

Developing Effective Co-requisite Math Course Designs and Support

AMATYC

Webinar

Sponsoring Committee:
Developing Mathematics
Committee

4-22-2019

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Academic Success Press, Inc.





Agenda

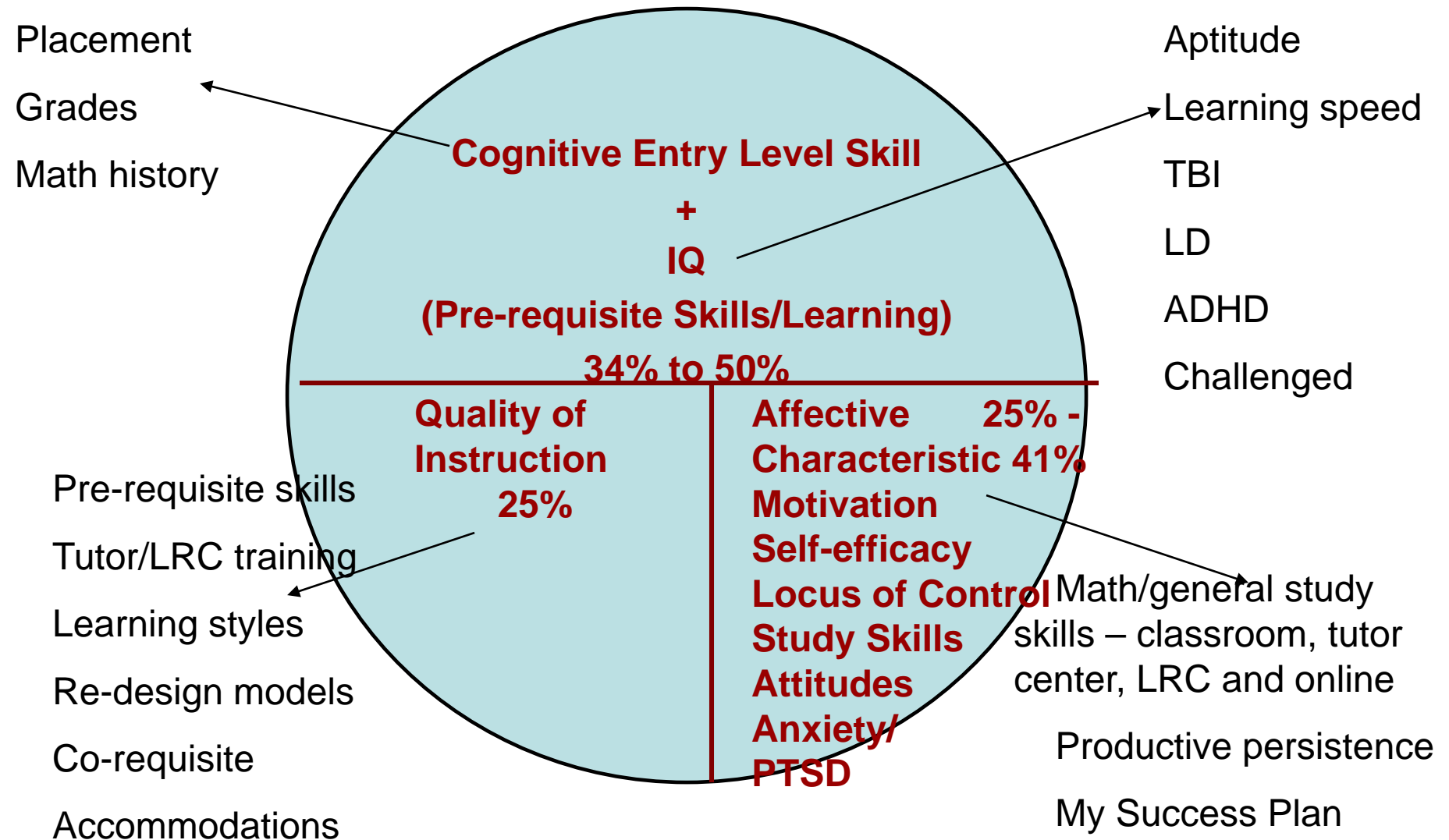
- ⊗ Changing variables of math academic success
- ⊗ Definitions of co-requisite courses - New Developmental Education course?
- ⊗ Reasons for mathematics co-requisite courses
- ⊗ How will co-requisite courses affect college
- ⊗ Different co-requisite designs
- ⊗ Determine which math assessments are given to students and what to do with results
- ⊗ Getting all stake holders involved
- ⊗ Review on needed algebra skills



