITE (S):** RNSG 1005

**COURSE OUTLINE:**

Major concepts associated with pharmacology including pharmacodynamics, pharmacokinetics, therapeutic effects, adverse effects, and factors affecting drug therapy

Order	Description	Learning Domain	Level of Learning
1	Define pharmacology	Cognitive	Remembering
2	Describe federal controlled substances	Cognitive	Remembering
3	Differentiate between generic and brand-name drugs, OTC, and prescription drugs	Cognitive	Analyzing
4	Define Drug interactions	Cognitive	Remembering
5	Explain the meaning of half-life, therapeutic index, and first-pass effect	Cognitive	Understanding
6	Outline the process of dynamic equilibrium that determines the actual concentration of a drug in the body	Cognitive	Remembering
7	Define the term adverse drug reaction and explain the clinical significance	Cognitive	Remembering
8	List types of allergic responses to drug therapy	Cognitive	Remembering
9	Discuss drug-induced tissue damage	Cognitive	Understanding
10	List the responsibilities of the nurse in drug therapy	Cognitive	Remembering
11	Discuss why children required different dosages of drugs than adults	Cognitive	Understanding
12	Explain the calculations used to determine a safe pediatric dose of a drug	Cognitive	Understanding
13	Explain the growing use of OTC drugs and the impact it has on safe medical care	Cognitive	Understanding
14	Define off-label use	Cognitive	Remembering

## Medications and Calculations

Order	Description	Learning Domain	Level of Learning
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**SUBJECT TO CHANGE**

1	Demonstrate correct medication administration using the eight rights of medication administration	Psychomotor	Guided Response
2	Demonstrate correct preparation of oral, injectable, and intravenous medication	Psychomotor	Guided Response
3	Demonstrate withdrawing medications	Psychomotor	Guided Response
4	Demonstrate preparing two medications in one syringe	Psychomotor	Guided Response
5	Demonstrate reconstitution of medications	Psychomotor	Guided Response
6	Convert between different measuring systems when given drug orders and available forms of the drug	Psychomotor	Guided Response
7	Calculate the correct dose of a drug when given examples of drug orders and available forms of the drugs ordered	Psychomotor	Complex Overt Response

**Endocrine Agents**

Order	Description	Learning Domain	Level of Learning
1	Discuss the theories of hormone action	Cognitive	Understanding
2	Outline the negative feedback system	Cognitive	Remembering
3	Describe the relationships between the hypothalamus and the pituitary gland	Cognitive	Remembering
4	Describe the mechanisms of action, indications for use, and pertinent educational needs for clients taking hypothalamic and pituitary agents	Cognitive	Remembering
5	Explain the control of the synthesis and secretion, and physiological effects of the adrenocortical agents	Cognitive	Understanding
6	Describe therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reactions and important drug-drug interactions associated with the adrenocortical agents	Cognitive	Remembering
7	Describe the mechanisms of action, indications for use, and pertinent educational needs for clients taking adrenocortical agents	Cognitive	Remembering
8	Explain the control of the synthesis and secretion of thyroid and parathyroid hormones	Cognitive	Understanding
9	Identify selected drug classifications, mechanisms of action, indications for use, and pertinent client educational needs for clients taking thyroid and parathyroid agents	Cognitive	Understanding
10	Evaluate the effects of endocrine agents on physiologic and psychological processes	Cognitive	Creating

**Diabetic Agents**

Order	Description	Learning Domain	Level of Learning
1	Describe the pathophysiology of diabetes mellitus, including alterations in metabolic pathways and changes to basement membranes	Cognitive	Remembering
2	Identify selected drug classifications, mechanisms of action, indications for use, and pertinent client educational needs	Cognitive	Understanding
3	Identify effects of diabetic agents on physiologic and	Cognitive	Understanding

**SUBJECT TO CHANGE**

	psychological processes		
4	List signs and symptoms of hyperglycemia and hypoglycemia and the treatment for each	Cognitive	Remembering

## Chemotherapeutic Agents

Order	Description	Learning Domain	Level of Learning
1	Identify selected drug classifications, mechanisms of action, indications for use, and pertinent client educational needs for clients taking antibiotics	Cognitive	Understanding
2	Evaluate effects of antibiotics on physiologic and psychological processes	Cognitive	Creating
3	Explain how an antibiotic is selected for use in a particular clinical situation	Cognitive	Understanding
4	Discuss the use of antibiotics as they are used across the lifespan	Cognitive	Understanding
5	Compare and contrast prototype drugs for each class of antibiotics with other drugs in that class	Cognitive	Analyzing
6	Outline nursing considerations for patients receiving each class of antibiotic	Cognitive	Remembering
7	Identify selected drug classifications, mechanisms of action, indications for use, and pertinent client educational needs for clients taking antivirals, antifungals, antiprotozoals, and anthelmintic agents	Cognitive	Understanding
8	Evaluate the effects of antivirals, antifungals, antiprotozoals, and anthelmintic agents on physiologic and psychological processes	Cognitive	Creating
9	Explain selective toxicity and discuss its importance in anti-infective therapies	Cognitive	Remembering
10	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with select classes of antineoplastic agents	Cognitive	Remembering
11	Discuss the use of antineoplastic drugs across the lifespan	Cognitive	Understanding
12	Compare and contrast prototype drugs for each class of antineoplastic agents with other drugs in that class	Cognitive	Analyzing
13	Outline the nursing considerations, including important teaching points, for patients receiving each class of antineoplastic agents	Cognitive	Remembering

## Autonomic Nervous System Agents

Order	Description	Learning Domain	Level of Learning
1	Outline a sympathetic response and the clinical manifestations of that response	Cognitive	Remembering
2	Describe alpha-and beta-receptors	Cognitive	Remembering
3	Outline the events that occur with stimulation of the parasympathetic nervous system	Cognitive	Remembering
4	Identify two ways the sympathetic drugs act to produce their effects	Cognitive	Understanding

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5	Describe how adrenergic blocking agents produce their effects	Cognitive	Remembering
6	Describe how cholinergic agonists and antagonists produce their effects	Cognitive	Remembering
7	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with adrenergic agonists, adrenergic antagonists, cholinergic agonists, and anticholinergics	Cognitive	Remembering
8	Outline the nursing considerations, including important teaching points, for patients receiving an adrenergic agent, an adrenergic blocking agent, a cholinergic agent, or an anticholinergic agent	Cognitive	Remembering

**Respiratory Agents**

Order	Description	Learning Domain	Level of Learning
1	Differentiate between the common conditions that affect the upper respiratory system	Cognitive	Analyzing
2	Identify three conditions involving the lower respiratory tract, including the clinical presentation(s) of these conditions	Cognitive	Understanding
3	Describe the underlying pathophysiology involved in obstructive pulmonary disease and correlate this information with the presenting signs and symptoms	Cognitive	Remembering
4	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with drugs acting on the respiratory tract	Cognitive	Remembering
5	Discuss the use of drugs that act on the respiratory tract across the lifespan	Cognitive	Understanding
6	Compare and contrast the prototype drugs with other agents in their class and with other classes of drugs that act on the respiratory tract	Cognitive	Analyzing
7	Outline the nursing considerations, including important teaching points, for patients receiving drugs acting on the respiratory tract	Cognitive	Remembering

