



Allied Health Math Applications/ALMA 1000 COURSE SYLLABUS Spring Semester 2016

Semester: Spring 2016
Course Title: Allied Health Mathematics Applications
Course Number: ALMA 1000
Credit Hours/ Minutes: 0 / 2250
Class Location: Room # 8141
Class Meets: TR 1:00P – 2:30P
CRN: 40242

Instructor: Tara Powell
Office Hours: TR 3:00P – 5:45P
Office Location: Room 8170
Email Address: tpowell@southeasterntech.edu
Phone: 478-289-2287
Fax Number:
Tutoring Hours: by appointment only

REQUIRED eTEXT:

- Booth, K., Palmunen, J., Sienkiewicz, S., & Whaley, J. (2012). *Math & Dosage Calculations for Healthcare Professionals. (4th edition)*. New York, NY: McGraw-Hill. ISBN 978-0-07-337469-7
- Connect online access

REQUIRED SUPPLIES & SOFTWARE: pencil with eraser and paper

COURSE DESCRIPTION: ALMA 1000 prepares students in understanding the application of mathematics in their health science program courses. The topics included are basic mathematics, medical terminology, mathematical conversions, weight and measurement applications used in health science programs. Additionally, problem solving strategies, basic principles of medication administration, and research in health science will be incorporated into the course competencies.

MAJOR COURSE COMPETENCIES:

Problem Solving Strategies
Basic Mathematics in Health Science
Medical Terminology Used in Health Science Math Applications
Conversion Applications in Health Science
Weight and Measurement in Health Science
Basic Principles of Medication Administration
Research in Health Sciences

PREREQUISITE(S):

- Certificate Programs with a math component: MATH 1012 with a C or better
- Diploma Programs: MATH 1012 with a C or better
- Degree Programs: Appropriate algebra placement test score
- Pharmacy Technology Diploma Program: MATH 1012 with a B or better

COURSE OUTLINE:

Problem Solving Strategies

| Order | Description | Learning Domain | Level of Learning |
|--------------|--|------------------------|--------------------------|
| 1 | Use problem solving strategies to solve application problems (See Definition Section) | Cognitive | Application |

Basic Mathematics in Allied Health

| Order | Description | Learning Domain | Level of Learning |
|--------------|---|------------------------|--------------------------|
| 1 | Perform operations and comparisons with fractions, decimals, and percent. | Cognitive | Application |
| 2 | Perform operations with exponents including powers of ten | Cognitive | Application |
| 3 | Convert between standard notation and scientific notation | Cognitive | Comprehension |
| 4 | Convert between and interpret the medical application of Arabic Numerals and Roman Numerals | Cognitive | Comprehension |
| 5 | Perform basic allied health applications using ratios, rates and proportions | Cognitive | Application |
| 6 | Develop mental calculation skills through drill & practice, contextualization, etc. | Cognitive | Application |

Medical Terminology Used in Allied Health Math Applications

| Order | Description | Learning Domain | Level of Learning |
|--------------|--|------------------------|--------------------------|
| 1 | Demonstrate an understanding of medical terminology used in allied health math | Cognitive | Application |
| 2 | Interpret medical abbreviations as related to allied health math | Cognitive | Application |

Conversion Applications in Allied Health

| Order | Description | Learning Domain | Level of Learning |
|--------------|---|------------------------|--------------------------|
| 1 | Demonstrate an understanding of the systems of measurement and their equivalencies | Cognitive | Application |
| 2 | Convert among and between measurement systems (metric, apothecary, household/American/English) using formulas, mental calculations, proportions, dimensional analysis, and means/extremes | Cognitive | Comprehension |

Weight and Measurement Applications in Allied Health

| Order | Description | Learning Domain | Level of Learning |
|--------------|---|------------------------|--------------------------|
| 1 | Interpret medical measurement devices (scales, tape measure, syringes, wound measurement devices, etc.) | Cognitive | Comprehension |
| 2 | Demonstrate weight and measurement literacy | Cognitive | Application |

Basic Principles of Medication Administration

| Order | Description | Learning Domain | Level of Learning |
|--------------|---|------------------------|--------------------------|
| 1 | Interpret and translate orders for medication | Cognitive | Comprehension |
| 2 | Use ratios, rates, and proportions to perform allied health applications and mixture/concentration problems | Cognitive | Application |
| 3 | Perform basic dosage calculations. | Cognitive | Application |

Research in Allied Health

| Order | Description | Learning Domain | Level of Learning |
|--------------|---|------------------------|--------------------------|
| 1 | Demonstrate an understanding of the importance of the scientific method in research | Cognitive | Application |
| 2 | Interpret statistical measures used in the allied health field | Cognitive | Comprehension |
| 3 | Review a scientific journal article related to the allied health field | Cognitive | Comprehension |

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.

