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| **Semester: Summer 2015** | **Instructor: Kimberly Brown, BSHS, CHES, CMA(AAMA), CCS-P** |
| **Course Title: Pharmacology in the Medical Office** | **Office Hours: 4:00 p.m. – 6:00 p.m. M-R** |
| **Course Number: MAST 1030** | **Office Location: Building 8, Room, 8168** |
| **Credit Hours/ Minutes: 4/3000 minutes** | **Email Address: kbrown@southeasterntech.edu** |
| **Class Location: Building 8, Room 8166**  | **Phone: 478-289-2243** |
| **Class Meets: 12:00-1:45 p.m. M-R** | **Fax Number:**  |
| **CRN: 60180** |  |

REQUIRED TEXT: Focus on Pharmacology Moini (Pearson) ISBN# **9780133059281**

 Dosage Calculations Pickar/Abernathy (Cengage) (This can only be purchased in the STC Bookstore)

 Drug Handbook ISBN# 9781133280309



REQUIRED SUPPLIES & SOFTWARE: 3 ring notebook, paper, Index cards, ink pens, No. 2 pencils, highlighters, and any other supplies deemed necessary throughout the semester

COURSE DESCRIPTION:

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| Introduces medication therapy with emphasis on safety; classification of medications; their actions; side effects; medication and food interactions and adverse reactions. Also introduces basic methods of arithmetic used in the administration of medications. Topics include: introductory pharmacology; dosage calculation; sources and forms of medications; medication classification; and medication effects on the body systems. |
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MAJOR COURSE COMPETENCIES:

1. Introductory Pharmacology
2. Dosage Calculation
3. Sources and Forms of Medications
4. Classification of Medications
5. Medication effects on the body

**PREREQUISITE(S):** ENGL 1010, MATH 1012, PSYC 1010, ALHS 1011, ALHS 1040, ALHS 1090, COMP 1000, MAST 1080, MAST 1100, MAST 1120

**COURSE OUTLINE:**

**Introductory Pharmacology**

1. Discuss the history and evolution of the pharmacology from primitive times to present.
2. Demonstrate the use of common reference sources in pharmacology (ie. Drug guides, internet sources, etc.)

**Dosage Calculation**

1. Demonstrate knowledge of basic math computations.
2. Apply mathematical computations to solve equations.
3. Identify measurement systems.
4. Define basic units of measurement in metric and household systems.
5. Establish metric equivalents that are most frequently used in the medical field.
6. Compute conversions among measurement systems.
7. Identify both abbreviations and symbols used in calculating medication dosages.
8. Calculate medication dosages using proportional method.
9. Calculate medication dosages using a formulaic method.
10. Calculate pediatric medication dosages by various rules.

**Sources and Forms of Medications**

1. Determine the main sources of medications.
2. Interpret the importance of the Federal Food, Drug, and Cosmetic Act/Controlled Substance Act of 1970.
3. Recognize reasons for standardization of medications.
4. Examine factors that determine the dosage of patient’s medication.
5. Describe the forms in which medications are prepared.
6. Establish classified action of medications.

**Classification of Medications**

1. Classify reasons for administering medications by inhalation.
2. Distinguish medications that can be administered by local application.
3. Examine methods used in radiation diagnostic and therapeutic applications.
4. Assess the safety precautions to be observed when caring for a patient receiving radiation.
5. Examine the importance of government regulations with regard to radioactive substances.
6. Correlate the factors that may determine the effectiveness of an antiseptic and/or disinfectant.
7. Classify antimicrobial medications as broad-spectrum, narrow-spectrum, and/or extended-spectrum.
8. Relate adverse effects that may occur with administration of an antimicrobial medication.
9. Classify the actions, uses, contraindications, adverse reactions, dosages, routes, and implications of selected antimicrobial medications.
10. Differentiate between active and passive immunization processes.
11. Characterize the general recommendations for immunizations.
12. Characterize the classification of antineoplastic agents.
13. Recognize situations when chemotherapy is the treatment of choice for cancer.
14. Examine guidelines for handling antineoplastic agents.
15. Characterize the classification of psychotropic agents.
16. Recognize foods/beverages that should be avoided when taking monoamine oxidase inhibitors.
17. Examine selected nutritional supplements, vitamins, minerals, and herbal preparations.
18. Classify the actions, uses, contraindications, adverse reactions, dosages, routes, and implications of selected anti-anxiety, antipsychotic, and antimanic drugs.
19. Classify the actions, uses , contraindications, adverse reactions, dosages, routes, and implications of selected nutritional supplements, vitamins, minerals and herbal preparations.

**Medication Effects on the Body Systems**

1. Describe the relationship between the anatomy and physiology of all body systems and medications used for treatment in each.
2. Classify the action, initial dose, the usual maintenance dose, and adverse reactions for each medication as applies to each body system.
3. Recognize the side effects of radiation therapy.
4. Articulate examples of adverse reactions associated with antineoplastic agents
5. Demonstrate patient education as applies to each body system and the medications used for each body system.