**Cardiovascular Agents**

Order	Description	Learning Domain	Level of Learning
1	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with drugs affecting blood pressure	Cognitive	Remembering
2	Discuss the use of drugs that affect blood pressure across the lifespan	Cognitive	Understanding
3	Describe the pathophysiologic process of heart failure and the resultant clinical signs	Cognitive	Remembering
4	Explain the body's compensatory mechanisms that occur in response to heart failure	Cognitive	Understanding
5	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common	Cognitive	Remembering

**SUBJECT TO CHANGE**

	adverse reaction, and important drug-drug interactions associated with cardiotonic agents		
6	Discuss the use of cardiotonic agents across the lifespan	Cognitive	Understanding
7	Compare and contrast the prototype drugs digoxin, milrinone, and digoxin immune Fab	Cognitive	Analyzing
8	Outline the nursing considerations, including important teaching points, for patients receiving cardiotonic agents	Cognitive	Remembering
9	Discuss the use of antiarrhythmic agents across the lifespan	Cognitive	Understanding
10	Compare and contrast the prototype antiarrhythmic drugs lidocaine, propranolol, sotalol, and diltiazem with other agents in their class and with other classes of antiarrhythmic	Cognitive	Analyzing
11	Outline the nursing considerations, including important teaching points, for patients receiving antiarrhythmic agents	Cognitive	Remembering
12	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with the nitrates, beta-blockers, and calcium channel blockers used to treat angina	Cognitive	Remembering
13	Discuss the use of antianginal agents across the lifespan	Cognitive	Understanding
14	Compare and contrast the prototype drugs nitroglycerin, metoprolol, and diltiazem with other agents used to treat angina	Cognitive	Analyzing
15	Outline the nursing considerations, including important teaching points, for patients receiving drugs to treat angina	Cognitive	Remembering
16	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with the bile acid sequestrants, HMG-CoA inhibitors, cholesterol absorption inhibitors, and other agents used to lower lipid levels	Cognitive	Remembering
17	Discuss the use of drugs that lower lipid levels across the lifespan	Cognitive	Understanding
18	Compare and contrast the various drugs used to lower lipid levels	Cognitive	Analyzing
19	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with drugs affecting blood coagulation	Cognitive	Remembering
20	Discuss the use of drugs that affect blood coagulation across the lifespan	Cognitive	Understanding
21	Compare and contrast the prototype drugs aspirin, heparin, urokinase, antihemophilic factor, and aminocaproic acid with other agents used to affect blood coagulation	Cognitive	Analyzing
22	Outline the nursing considerations, including important teaching points, for patients receiving drugs used to	Cognitive	Remembering

**SUBJECT TO CHANGE**

	affect blood coagulation		
23	Discuss the use of drugs used to treat anemias across the lifespan	Cognitive	Understanding
24	Compare and contrast the prototype drugs epoetin alfa, ferrous sulfate, folic acid, and hydroxocobalamin with other agents in their class	Cognitive	Analyzing
25	Outline the nursing considerations, including important teaching points, for patients receiving drugs used to treat anemias	Cognitive	Remembering

## Immune Agents

Order	Description	Learning Domain	Level of Learning
1	List four natural body defenses against infection	Cognitive	Remembering
2	Correlate the events in the inflammatory response with the clinical picture of inflammation		
3	Outline the sequence of events in an antibody-related immune reaction and correlate these events with the clinical presentation of such a reaction	Cognitive	Remembering
4	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reaction, and important drug-drug interactions associated with each class of anti-inflammatory agents and immune modulators	Cognitive	Remembering
5	Discuss the use of anti-inflammatory agents across the lifespan	Cognitive	Understanding
6	Compare and contrast the prototype drugs for each class of anti-inflammatory drugs and immune modulators with other drugs in that class	Cognitive	Analyzing
7	Outline the nursing considerations, including important teaching points, for patients receiving each class of anti-inflammatory agents and immune modulators	Cognitive	Remembering

## Central and Peripheral Nervous Systems Agents

Order	Description	Learning Domain	Level of Learning
1	Explain what a neurotransmitter is, including its origins and functions at the synapse	Cognitive	Understanding
2	Describe the function of the cerebral cortex, cerebellum, hypothalamus, thalamus, midbrain, pituitary gland, medulla, spinal cord, and reticular activating system	Cognitive	Remembering
3	Define the states that are affected by anxiolytic or hypnotic agents	Cognitive	Remembering
4	Discuss the use of neurological agents across the lifespan	Cognitive	Understanding
5	Compare and contrast the prototype drugs for each class of anxiolytic or hypnotic drugs with the other drugs in that class	Cognitive	Analyzing
6	Outline the nursing considerations and teaching needs for patients receiving each class of anxiolytic or hypnotic agent	Cognitive	Remembering

**SUBJECT TO CHANGE**

7	Compare and contrast prototype drugs in each class of antidepressant	Cognitive	Analyzing
8	Outline the nursing considerations and teaching needs for patients receiving antidepressants	Cognitive	Remembering
9	Define the term psychotherapeutic agent and list conditions that the psychotherapeutic agents are used to treat	Cognitive	Remembering
10	Define the terms generalized seizure, tonic-clonic seizure, absence seizure, partial seizure, and status epilepticus	Cognitive	Remembering
11	Describe the current theory of the cause of Parkinson disease and correlate this with the clinical presentation of the disease	Cognitive	Remembering
12	Outline the gate theory of pain and explain therapeutic ways to block pain using the gate theory	Cognitive	Remembering
13	Discuss the use of different classes of narcotics, narcotic antagonists, and anti-migraine agents across the lifespan	Cognitive	Understanding
14	Describe the therapeutic actions, indications, pharmacokinetics, contraindications, most common adverse reactions, and important drug-drug interactions associated with neurological agents	Cognitive	Remembering
15	Outline the nursing considerations, including important teaching points, for patients neurological agents	Cognitive	Remembering
16	Compare and contrast the prototype drugs for each class of neurologic agent with other drugs in that class and other neurological drugs	Cognitive	Analyzing

**Renal Agents**

Order	Description	Learning Domain	Level of Learning
1	Explain the basic processes of the kidney and where these processes occur	Cognitive	Understanding
2	Discuss the roles of the kidney in acid-base balance, calcium, regulation, and RBC production, integrating this information to explain the clinical manifestations of renal failure	Cognitive	Understanding
3	Describe the renin-angiotensin-aldosterone system, including controls and clinical situations where the system is active	Cognitive	Remembering
4	Define the term diuretic and list the five classes	Cognitive	Remembering
5	Describe the therapeutic actions, indications, pharmacokinetics, contraindications and cautions, most common adverse reactions, and important drug-drug interactions associated with the various classes of diuretic drugs, those drugs used to treat BPH, anti-infectives, analgesics, and bladder protectants	Cognitive	Remembering
6	Discuss the prototype drugs in each class of diuretic and compare with other agents in their class	Cognitive	Understanding
7	Outline nursing considerations, including important teaching points, for patients receiving renal agents	Cognitive	Remembering