STUDENT REQUIREMENTS:

Students should be aware of the policies and procedures in the STC online Catalog. Students are expected to exhibit professional behavior at all times. Each student must show respect and concern for fellow students and for the course instructor. No cell phones or pagers are allowed to be turned on in the classroom unless permitted by the instructor for instructional activities. Personal phone calls must be handled after class. Watches with alarms should not be programmed to sound during class.

The textbook is provided by Southeastern Technical College through the McGraw-Hill online learning management system called CONNECT™. Students are expected to complete all homework and pretests assignments online through CONNECT™. Weekly assignments are listed on the attached lesson schedule and are posted on the CONNECT™ website. Students should complete or attempt CONNECT™ assignments before coming to class so participation in classroom activities/applications labs will reinforce key concepts covered in each chapter. CONNECT™ assignments can be repeated as many times as the student needs for practice, however, the day of each chapter test homework/pretest grades will be recorded.

CONNECT™ assignments consist of chapter homework and chapter pretest that will be averaged together to calculate the homework grade for each chapter. Classroom activities and applications are calculated by student attendance and participation for the week's activity. If a student is not in attendance for class on a scheduled classroom activity/lab day they will not receive credit (1 point) for that day's classroom activity/lab.

Testing Policy: No talking is allowed once an examination or evaluation begins. Students found with their cell phone or any other personal communication device during a test will be considered cheating and given a zero for the test. Calculators will be provided during testing. Students are not allowed to utilize their cell phone as a calculator during tests.

In the event a student does not demonstrate stellar performance on their first attempt of a Chapter test, a retest will be offered. The retest must be taken immediately after the class review of the first test. This will encourage mastery of the Chapter material and allow the student a second chance at demonstrating their knowledge and skills as well as promote student learning of the Chapter content before new material is introduced. The highest score of the two tests will be utilized as the students Chapter test score.

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.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws,

stops attending, or receives an F in a course.

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 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, class activity/participation, etc.):

If a student misses a classroom activity/participation a grade of zero will be assigned for that day's classroom activity/participation grade.

Only one test may be missed during the semester and any subsequent tests missed will result in a zero. Unless otherwise scheduled with the instructor, it is expected that a student's first missed test will be taken the next scheduled class day, outside of regular class time. Failure to follow this procedure will result in a grade of zero.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy 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 policy 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 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 Blackboard, 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.

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 System

| Letter Grade | Percentage | Grade Points/credit | Rating |
|--------------|------------|---------------------|--------------|
| A | 90-100 | 4.0 | Excellent |
| B | 80-89 | 3.0 | Good |
| C | 70-79 | 2.0 | Satisfactory |
| D | 60-69 | 1.0 | Poor |
| F | 0-59 | 0 | Failing |

Course Grading Policy

Course Grades will be based on the following:

| | | |
|--|-------------|--------------------|
| Chapter Tests | 50% | 50 points possible |
| Classroom Activity/Participation | 15% | 15 points |
| Homework & Pretests (Connect assignments online) | 10% | 10 points |
| Final Exam (ALMA 1000 Post-Test) | 25% | 25 points |
| Course Grade | 100% | 100 |

* Pharmacy Technology program students must earn a minimum grade of B in this course.