Agenda

- ⊗ Contents of co-requisite courses
- ⊗ Contents of co-requisite labs
- ⊗ Math lab/LRC support for co-requisite courses
- ⊗ Determine which student may not be successful
- ⊗ Determine which math skills to review
- ⊗ How to test students – Grades in courses
- ⊗ Mathematic supplemental resources sheet
- ⊗ Math study skills training
- ⊗ Summary

Variables Contributing to Student Academic Achievement (Bloom, 1976)



Maximize Students' Affective Characteristics

- ⊗ Sources of Self-efficacy of Community College Students Enrolled in Developmental Mathematics (Zientek, Fong & Phelps, 2017) - **Four sources explain 35.8% of variance**
- ⊗ When Math Hurts: Math Anxiety Predicts Pain Network Activation in Anticipation of Doing Math (Beilock, 2012) – Thinking about doing math homework can activate pain receptor however doing math homework did not activate pain. **So procrastinate to reduce pain.**
- ⊗ Student Success in Developmental Mathematics Courses (Zientek, L.R. et al, 2013)–**Affective Characteristics – 41%**

Maximize Students' Affective Characteristics

- ⊗ Intercorrelation of anxiety with achievement -. **23**, **.67** with **study skills**, & **.43** to **locus of control** (Nolting, 1986).
- ⊗ Readiness, Behavior and Foundational Mathematics Course Success (Li, Zelenka. 2013) JDE (Placement and **Study Behaviors predict math success**)–Carnegie Foundation
- ⊗ Student Perceived Interference to College and Mathematics Success (Acee, 2017). - Students indicated **that 71% of their interference to college success was mathematics, strategic learning and economics.**
- ⊗ The Math Anxiety – **Performance Link: A Global Phenomenon** (Foley, A. E. et al, 2017)

The Math Anxiety-Performance Link: A Global Phenomenon Test Anxiety and STEM

- 🌀 International article from the Department of Psychology, University of Chicago, and Organization for Economic Co-operation and Development. Paris
- 🌀 Article indicates that math anxiety is an international concern affecting national economic growth. **Kuwait**
- 🌀 Math anxiety also occurs in high-achieving students and is a cross-national phenomenon- Japan, China
- 🌀 Teachers and parents can transmit math anxiety
- 🌀 High working memory and high anxiety less success
- 🌀 STEM professions are in danger due to the **bidirectional** effect of math anxiety on math success.
- 🌀 There is no one size fits all solution approach
- 🌀 **Math instructors also have anxiety**

Recent Results of Teaching Math Study Skills in Algebra Courses

Math Course	Base Line Pass Rate	Treatment Pass Rate
UWM Algebra	50% Modular with lecture	80% Modular with lecture and math study skills
BCF College Pre Algebra	23% Modular and computers	60% Lecture, computers, math study skills
LSCC Intermediate Algebra	39% Lecture and computer learning	57% Computer learning/lecture/ & math study skills
LTC Basic Algebra	30% Standard lecturer/modular	71% Standard Lecture & math study skills

Success of Students Taking Algebra and Life Skills Course Separately

Semester	Pilot	Non-pilot
Fall 03	80%	59%
Spring 04	76%	52%
Fall 04	82%	53%
Spring 05	67%	51%



Definitions of Co-requisite Courses

- ⊗ Blending the content courses which one is credit bearing and the other is developmental
- ⊗ Based on test scores some developmental students are enrolled into the next credit course
- ⊗ All developmental students are enrolled into the next level credit course
- ⊗ Courses could combine Elementary Algebra and Intermediate Algebra or Intermediate Algebra and College Algebra or Statistics or Liberal Arts
- ⊗ There could be one course, a course and a lab course or a course and tutoring



National Math Summit Definition

⚓ Co-requisite is an instructional strategy whereby undergraduate students are enrolled in a college level course paired with an intervention/support program that supports the learning in that college level course.

⚓ The paired component provides support aligned directly with the learning outcomes, instruction, and assessment of college level course, and makes necessary adjustments as needed in order to advance students' success in the college level course.