**GI Agents**

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Order	Description	Learning Domain	Level of Learning
1	Discuss the nervous system control of the GI tract	Cognitive	Understanding
2	List three of the local GI reflexes and describe clinical application of each	Cognitive	Remembering
3	Describe the steps involved in swallowing	Cognitive	Remembering
4	Discuss the vomiting reflex, addressing three factors that can stimulate the reflex	Cognitive	Understanding
5	Describe the current theories on the pathophysiological process responsible for the signs and symptoms of peptic ulcer disease	Cognitive	Remembering
6	Describe the therapeutic actions, indications, pharmacokinetics, contraindications and cautions, most common adverse reactions, and important drug-drug interactions associated with drugs used to affect the GI tract	Cognitive	Remembering
7	Discuss the drugs used to affect the GU tract across the lifespan	Cognitive	Understanding
8	Compare and contrast prototypical drugs which affect the GI tract	Cognitive	Analyzing
9	Outline nursing considerations, including important teaching points, for patients receiving drugs used to affect the GI tract	Cognitive	Remembering

**GENERAL EDUCATION CORE COMPETENCIES:** STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

All students pursuing a degree, a diploma, or a Technical Certificate of Credit with a General Education component will be required to pass the General Education Competency Exams prior to graduation.

**STUDENT REQUIREMENTS:** Students are expected to complete all exams and daily assignments. **A unit exam average of 70% or above for the unit exams must be obtained in order to take the final exam.** A course grade of 70% must be obtained in order to advance to the clinical setting and into future nursing courses.

No assignment opportunities will be given for extra credit. Any unit test grade will be entered as is to the nearest 10<sup>th</sup>. No scores will be rounded (up or down). This rule applies to every grade issued during this semester. All final averages will be recorded as is (ie a 69.9 is a 69.9).

During an examination, students are required to place all textbooks and personal property on the floor in the front of the classroom. Students will be required to rotate seats prior to testing per instructions from the instructor. No talking is allowed once the exam begins. Once the exam begins, students will not be allowed to exit the classroom until the exam is completed. Students found with their cell phone or any other personal communication device during the exam will be considered cheating; which will result in a zero for the exam.

Students must make a **100% on a calculation exam before attending clinical.** Students may take the drug calculation exam a maximum of **THREE** attempts. Each attempt will be a different but similar version.

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Power Points for RNSG 1018 will be available on the M drive: M:\BRADDY\ASN\RNSG 1018\PP Lectures by Week or M:\Associate of Science Degree in Nursing\ASN\RNSG 1018\Focus on Pharm 6th ed Karch\PP Lectures by Week

**ATI ACTIVITIES:** All ATI activities must be completed as outlined on ATI rubric. Failure to do so will result in zero points for the missed activity. No points will be awarded if the activity is not completed on time or the benchmark is not met. ATI assignments will be checked at **8:00 am** on the morning the assignment is due. If assignment is not satisfactorily completed by this time it will be considered incomplete and points will not be awarded.

**TICKET TO CLASS:** Assignments *may* be given as homework which will serve as the student's ticket into class. The student will not be allowed in class if they fail to complete the ticket to class assignment. This will count as an absence and the student will not be allowed to return to class until the assignment is completed in its entirety.

**ATTENDANCE GUIDELINES:** Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

### **ADDITIONAL ATTENDANCE PROVISIONS**

#### ***Health Sciences***

Requirements for instructional hours within Health Science programs reflect the rules of respective licensure boards and/or accrediting agencies. Therefore, these programs have stringent attendance policies. Each program's attendance policy is published in the program's handbook and/or syllabus which specify the number of allowable absences. All provisions for required make-up work in the classroom or clinical experiences are at the discretion of the instructor.

Attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least 90% of the scheduled instructional time. Time and/or work missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course.

The didactic portion of the class will meet for 30 hours. A student is allowed to miss a maximum of 3 hours. Students missing more than 3 hours will be dropped for exceeding the attendance policy. The 37.5 clinical hours are non-negotiable; missed clinical hours must be made up at the discretion of the instructor. **A physician's excuse/appropriate documentation will be required for any missed clinical time.**

**SPECIAL NEEDS:** Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Jan Brantley, Room 1208 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 912-538-3126, to coordinate reasonable accommodations.

**SPECIFIC ABSENCES:** Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

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**PREGNANCY:** Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with the Special Needs Office. Swainsboro Campus: Jan Brantley, Room 1208, (478) 289-2274 -- Vidalia Campus: Helen Thomas, Room 108, (912) 538-3126.

**WITHDRAWAL PROCEDURE:** Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

**Remember** - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

**MAKEUP GUIDELINES (Tests, quizzes, homework, projects, etc...):** A student will only be allowed to make-up one unit exam which will be given at the discretion of the instructor. **A physician's excuse/appropriate documentation will be required for the student to be eligible to take a make-up exam. A 10 point deduction will be issued if the student misses a unit exam due to an unexcused absence.** A grade of "0" will be given to all subsequent unit exams missed. The make-up exam may or may not be the same as the original exam. It may also be a different test format. If a student misses the final exam and has already used their ONE time make-up, the student will NOT be allowed to make-up the final exam; which will result in a zero for the final exam.

**ACADEMIC DISHONESTY PROCEDURE:** The STC Academic Dishonesty Procedure states *All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline.* The procedure can also be found in the *STC Catalog and Student Handbook.*

### **Procedure for Academic Misconduct**

The procedure for dealing with academic misconduct and dishonesty is as follows:

#### **--First Offense--**

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

#### **--Second Offense--**

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

#### **--Third Offense--**

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will

**SUBJECT TO CHANGE**

notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

**STATEMENT OF NON-DISCRIMINATION:** Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era or citizenship status, (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

**GRIEVANCE PROCEDURES:** Grievance procedures can be found in the Catalog and Handbook located on STC's website.

**ACCESS TO TECHNOLOGY:** Students can now access Angel, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the STC website at [www.southeasterntech.edu](http://www.southeasterntech.edu).