**ALMA 1000 Allied Health Math Applications
Lesson Schedule-Spring 2016**

| <i>DATE</i> | <i>Chapter/Lesson</i> | <i>Content/Assignment/Exams/Evaluations</i> | <i>Course Competency / Gen. Ed Comp.</i> |
|----------------------------|-----------------------|--|--|
| WEEK 1 Jan 12 | House Keeping | Review Syllabus, Policy & Procedures (Sign & Send) ALMA 1000 Pre-Test Connect instructions (14 Day Trial) | |
| Jan 14 | | Classroom review of Whole numbers (Handout) Chapter 1- Fractions review & classroom activity | |
| WEEK 2 Jan 19 | Chapter 1 | Complete Connect Chapter 1- Fractions Homework Complete Connect Pretest Chapter 1 | |
| Jan 21 | | TEST Chapter 1 – Fractions Review test on Fractions Connect Homework Chapter 2 - Decimals | 2 / a, b, c |
| WEEK 3 Jan 26 | Chapter 2 | Chapter 2 – Decimals classroom review & activity Connect Pretest for Chapter 2 | |
| Jan 28 | | TEST Chapter 2 – Decimals Review test on Decimals Complete Connect Homework Chapter 3 | 2 / a, b, c |
| WEEK 4 Feb 2 | Chapter 3 | Classroom review & activity Chapter 3 Percent, Ratios & Proportions Complete Connect Pretest for Chapter 3 | |
| Feb 4 | | TEST Chapter 3 – Percent, Ratio and Proportion Review test on Ratio and Proportion Complete Connect Chapter 4 Homework | 2, 7 / a, b, c |
| WEEK 5 Feb 9 | Chapter 4 | Classroom review & activity Chapter 4 - Metric System Connect Pretest for Chapter 4 - Metric System | |
| Feb 11 | | TEST Chapter 4 – Metric System Review test on Metric System Complete Connect Homework Chapter 5 - Other Systems of Measurement | 1, 4, 5 / a, b, c |
| WEEK 6 Feb 16 | Chapter 5 | Classroom review & activity Chapter 5 - Other Systems of Measurement Complete Connect Pretest for Chapter 5 – Other Systems of Measurement | |
| Feb 18 | | TEST Chapter 5 – Other Systems of Measurement Review test on Other Systems of Measurement Complete Connect Homework Chapter 6 & 7 Using Conversion Factors, Temperature & Time | 1, 2 / a, b, c |
| WEEK 7 Feb 23 | Chapter 6 & 7 | Classroom review & activity Chapter 6 & 7 - Using Conversion Factors, Temperature & Time Connect Pretest for Chapter 6 & 7 | |
| Feb 25 | | TEST Chapter 6 & 7- Using Conversion Factors, Temperature & Time Review test on Using Conversion Factors, Temperature & Time Complete Connect Homework Chapter 8 Equipment for Dosage Measurement | 5 / a, b, c |
| WEEK 8 March 1 | Chapter 8 | Classroom review & activity/lab Chapter 8 Equipment for Dosage Measurement Connect Pretest for Chapter 8 | 4, 1, 3 / a, b, c |
| MID-TERM March 3 | | TEST Chapter 8 – Equipment for Dosage Measurement Review Chapter 8 test Complete Connect Homework Chapter 9 Interpreting | 1, 5 / a, b, c |

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|----------------------------|----------------|---|-------------------------|
| | | Medication Orders | |
| WEEK 9 March 8 | Chapter 9 | Classroom review & activity/application lab Chapter 9 Connect Pretest for Chapter 9 | |
| March 10 | | TEST Chapter 9 – Interpreting Medication Orders Review Chapter 9 test Complete Connect Homework Chapter 10 - Interpreting Medication Labels and Package Inserts | 1, 5 / a, b, c |
| WEEK 10 March 15 | Chapter 10 | Classroom review & activity Chapter 10 Connect Pretest for Chapter 10 | |
| March 17 | | TEST Chapter 10 – Interpreting Medication Labels and Package Inserts Review test on Conversions Complete Connect Homework Chapter 12- Methods of Dosage Calculations | 6, 5, 4, 1 / a, b, c |
| WEEK 11 March 22 | Chapter 12 | Classroom review & activity Chapter 12 Methods of Dosage Calculations Connect Pretest for Chapter 12 | |
| March 24 | | TEST Chapter 12 - Methods of Dosage Calculations Review test on Methods of Dosage Calculations Complete Connect Homework Chapter 13 Oral Dosages | 3, 5, 6, 1, 4 / a, b, c |
| March 28-31 | | Spring Break – No Classes | |
| WEEK 12 April 5 | Chapter 13 | Classroom review & activity/application lab Chapter 13 Dosages Connect Pretest for Chapter 13 | |
| April 7 | | TEST Chapter 13 – Oral Dosages Review test on Oral Dosage Complete Connect Homework Chapter 14 Parenteral Dosages and Other Medication Administration Forms | 3, 5, 6, 4, 1 / a, b, c |
| WEEK 13 April 12 | Chapter 14 | Classroom review & activity/application lab Chapter 14 Connect Pretest for Chapter 14 | |
| April 14 | | TEST Chapter 14 – Parenteral Dosages and Other Medication Administration Review test Basic IV Calculations (Handout) | 1, 3, 4, 5, 6 / a, b, c |
| WEEK 14 April 19 | Basic IV Calc. | Classroom review of Basic IV Calculations & Classroom activity | |
| April 21 | | TEST Basic IV Calculations Review test on Intravenous Calculations Classroom review for Final Exam (Handout) | 5, 1, 3, 4, 6 / a, b, c |
| WEEK 15 April 26 | | FINAL EXAM | 1,2,3,4,5,6,7/a, b, c |

*Lesson Schedule subject to change at faculty discretion

*** Competency Areas: (will vary for each course/taken from state standards)**

1. Problem Solving Strategies
2. Basic Mathematics in Health Science
3. Medical Terminology Used in Health Science Math Applications
4. Conversion Applications in Health Science
5. Weight and Measurement in Health Science
6. Basic Principles of Medication Administration
7. Research in Health Sciences

****General Core Educational Competencies**

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.