Reasons for Mathematics Redesigns and Co-requisite

- ⊗ Course pass rates $.5 \times .5 \times .5 = ?$ Redesigns
- ⊗ Course pass rates $.5 \times .5 = ?$ Co-requisite
- ⊗ Decreases developmental student population
- ⊗ Political reasons – Don't pay for DE twice
- ⊗ Some students have a higher pass rate for the course compared to taking two/three courses
- ⊗ Get through math courses faster
- ⊗ Better success rates in Stats and Liberal Arts
- ⊗ Which students are not successful? 18%?

How Will Co-requisites Affect College

- ⊗ Less number of classes to W or fail, repeaters or drop outs
- ⊗ More collaboration with faculty and departments
- ⊗ Increase need for advisors
- ⊗ Increase need for math faculty with 18 hours
- ⊗ Need more universal design

How Will Co-requisites Affect College

- ⊗ Reduce time to complete math
- ⊗ Students may have more financial aid
- ⊗ Less state money due to less courses/repeaters
- ⊗ Less success of low math level STEM students
- ⊗ More failures in College Algebra/Pre-Calculus
- ⊗ More students taking Quant and Stat Way courses

Getting Stake Holders Involved

- ⊗ Advisors and counselors must understand
- ⊗ Intuitional Research: tracking and state reports
- ⊗ Administration: Deans, Registrar, Financial aid, Disability, Veterans and Equity Offices,
- ⊗ Academic support: math lab staff, tutors, imbedded tutors, LRC, SI, mentors
- ⊗ Need to have college wide meeting



Different Co-requisite Designs

- ⊗ **Placement:** test scores, modules, mixed
- ⊗ One course for all students for **six hours** - Morehead State University - **Plus study skills**
- ⊗ One three hour course for students with volunteered or required tutoring - **Not good**
- ⊗ One three hour course for students with required computer lab with or without instructor support – **Need tutor/instructional support**
- ⊗ One three hour course for students with required one or two hour course **just for developmental students - Maybe**



Different co-requisite designs

- ⚓ **One three hour course for students with required two hour lab course required for all students – with letter grades - Good**
- ⚓ **Two instructors** for all courses and labs
- ⚓ **Same or different** instructor all teaches the lab section for the course – Non **18 hour** instructors
- ⚓ Students have to **pass both** course and lab to get credit
- ⚓ Students **withdraw** from one have to withdraw from both – **Financial aid?**



Different co-requisite designs

- ⊗ **College level course with a supplemental College Success course – Dana Center**
- ⊗ Students can fail support course and pass credit course
- ⊗ With support can be successful
- ⊗ Without support will increase failure
- ⊗ Instructional need - Need to change philosophy - **Cannot just lecture**
- ⊗ Support personal - Embedded tutors, SI, Academic Coaches, mentors, advisors



Review of Needed Algebra Math Skills

- ⚙ **College Algebra/Pre-calculus-** Which skills eliminated for next course-Syllabus review
- ⚙ Intermediate Algebra skills- Which skills must teach for next course- Syllabus review
- ⚙ Elementary Algebra skills- Which skills must teach - Syllabus review
- ⚙ Pre - Algebra math skills- Can you teach these? Should be taught in math lab first?
- ⚙ **Which math and study skills diagnostic assessment must be given in courses?**

Determine which Math Assessments to Give Students and What to Do with Results

- ⊗ XYZ
- ⊗ ALEKS
- ⊗ My Math Lab
- ⊗ Web Assign
- ⊗ HAWKES Learning System
- ⊗ Paper and Pencil
- ⊗ Other
- ⊗ Determine how to use the results from each assessment
- ⊗ Determine what level is too low to help
- ⊗ Determine how to use the Math Study Skills Evaluation – www.academicsuccess.com



Determine Which Math Skills to Review

- ⊗ **Determine which skills will be taught in College Algebra/Pre-calculus**
- ⊗ Determine which skills to be taught in co-requisite lab course
- ⊗ Determine just-in-time instruction in co-requisite lab
- ⊗ Determine how to teach math study skills in co-requisite lab—Needs to be taught first 6-8 weeks
- ⊗ Determine skills to be taught in Math Lab/LRC
- ⊗ How to test in course and co-requisite lab
- ⊗ Determine exit points to transfer to lower level - **HO**



Review of Needed Liberal Arts Math Skills

- ⊗ Intermediate Algebra math skills - ?
- ⊗ Elementary Algebra math skills - ?
- ⊗ Pre - Algebra math skills
- ⊗ Which math skills taught in co- requisite lab?
- ⊗ Determine how to teach math study skills in co-requisite lab
- ⊗ Which skills taught in math lab – None? -
HO



Review of Needed Statistic Math Skills

- ⊗ Intermediate Algebra math skills - None
- ⊗ Elementary Algebra math skills
- ⊗ Pre - Algebra math skills
- ⊗ Which math skills taught in co- requisite lab?
- ⊗ Determine how to teach math study skills in co-requisite lab
- ⊗ Which skills taught in math lab – None?