**TCSG GUARANTEE/WARRANTY STATEMENT:** The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

Grading Scale	Grading Procedure
A: 90-100 B: 80-89 C: 70-79 D: 60-69 F: 0-59	<b>Drug Calculation HW 10%</b> <i>(See Medication Competency Homework)</i>  <b>ATI Activities 10%</b> <i>(As outlined on ATI Activities Rubric- Must score a passing grade on activities)</i>  <b>Drug Info Sheets 10%</b> <i>(As outlined on Drug Sheets)</i>  <b>Unit Exams 40%</b>  <b>Drug Calculation 10%</b> <b>Lab Competency Exam</b>  <b>Final Exam 20%</b>  <b>100% Drug Calculation P/F</b>

**Each student's final course grade will be determined as follows:**

<b>Drug Calculation Homework</b>	<b>Total Points x 0.10 =</b> _____
<b>ATI Activities</b>	<b>Total Points X 0.10 =</b> _____
<b>Drug Info Sheets</b>	<b>Total Points X 0.10=</b> _____
<b>Unit Exams</b>	<b>Total Points X 0.40 =</b> _____

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**Drug Calculation Lab Competency Exam**

**Total Points X 0.10 =** \_\_\_\_\_

**Final Exam**

**Total Points X 0.20=** \_\_\_\_\_

**100% Drug Calculation**

**Pass/Fail=** \_\_\_\_\_

**\*\* Students must make a 100% on a calculation exam before exiting RNSG 1018. Students may take the drug calculation exam a maximum of THREE attempts.**

<b>RNSG 1018</b>				
<b>Pharmacological Concepts and Drug Calculation</b>				
<b>***This lesson plan is subject to change if necessary at the instructor's discretion.</b>				
<b>FALL Semester 2014-Lesson Plan</b>				
<b>Date</b>	<b>Chapter/ Lesson</b>	<b>Content</b>	<b>Assignments and Tests</b>	<b>* Areas **Core</b>
<b>Week 1</b>  <b>Aug 19</b>	Intro	Introduction to the course	1. Complete Student Packet and course documents 2. Read assigned chapters 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	<b>* 1-2</b>  <b>** 1-3</b>
	Ch. 1	Introduction to Drugs		
	Ch. 2	Drugs and the Body		
	Ch. 3	Toxic Effects of Drugs		
	Ch. 5	Dosage Calculations		
	Ch. 6	Challenges to Effective Drug Therapy		
<b>Week 2</b>	<b>Exam 1: Chapters 1-3, 6</b>			
<b>Aug 26</b>	34	Endocrine System	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	<b>*1-4</b>  <b>** 1-3</b>
	35	Hypothalamic and Pituitary		
	36	Adrenocortical		
	37	Thyroid and Parathyroid		
	38	Control Blood Glucose Levels		
<b>Week 3</b>	<b>Exam 2: Chapters 34-38</b>			
<b>Sept 2</b>	9	Antibiotics	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 5. <b>Complete assigned ATI activity(ies)</b> 6. Lab	<b>* 2, 5</b>  <b>** 1-3</b>
	10	Antiviral		
	11	Antifungal		
	12	Antiprotozoal		
	13	Anthelmintic		
	14	Antineoplastic		
<b>Week</b>	<b>Exam 3: Chapters 9-14</b>			

<p style="text-align: center;"><b>RNSG 1018</b></p> <p style="text-align: center;"><b>Pharmacological Concepts and Drug Calculation</b></p> <p style="text-align: center;">***This lesson plan is subject to change if necessary at the instructor's discretion.</p> <p style="text-align: center;"><b>FALL Semester 2014-Lesson Plan</b></p>				
Date	Chapter/ Lesson	Content	Assignments and Tests	* Areas **Core
<b>4</b>  <b>Sept 9</b>	29	ANS	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	*2, 6  ** 1-3
	30	Adrenergic		
	31	Adrenergic Blocking		
	32	Cholinergic		
	33	Anticholinergic		
<b>Week 5</b>	<b>Exam 4: Chapters 29-33</b>			
<b>Sept 16</b>	53	Respiratory	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	*2, 7  ** 1-3
	54	Upper Respiratory		
	55	Lower Respiratory		
<b>Week 6</b>	<b>Exam 5: Chapters 53-55</b>			
<b>Sept 23</b>	42	Cardiovascular	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	*2, 8  ** 1-3
	43	Blood Pressure		
	44	Cardiotonic		
	45	Antiarrhythmic		
<b>Week 7</b>	<b>Exam 6: Chapters 42-45</b>			
<b>Sept 30</b>	46	Antianginal	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab 6. <b>1<sup>st</sup> set of drug sheets- due today!</b>	*2, 8  ** 1-3
	47	Lipid-Lowering		
	48	Blood Coagulation		
	49	Anemias		
<b>Week 8</b>	<b>Exam 7: Chapters 46-49</b>			
<b>Oct 7</b>	15	Immune Response	1. Read assigned chapters 2. Complete drug sheets/cards 3. Review associated PowerPoint(s) 4. <b>Complete assigned ATI activity(ies)</b> 5. Lab	*2, 9  ** 1-3
	16	Anti-Inflammatory, Arthritis		
	17	Immune Modulators		
	18	Vaccines and Sera		
<b>Week</b>	<b>Exam 8: Chapters 15-18</b>			

<p style="text-align: center;"><b>RNSG 1018</b></p> <p style="text-align: center;"><b>Pharmacological Concepts and Drug Calculation</b></p> <p style="text-align: center;">***This lesson plan is subject to change if necessary at the instructor's discretion.</p> <p style="text-align: center;"><b>FALL Semester 2014-Lesson Plan</b></p>				
Date	Chapter/ Lesson	Content	Assignments and Tests	* Areas **Core
<p style="text-align: center;"><b>9</b></p> <p style="text-align: center;"><b>Oct 14</b></p>	19	Nerves & Nervous	<ol style="list-style-type: none"> <li>1. Read assigned chapters</li> <li>2. Complete drug sheets/cards</li> <li>3. Review associated PowerPoint(s)</li> <li>4. <b>Complete assigned ATI activity(ies)</b></li> <li>5. Lab</li> </ol>	<p style="text-align: center;">*<b>2, 9</b></p> <p style="text-align: center;">** <b>1-3</b></p>
	20	Anxiolytic & Hypnotic		
	21	Antidepressants		
	22	Psychotherapeutic		
	23	Anti-seizure		
<p style="text-align: center;"><b>Week 10</b></p> <p style="text-align: center;"><b>Oct 21</b></p>	<b>Exam 9: Chapters 19-23</b>			
	24	Antiparkinsonism	<ol style="list-style-type: none"> <li>1. Read assigned chapters</li> <li>2. Complete drug sheets/cards</li> <li>3. Review associated PowerPoint(s)</li> <li>4. <b>Complete assigned ATI activity(ies)</b></li> <li>5. Lab</li> <li>6. <b>Medication Competency Homework Assignment is due today!</b></li> </ol>	<p style="text-align: center;">*<b>2, 10</b></p> <p style="text-align: center;">** <b>1-3</b></p>
	25	Muscle Relaxant		
	26	Narcotics, NA, & Antimigraine		
	27	General and Local Anesthetic		
	28	Neuromuscular Junction Blocking		
<p style="text-align: center;"><b>Week 11</b></p> <p style="text-align: center;"><b>Oct 28</b></p>	<b>Exam 10: Chapters 24-28</b>			
	50	Renal	<ol style="list-style-type: none"> <li>1. Read assigned chapters</li> <li>2. Complete drug sheets/cards</li> <li>3. Review associated PowerPoint(s)</li> <li>4. <b>Complete assigned ATI activity(ies)</b></li> <li>5. Lab- <b>Drug Calculation Lab Competency Exam is today!</b></li> </ol>	<p style="text-align: center;">*<b>2, 11</b></p> <p style="text-align: center;">** <b>1-3</b></p>
	51	Diuretic		
	52	Urinary Tract & Bladder		
<p style="text-align: center;"><b>TUES</b></p> <p style="text-align: center;"><b>NOV 3</b></p>	<b>1. Practice Assessment A is due today</b>			
<p style="text-align: center;"><b>Week 12</b></p> <p style="text-align: center;"><b>Nov 4</b></p>	<b>Exam 11: Chapters 50-52</b>			
	56	GI	<ol style="list-style-type: none"> <li>1. Read assigned chapters</li> <li>2. Complete drug sheets/cards</li> <li>3. Review associated PowerPoint(s)</li> <li>4. <b>Complete assigned ATI activity(ies)</b></li> <li>5. Lab</li> <li>6. <b>100% Drug Calculation Competency Exam</b></li> </ol>	<p style="text-align: center;">*<b>2, 12</b></p> <p style="text-align: center;">** <b>1-3</b></p>
	57	GI Secretions		
	58	GI Motility		
	59	Antiemetic		
<p style="text-align: center;"><b>Week 13</b></p> <p style="text-align: center;"><b>TBA</b></p>	<b>LAST CHAPTER TEST- Exam 12: Chapters 56-59</b>			<b>*1-12</b>