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: All students are responsible for policies and procedures in the *STC-E Catalog and Handbook.* All students are expected to demonstrate preparation for class by having assigned text readings completed prior to class time. All tests, assignments, and learning activities are to be completed according to the lesson plans/calendar per the instructor’s directions. The student is completely responsible for all assignments given and for material missed when absent. The lowest exam grades are NOT dropped.

ASSIGNMENTS: This lesson plan is subject to change at the instructor’s discretion. Late assignments are assessed 10 points each day. Three days past the due date, the assignments are not accepted, a grade of zero is assigned. It is the student’s responsibility to make sure all assignments are completed and submitted by these dues dates. Points will be deducted for failure to follow directions. Proper heading must be included on all materials handed in. This includes first name, last name, date, course, and assignment name. Failure to include this information will result in a five point deduction.

Students must pass a drug calculation exam with 100% accuracy to complete the course. Students will be given three opportunities to achieve 100% on the exam. Students that do not pass the drug calculation exam with 100% accuracy will receive a grade of “F” for the course.

On pages 665-667 in FOCUS ON PHARMACOLOGY text book, you will see the most commonly prescribed drugs in the United States. Drug sheets on each drug are to be turned in on the designated date unless otherwise informed by your instructor. If you do not turn your drug sheets in on the designated date at the beginning of class, you will receive a “0”.

A final unit test average of 75 or above is required to sit for the final exam. Grades of 74.9 will not be rounded up. If you have below a 75 average, you will receive a “0” for your final test grade.

**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 and Cosmetology 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.

**For this class, which meets \_\_\_\_\_ days a week for \_\_\_\_\_ weeks, the maximum number of days a student may miss is \_\_\_\_ days during the semester.**

**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.

**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 accessed 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:** If an exam is missed, the student will be allowed to take make-up exams during one day at the end of the semester (date to be scheduled by the instructor) with proper documentation. There will be NO exceptions to this policy.

If a skills check-off is missed, the student is completely responsible for arranging make-up lab time at the instructor’s convenience. Lowest exam grades are not dropped. Students are responsible for keeping up with their grades. Do not ask instructor for grades during the semester.

**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 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).

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| **GRADING POLICY**Tests 65%Workbooks 5%Drug Sheets 5%Final Exam 25%Total 100%Drug Calculations Pass/Fail | **GRADING SCALE**A: 90-100B: 80-89C: 70-79D: 60-69F: 0-59 | **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.* |

**Critical Thinking Core Curriculum for Medical Assistants (MAERB) 2008 Curriculum Plan**

**Foundations for Clinical Practice**

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| **I.C Cognitive (Knowledge Base)** |  **I. P Psychomotor (Skills)** | **I. A Affective (Behavior)** |
| 1. **Anatomy & Physiology**
2. **Identify body systems.**
3. **List major organs in each body system.**
4. **Describe the normal function of each body system.**
5. **Identify common pathology related to each body system.**
6. **Discuss implications for disease and disability when homeostasis is not maintained.**
7. **Describe implications for treatment related to pathology.**
8. **Identify the classifications of medications, including desired effects, side effects and adverse reactions.**
9. **Describe the relationship between anatomy and physiology of all body systems and medications used for treatment in each.**
 | 1. **Anatomy & Physiology**
2. **Select proper sites for administering parenteral medication.**
 | 1. **Anatomy & Physiology**
2. **Apply critical thinking skills in performing patient assessment and care.**
3. **Use language/verbal skills that enable patients’ understanding.**
4. **Demonstrate respect for diversity in approaching families.**
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| **II.C Cognitive (Knowledge Base)** | **II.P Psychomotor (Skills)** | **II.A Affective (Behavior)** |
| 1. **Applied Mathematics**
2. **Demonstrate knowledge of basic math computations.**
3. **Apply mathematical computation to solve equations.**
4. **Identify measurement systems.**
5. **Define basic units of measurement in metric, apothecary, and household systems.**
6. **Convert among measurement systems.**
7. **Identify both abbreviations and symbols used in calculating medication dosages.**
8. **Analyze charts, graphs and/or tables in the interpretation of healthcare results.**
 | 1. **Applied Mathematics**
2. **Prepare proper dosages of medication for administration.**
 | 1. **Applied Mathematics**
2. **Verify ordered doses/dosages prior to administration.**
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| **III.C Cognitive (Knowledge Base)** | **III.P Psychomotor (Skills)** | **III.A Affective (Behavior)** |
| 1. **Applied Microbiology/ Infection Control**
 | 1. **Applied Microbiology/Infection Control**
 | 1. **Applied Microbiology/ Infection Control**
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**Safety and Emergency Practices**