**SUBJECT TO CHANGE**

<b>RNSG 1018</b>				
<b>Pharmacological Concepts and Drug Calculation</b>				
<b>***This lesson plan is subject to change if necessary at the instructor's discretion.</b>				
<b>FALL Semester 2014-Lesson Plan</b>				
<b>Date</b>	<b>Chapter/ Lesson</b>	<b>Content</b>	<b>Assignments and Tests</b>	<b>* Areas **Core</b>
	<b>1:00 Tour Clinical Sites- Wear Uniforms!!!</b>			<b>** 1-3</b>
<b>Week 13 TBA</b>	Critical Thinking Exercises		<b>Group Presentations TODAY</b> 1. <b>Practice Assessment B</b> 2. <b>2nd set of drug sheets- due today!</b>	<b>*1-12 ** 1-3</b>
<b>Week 13 TBA</b>	<b>COMPREHENSIVE FINAL</b>			
<b>TBA</b>	<b>START CLINICALS</b>			

**\* Competency Areas:**

1. Major concepts associated with pharmacology including pharmacodynamics, pharmacokinetics, therapeutic effects, adverse effects, and factors affecting drug therapy
2. Medication Administration and Calculations
3. Endocrine Agents
4. Diabetic Agents
5. Chemotherapeutic Agents
6. Autonomic Nervous System Agents
7. Respiratory Agents
8. Cardiovascular Agents
9. Immune Agents
10. Central and Peripheral Nervous Systems Agents
11. Renal Agents
12. GI Agents

**\*\*General Core Educational Competencies**

1. The ability to utilize standard written English
2. The ability to solve practical mathematical problems
3. The ability to read, analyze, and interpret information

**CHANGES TO MAKE TO PAGES 17-end**

**Medication Competency Homework**  
(An answer sheet for you to write your answers on will be provided)

**The Rights of Medication Administration**

**Instructions:** Put the letter from column B in the space provided in column A that best describes the 'Right.'

<b>A</b>		<b>B</b>
1. Right Drug	_____	a. Complete and accurate recording of medication administration
2. Right Patient	_____	b. Checked with drug label and prescribed order
3. Right Dose	_____	c. Verified that the way the drug is to be administered is appropriate
4. Right Time	_____	d. Verified that drug prescribed is appropriate
5. Right Route	_____	e. Verified by two patient identifiers
6. Right Reason	_____	f. Monitored medication effectiveness
7. Right Response	_____	g. Verified time and frequency
8. Right Documentation	_____	h. Verified amount and form is appropriate

**Medication Administration Rules**

**True or False (Print Tru for True and Fal for False)**

1. You may prepare all your patient's medications at one time and then administer at the ordered time.  
\_\_\_\_\_
2. The 4<sup>th</sup> safety check is performed at the patient's bedside using a minimum of two patient identifiers.  
\_\_\_\_\_

**Metric Conversion**

**Convert the following**

1. 7 g to mg \_\_\_\_\_
2. 1200 mg to g \_\_\_\_\_
3. 23 g to kg \_\_\_\_\_
4. 8 kg to g \_\_\_\_\_
5. 8.01 L to mL \_\_\_\_\_
6. 100 mL to L \_\_\_\_\_
7. 3.6 kg to lb \_\_\_\_\_
8. 0.25 mg to mcg \_\_\_\_\_
9. 0.06 g to mcg \_\_\_\_\_
10. 250 mcg to mg \_\_\_\_\_
11. 75 mcg to mg \_\_\_\_\_
12. 462 mg to mcg \_\_\_\_\_

**SUBJECT TO CHANGE**

- 13. 400 mcg to mg \_\_\_\_\_
- 14. 20,000 mcg to g \_\_\_\_\_
- 15. 3 T to t \_\_\_\_\_
- 16. 6 T to mL \_\_\_\_\_
- 17. 120 mg to gr \_\_\_\_\_
- 18. 5 cc to mL \_\_\_\_\_
- 19. 60 mL to oz \_\_\_\_\_
- 20. 18 lb 11 oz to kg \_\_\_\_\_

**Dosage and Solution Calculations**

- 1. The LIP ordered: Digoxin 250 mcg PO every six hours. The label reads 1 tablet equals 0.25 mg. How many tablets will you administer to your patient?
- 2. The nonsteroidal medication naproxen (Naprosyn) has been prescribed for a patient, 1375 mg/day in divided doses. Each tablet contains 0.275 g. How many tablets equal this daily dose?
- 3. The order reads: Ketrolac gr 1 ½ (iss). The ampule reads 0.06 g per 1 mL. How many milliliters will you administer to the patient?
- 4. The label reads Heparin Sodium 10,000 Units/mL. The order is for Heparin 6,000 Units q 6h subQ. How many milliliters will you administer to the patient?
- 5. The LIP ordered 0.4 mL of potassium iodide expectorant. The label reads 325 mg/t. How many milligrams are contained in this dose?
- 6. The order is to give 600 mg of Ampicillin IM q8h. The directions for dilution on the 2 g vial reads: Reconstitute with 4.8 mL of sterile water to obtain a concentration of 400 mg per mL. How many mL will you administer per dose?
- 7. The LIP ordered 180 mg of Dilantin PO q8h. The patient weighs 98 lb. The label of the drug reads 250 mg per 5 mL. How many milliliters will you administer to this patient per dose?
- 8. The LIP ordered Amoxicillin 10 mg IM q6h. Amoxicillin is supplied in 125 mg per 5 mL. How many milliliters will you administer per dose?
- 9. The patient receives Keflex oz ½ (ss) PO q 6h. Keflex oral suspension is ordered because he is not able to swallow pills. Keflex oral suspension is available as 125 mg per 5 mL.
  - a. What is the dose in mg?
  - b. How many T is this?
- 10. Ordered: Atropine 0.6 mg IM. Label reads 0.3 mg per 0.5 mL. How many milliliters will you give per dose?
- 11. A 78 kg adult weighs how many pounds?

**SUBJECT TO CHANGE**

12. How many mL are required to give 10 mg of Morphine Sulfate subQ from a 10-mL vial of Morphine Sulfate labeled 15 mg/mL?
13. How many mL are needed to give 1 gram of a medication PO, if the liquid preparation is labeled "250 mg/5mL?"
14. The LIP ordered 0.5 mg digoxin, and we have 0.25 mg tablets on hand. How many tablets should be given?
15. The LIP has ordered 60 mEq of Potassium Chloride to be given intraoperatively. The drug comes in liquid form and the vial is labeled "40 mEq/20 mL." How many mL should be added to a liter bag of IV fluids?
16. You are to give sodium methicillin to a hospitalized patient with a moderate infection. The ordered dosage is 1 gram IM q 6 hr. You have on hand a vial labeled "Sodium Methicillin 4 G –inject 5.7 mL sterile water to yield 8 mL of solution. Reconstituted solution is stable for 4 days under refrigeration."
  - a. How much must the nurse draw up for one dose of one gram?
  - b. If the nurse reconstituted the medicine on 09/11/2014 at 1000, what should the expiration date noted on the vial?
17. Digoxin is used in a pediatric dose of 0.01 mg/kg every 12 hr. It is available in 2 mL ampules containing 0.5 mg. A 66-pound child would require how many mL of the above solution in 48 hours?
18. Give Disodium Carbenicillin q 6 h IM to a child weighing 33 pounds. The dosage for this drug is 100 mg/kg/day. Determine the appropriate dosage that should be given to a child each time the drug is given?
19. The LIP has ordered 15,000 units of Heparin. The vial on hand contains 20,000 units/mL. How many mL is a single dose?
20. A 60-pound pediatric patient is hospitalized with a respiratory tract infection. The LIP has ordered 500 mg of ampicillin trihydrate orally q 6 hr. The bottle is labeled "Ampicillin Trihydrate 10 grams-add 130 mL of water to yield 200 mL of suspension." How many mL of the suspension must the nurse pour to provide one dose of 500mg?
21. Dilaudid comes in ampules of 0.001 grams/mL In order to give your patient 2 mg of Dilaudid, how many mL must you administer?
22. Colace 200 mg is ordered for your patient. You have available an oral liquid labeled: Colace 0.05 g/5 mL. How many mL will you give the patient?
23. The LIP ordered 0.125 mg of digoxin by IV injection. On hand is 0.5 mg/2mL How many mL will you draw up for the injection?
24. The LIP ordered Nebcin 20 mg IM q 8 hr. The drug is available 80 mg/2mL. How much will you draw up for this injection?
25. As a preoperative medication, the patient is to receive 40 mg of hydroxyzine (Vistaril®) IM. The drug is available 100 mg/2mL. How many mL will you draw up to administer this injection?
26. On hand is a vial of sterile powder labeled: Omnipen-500 mg. The directions say to add 1.8 mL of sterile diluent to provide a solution containing 250 mg/mL of the drug. The LIP ordered 375 mg for his patient. How many mL will you draw up to give this dosage?

**SUBJECT TO CHANGE**

27. Povan is to be given for pinworms: 5mg/kg of body weight. The patient weighs 30 kg. Form available: Oral suspension with 50 mg/5mL. How much should be given per dose?
28. Drug Order: Penicillin G potassium 500,000 Units q 6 hr. The drug is available in a vial containing 1,000,000 Units of powder. If powder is dissolved in 3.6 mL of sterile water, there will be 250,000 U/mL. How many mL should be given per dose?
29. A child weighs 25 lb. The LIP ordered Augmentin 550 mg PO q 8 hours. Information in the drug handbook notes 'children < 40 kg receive 20 mg to 45 mg/kg daily in divided doses q 8 – 12 hours.' Is the dose in the safe range and why do you think this?
30. Write a recipe for the order 'clean sacral wound with 4 ounces of ½ strength acetic acid q 6 h x 2 days.'
31. The physician orders Tegretol (carbamazepine) 15mg/kg bid PO. Supply: Tegretol 100mg/5ml. Patients weight: 30 lbs. How many milliliters should be administered for one dose?
32. A 10 year-old girl weighs 55 lb, and the average adult dose of an antibiotic is 500 mg. Use Clark's Rule and calculate the child's dose.
33. For question # 34, calculate child's dose using Young's Rule.

**IV Calculation Problems**

1. The LIP ordered 20,000 units of Heparin to be placed in 1000 cc of D5W. Infuse at the rate of 600 units each hour. The IV pump should be set to run at \_\_\_\_\_ mL /h.
2. The order was written to add one (1) gram of Aminophylline to 1000 mL of D5W to infuse at the rate of 40 mL per hour. The patient will receive \_\_\_\_ mg of the drug each hour.
3. The LIP ordered 500 mg of Morphine to be placed in 1000 mL of D5W. The order was written to infuse at the rate of 37 mg per hour. The hourly rate should be set to infuse at \_\_\_\_\_ mL per hour.
4. The patient has an infusion of morphine 100 mg in 1000 mL of D5W. The infusion rate is 40 mL per hour. How many milligrams of morphine will the patient receive each hour?
5. The LIP ordered 40,000 units of heparin to be placed in 1000 mL of D5W to be given at 40 mL per hour.
  - a. How many units of Heparin in 1 mL of solution?
  - b. How many units of Heparin will the patient receive each hour?
  - c. How many hours will it take to infuse the total amount?
6. Order: 10,000 Units of Heparin in 500 mL of D5W to be infused at 800 Units per hour.
  - a. How many units of Heparin in 1 mL of the solution?
  - b. How many mL per hour will be infused?
  - c. How long to infuse the entire solution?

**SUBJECT TO CHANGE**

7. In IV problem #6, the order was written at 8 am. At 1:00 PM, the LIP writes the following change in the 8 am order: Give the Heparin solution at a rate of 75 mL per hour.
  - a. How long will it take to infuse the remaining solution?
  - b. How many units of heparin will the patient receive each hour?
8. The LIP orders cephalothin sodium (Keflin®) 6 grams to be diluted in 500 mL of D5W. You are to deliver 125 mL IV every 6 hrs. Calculate the number of grams to be given in each dose.
9. The LIP orders Potassium chloride (KCL) 30 mEq in 1000 mL NS to infuse in 8 hours. How many mL per hour will you set the standard pump?
10. The LIP orders 1000 mL of LR IV to be infused at 140 mL/h. How long will it take to infuse?
11. The LIP orders 200 mL/h of an IV to be administered for 8 hours. What is the total volume infused?
12. The LIP orders 2000 mL of 0.9% NS IV at a rate of 40 dpm. The tubing is calibrated at 15 gtt/mL. How long will it take for the IV to infuse?
13. You have 1000 D5W with 20 mEq KCL infusing at 40 mL/h through a standard pump IV line (15gtt/mL). How many mEq an hour of KCL is your patient getting?
14. You do not have a pump for the infusion order for Question 13. How many gtt per minute will your patient need to get the infusion as ordered?
15. Your patient has 500 mL NS with 10 mEq of KCL infusing via gravity drip at KVO (30 gtt/min). The drop factor for the tubing on hand is 15 gtt/mL. When will it be completed if the infusion was started at 0800?
16. How many mEq of KCL per hour is your patient getting in question 15?
17. 1000 mL of D5W is to infuse over 8 hours. After three hours, there are 625 mL remaining in the bag. Does a new flow rate need to be calculated and why?
18. Ordered: dopamine 5 mcg/kg/min initially and then titrate up to 7 mcg/kg/min. The pharmacy sends up the following IV bag - dopamine 400 mg/250 mL NS. The patient weighs 220 lb. Calculate
  - a. the initial hourly rate and
  - b. the titration rate at 7 mcg/kg/min.
19. The LIP orders Nipride 3mcg/kg/min to keep SBP < 140mmHg. The pharmacy supplies this in a 250mL bag of D5W that contains 50 mg of the drug. The patient weighs 56 kg. Compute
  - a. The dosage in mcg/min
  - b. Infusion rate in mL/h
20. The LIP orders drug A 12.5 g IV Q 8 hours. You obtain from the Pyxis a 50 mL vial of 25% drug A. How many
  - a. mL will you administer
  - b. vials will you use