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| **XI.C Cognitive (Knowledge Base)** |  **XI. P Psychomotor (Skills)** | **XI. A Affective (Behavior)** |
| 1. **Protective Practices**
2. **Describe personal protective equipment.**
3. **Identify safety techniques that can be used to prevent accidents and maintain a safe work environment.**
 | 1. **Protective Practices**
2. **Evaluate the work environment to identify safe vs. unsafe working conditions.**
3. **Use proper body mechanics.**
 | 1. **Protective Practices**
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| **MAST 1030- Pharmacology in the Medical Office****Summer Semester 2015****Lesson Plan** |
| Date | Ch/Less | Content | Assignments/Tests | \*Competency Area |
| May 20 | Focus on Pharm12 | First day of class Introduction to Course—Syllabi, Outline, Rules, Regulations Coverage; Completion of FormsReview Drug Sheet completionIntroduction to Principles of PharmacologyLaw and Ethics of Medication Administration | Reading Assignment: Chapter 1Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| May 21 | 34 | Terminology, Abbreviations, and Dispensing PrescriptionsAdministration of Medications | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| May 25 |  | HOLIDAY |  |  |
| May 26 | 1-4 | **Exam 1 – Chapters 1-4** | **Workbook Due** | 1, 3, 4, 5a, c |
| May 27 | Dosage Calcs | Math Review TestBE PREPARED!!! | Complete odd exercises in Chapters 1-4 in Dosage Calculations Book | 2, 3, 4, 5a, b, c |
| May 28 | 678 | Equipment used in Dosage MeasurementInterpreting Drug OrdersUnderstanding Drug Labels |  | 2, 3, 4, 5a, b, c |
| June 1 | 1011 | Oral Dosage of DrugsParenteral Dosage of Drugs |  | 2, 3, 4, 5a, b, c |
| June 2 | 1213 | Reconstitution of SolutionsPediatric and Adult Dosages |  | 2, 3, 4, 5a, b, c |
| June 3 |  | Drug Calculations Test |  | 2, 3, 4, 5a, b, c |
| June 4 |  | Drug Calculations TestDrug Sheets |  | 2, 3, 4, 5a, b, c |
| June 8 | FOP91011 | Nutritional Aspects of Pharmacology and Herbal SubstancesToxicologySubstance Abuse**Drug Sheets 1-25 Due** | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 9 | 9-11 | **Exam 2 – Chapters 9-11** | **Workbook Due** | 1, 3, 4, 5a, c |
| June 10 | 12 | Antibacterial and Antiviral Agents |  | 1, 3, 4, 5a, c |
| June 11 | 13 | Antifungal, Antimalarial, and Antiprotozoal Agents | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 15 | 12-13 | **Exam 3 – Chapters 12 & 13** | **Workbook Due** | 1, 3, 4, 5a, c |
| June 16 | 1415 | Vaccines and ImmunoglobulinsAnalgesic, Antipyretic, and Anti-Inflammatory Drugs | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 17 | 16 | Antineoplastic Agents | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 18 | 14-16 | **Exam 4 – Chapters 14-16****Drug Sheets 26-50 Due** | **Workbook Due** | 1, 3, 4, 5a, c |
| June 22 | 17 | Drugs Used to Treat Central Nervous System Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 23 | 18 | Drugs Used to Treat Autonomic Nervous System Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 24 | 19 | Anesthetic Agents | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” and Workbook | 1, 3, 4, 5a, c |
| June 25 | 17-19 | **Exam 5 – Chapters 17-19** | **Workbook Due** | 1, 3, 4, 5a, c |
| June 29-July 2 |  | **SUMMER BREAK** |  |  |
| July 6 | 21 | Drugs Used to Treat Cardiovascular Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 7 | 2223 | Drugs Used to Treat Vascular ConditionsAnticoagulants | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 8 | 21-23 | **Exam 6 – Chapters 21-23** |  | 1, 3, 4, 5a, c |
| July 9 | 24 | Drugs Used to Treat Fluid and Electrolyte Imbalances | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 13 | 27 | Drugs Used to Treat Gastrointestinal Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 14 | 24, 27 | **Exam 7 – Chapters 24 & 27****Drug Sheets 51-75 Due** |  | 1, 3, 4, 5a, c |
| July 15 | 25 | Drugs Used to Treat Endocrine Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 16 | 26 | Drugs Used to Treat Reproductive Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 20 | 25, 26 | **Exam 8 – Chapters 25 & 26** |  | 1, 3, 4, 5a, c |
| July 21 | 28 | Drugs Used to Treat Respiratory Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 22 | 29 | Drugs Used to Treat Musculoskeletal Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 23 | 28, 29 | **Exam 9 – Chapters 28 & 29** |  | 1, 3, 4, 5a, c |
| July 27 | 20 | Drugs Used to Treat Skin Conditions | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 28 | 30 | Drugs Used to Treat Eye Conditions **Drug Sheets 76-100 Due** | Read Chapter. Highlight Objectives. Know Key Terms. Complete each Chapter “Apply your Knowledge” | 1, 3, 4, 5a, c |
| July 29 | 20, 30 | **Exam 10 – Chapters 20 & 30** |  | 1, 3, 4, 5a, c |
| Aug 3 |  | FINALS |  |  |
| Aug 4 |  | FINALS |  |  |

**Competency Areas:**

1. Introduction to Pharmacology

2. Drug Calculations

3. Sources and Forms of Medications

4. Classifications of Medications

5. Medication Effects on Body Systems

**\*\*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.