**SUBJECT TO CHANGE**

21. Order reads 40 g of medication IV. Pharmacy sends 50 mL of 25% solution. How many mL do you need?
22. The LIP ordered: 250 mL 5% D/W with 60 mg Aredia 0.0006 mg/kg/min IVPB. The patient weighs 75 kg, and the drop factor is 20 gtt/mL. Calculate the flow rate for this antihypercalcemic drug in drops per minute.
23. A child is to receive 300 mg of medication every 12 hours. The recommended dosage is 50-75 mg/kg/day. The patient weighs 18 lb, 11 oz. How many mg per day is the patient receiving based on the order?
24. Calculate the safe dosage range for this child in Q #23.
25. A diabetic patient is to receive an infusion of insulin at 12 units/h. The nurse prepares a 250 mL bag of NS with 100 units of regular insulin. What is the infusion rate in mL/h?

### ATI Activities Rubric-All IN Tutorials & Practice Assessment Sections

Week	Lecture Pharmacology Made Easy 3.0 Lessons/Test 10 Points Each	Lab Dosage Calculation and Safe Medication Administration 2.0 Lessons 10 Points Each	Practice Assessments 15 Points Each	Total Possibl e Points	Points Earned
1	Introduction	Safe Dosage Test		20	
2	Endocrine ***Start Musculoskele- tal	Medication Administration Test		20	
3	Infection/ **Start Immune	Oral Medications Test		20	
*4	Start Neurological-2	Injectables Test		20	
5	Respiratory	Powdered Test		20	
6	Cardiovascular	Parenteral Test		20	
7	Hematologic	Dosage by Weight Test		20	
8	**Complete Immune *** Continue Musculoskele- tal	Pediatric Test		20	
*9	Neurological-1 Finish Neurological-2	Critical Care Test		20	
10	***Finish Musculoskele- tal			10	
11	Genitourinary			10	
12	Gastrointesti- nal		Practice Assessment A	25	
13			Practice Assessment B	15	
14					
15				240	

**SUBJECT TO CHANGE**

Week	Lecture Pharmacology Made Easy 3.0 Lessons/Test 10 Points Each	Lab Dosage Calculation and Safe Medication Administration 2.0 Lessons 10 Points Each	Practice Assessments 15 Points Each	Total Possibl e Points	Points Earned
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There are a total of 240 points assigned for all completed ATI activities which account for 24 points (10%) toward your final grade. In order for you to receive the full 24 points, you must complete all assignments and score a passing grade. To provide evidence of completion, please print 'Module Time Summary'/'Test Time Summary' records and present to your instructor.



Week

\*\*\*We

\*\* We

Week	Pharmacology Made Easy 3.0 Lessons/Test 10 Points Each	Dosage Calculation and Safe Medication Administration 2.0 Lessons 10 Points Each	15 Points Each	Possible Points	Earned
*4	Neurological-2	Injectables Test		20	Your 10 points for the Neuro 2 Lesson/ Test will be awarded after week 9
*9	Neurological-1 Neurological-2	Critical Care Test		20	Your 10 points for the Neuro 1&2 Lesson/ Test will be awarded after week 9

For Week 4 Assignments, you will still need to watch the module and complete the test for the **Dosage Calculation and Safe Medication Administration 2.0 Injectables**.

For the **Lecture Pharmacology Made Easy 3.0**, you will need to watch the **Neurological-2**, you will need to watch:

- INTRODUCTION
- DRUG THERAPY FOR GLAUCOMA

## **SUBJECT TO CHANGE**

You will also need to watch Neurological-1 parts:

INTRODUCTION

DRUGS THAT TREAT ALZHEIMER'S DISEASE

The *remaining parts* of **Neurological-1 & 2** will need to be watched during week 9. **Both tests** will need to be completed at this time.

After week 9, you can turn in your completed **Lecture Pharmacology Made Easy 3.0 Neurological-1 & 2 MODULES and TESTS to get full credit for both parts.**

### **Drug Sheets:**

There are specific drugs that you are assigned to write-up throughout the course. The drug sheets will be graded and will count for 10% of your grade. The 1<sup>st</sup> set of drug sheets (Endocrine through Cardiovascular A) is due by **week 7 (10/01/2014)**. **Failure to turn in drug information by deadline will result in a grade of "0" for this assignment.** The 2<sup>nd</sup> set of drug sheets (Cardiovascular B through GI) is due by **week 13 (11/12/2014)**. **Failure to turn in drug information by deadline will result in a grade of "0" for this assignment. (Remember this is 10% of your grade).**

1. The list of drugs that is required for this assignment is located on page 2.
2. The ATI Medication Template Sheet is to be utilized to capture required drug information for selected drugs. ATI's Medication Template is located on page 3. This template is also available in a writable PDF format which will be made available to you.
3. A Completed Medication Template Sheet is located on page 4.
4. **ALL INFORMATION ENTERED ONTO TEMPLATE MUST BE HANDWRITTEN.**

**Drug Assignments**

<b>Week 2</b>	<b>Endocrine</b>	<b>Actos, Baraclude, DDAVP, Deltasone, DiaBeta, Diabinese, Florinef, Genotropin, Glucagon, Glucophage, Glucotrol, Humalog, Humulin N, Humulin R, <sup>131</sup> I, Januvia, Lantus, Lugol's Solution, Lupron, Nutropin, Orinase, Parlodel, Precose, Propylthiouricil, Starlix, Symlin, Synthroid, Vasopressin</b>
<b>Week 3</b>	<b>Chemotherapeutic</b>	<b>Adiamycin, Aralen, Augmentin, Azactam, Ceclor, Cipro, Diflucan, Elspar, Flagyl, Floxin, Fuzeon, Garamycin, Gleevec, INH, Keflex, Leukeran, Maxipime, Norvir, Oncovin, Penicillin G, Primaxin, Retrovir, Rifadin, Rocephin, Septra, Soltamox, Sumycin, Sustiva, TMP-SMZ, Trexall, Unipen, Vancocin, Vermox, Vibramycin, Zithromax, Zosyn, Zovirax</b>
<b>Week 4</b>	<b>ANS</b>	<b>Aricept, Atropine, Cardura, Cordarone, Corgard, Detrol, Duvold, Inderal, Intropin, Isuprel, Mestinon, Normodyne, Neo-Synephrine, Regitine, Tenormin</b>
<b>Week 5</b>	<b>Respiratory</b>	<b>Accolate, AeroBid, Atrovent, Benylin, Mucinex, Pretz-D, Proventil, Pulmicort, Pulmozyme, Sudafed, Survanta, Sus-Phrine, Truphylline, Vistaril, Zyrtec</b>
<b>Week 6</b>	<b>Cardiovascular A</b>	<b>Acupril, Altace, Capoten, Cardizem, Cordarone, Cozaar, Inderal, Lanoxin, Lidocaine, Lotensin, Monopril, Nitropress, Primacor, Tenormin, Vasotec, Xylocaine, Zestril</b>
<b>Week 7</b>	<b>Cardiovascular B</b>	<b>Amicar, Aspirin, Bioclote, Coumadin, Droxia, Epogen, Feosol, Folvite, Fragmin, Heparin, Hydro-Crysti-12,</b>

**SUBJECT TO CHANGE**

		Lipitor, Lovenox, Nitro-Bid, Plavix, Questran, Toprol, Urokinase, Vit K, Zetia
Week 8	Immune	Aspirin, Celebrex, Comvax, DTaP, Enbrel, H1N1, HibTITER, Humira, Immune globulin, Indocin, Menomune-A/C/Y/W-135, M-M-RII, Mobic, Motrin, Neupogen, Orthoclone OKT3, Pediarix, Proleukin, Ridaura, Sandimmune, Tylenol
Week 9	Central and Peripheral Nervous System A	Benadryl, BuSpar, Clozaril, Depakote, Dilantin, Elavil, Haldol, Klonopin, Librium, Lithotabs, Luminal, Nardil, Prostigmin, Prozac, Ritalin, Tegretol, Thorazine, Valium, Wellbutrin, Xanax, Zarontin
Week 10	Central and Peripheral Nervous System B	Anectine, Cogentin, Dantrium, Ergotamine, Fluothane, Imitrex, Levodopa, Lioresal, Midazolam, Narcan, Nitrous Oxide, Pavulon, Pentothal, Roxanol, Talwin, Xylocaine
Week 11	Renal	Aldactone, Azo-Standard, Cardura, Diamox, Ditropan, Elmiron, HydroDIURIL, Lasix, Noroxin, Osmitrol
Week 12	GI	Agoral Plain, Amitiza, Amphojel, Antivert, Azulfidine, Carafate, Citrate of Magnesia, Compazine, Cytotec, Decadron, Emend, Imodium, Imuran, Lotronex, Milk of Magnesia, Neoloid, Nexium, Pancrease, Prilosec, Reglan, Sodium Bicarbonate, Tagamet, Zofran

# Medication



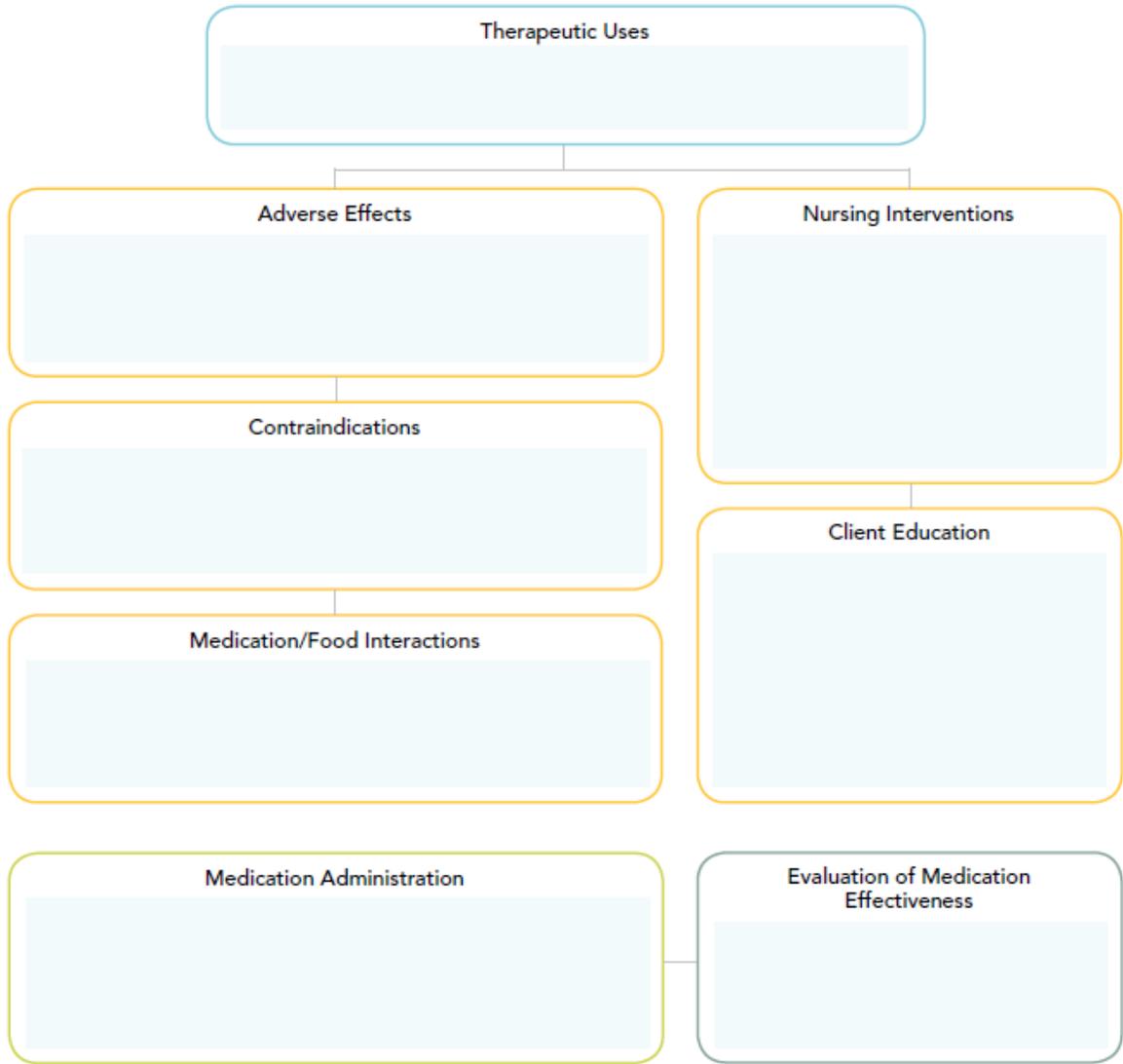
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