HO



Contents of Co-requisite Courses and Labs

- ⊗ Who can teach lab – Need 18 hours
- ⊗ Course **starts with assessment**: Computer or paper and lab provides review – **A must**
- ⊗ Course start with **review** of development skills
- ⊗ Courses start with **credit course content**
- ⊗ Lab courses **review** developmental material or does **just - in - time learning**
- ⊗ Lab courses **assess math study skills** to determine students' math study skills needs and motivates students (**up to 41% of the variance**)



Support for Co-requisite Courses and Labs

- ⚓ **Co-Requisite lab teach math study skills the first six to eight weeks and show how to apply students study skills to math learning- Give tests**
- ⚓ **Co-Requisite lab courses teach multi-modality and group learning strategies**
- ⚓ **Co-Requisite lab courses teach first, computer support and then some tutoring later- Just tutoring/computer does not work that well**
- ⚓ **Grading system**

Math Lab Support

- ⊗ How can the math lab/LRC support? First 3 weeks
- ⊗ Work with student below course level
- ⊗ Work with students with low diagnostic scores
- ⊗ Embedded tutors in course or co-requisite lab
- ⊗ Computer support of students with staff/tutors
- ⊗ How can help after failing first test?
- ⊗ How can help after failing second test?



Math Study Skills Evaluation

⚓ **Joe College, the overall result of your evaluation is a score of 60.**

A score of 79 and below means you need to improve your math study skills and this could be the main reason you may have had having difficulty.

⚓ **You have a score of 63 in Study Effectively**, which measures the understanding that studying for math, is different than other subjects. It also measures your effective use of study place(s), study schedules, study tools, and motivation. WAM reference chapters are 1, 4 and 9

⚓ **You have a score of 62 in Memory and Learning**, which measures the understanding of learning styles, learning process, as well as developing a learning plan and memory strategies. WAM reference chapters are 2 and 5.

⚓ **You have a score of 58 in Reading and Homework**, which measures the understanding of the syllabus, along with developing reading and homework strategies to improve math learning. The WAM reference chapter is 7.

⚓ **You have a score of 57 in Classroom Learning**, which measures the ability to develop listening strategies, note-taking systems as well as the ability to ask questions. The WAM reference chapter is 6.

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Math/STEM Study Skills Evaluation

⚓ **You have a score of 60 in Test Anxiety and TestTaking**, which measures the understanding of the effects of test anxiety, how to reduce test anxiety, how to take tests and how to analyze test results. WAM chapters are 3 and 8.

Question #1

My habit is that I:

A. seldom study math every school day. Your response indicates that you may not understand that math has a sequential learning pattern. A sequential learning pattern means material learned one day is used the next day and the next day and so forth. That means putting off studying math will lead to poor math grades. You need to study and do your homework before each class. You need to read pp. 16-23 in *Winning at Math*.

⚓ **Question #4**

My habit is that I:

C. almost always become anxious and forget important concepts during a math test. Your response indicates that you have symptoms of math anxiety and/or test anxiety. Math and test anxiety are learned responses, which can be unlearned. You need to learn how to control your anxiety by using relaxation techniques and positive self-statements during homework and tests. You need to read pp. 67-80 & pp in *Winning at Math* and *Managing Test Anxiety Web Sit*

Math Study Skills Content

- ⚙ **How Learning Math is Different & Take Control**
- ⚙ **How Improving Listening & Note-taking**
- ⚙ **How to Improve Study Environment, Time Management & Reading**
- ⚙ **How to Improve Homework Techniques**
- ⚙ **Managing Anxiety and Taking Math Tests**
- ⚙ **Assessing and Using Your Memory and Math Learning Strategies**

Study System Overview

Students need strategies for the following learning activities.
How do you study?

Class Lectures

Textbooks

Class Note-taking
System

Textbook Learning
System

Homework

Test Preparation

Learning from
Homework

Homework/Test
Reviews

Practice Tests

Tests

Ten Test Taking Steps

Test Taking Errors

Test Analysis

Test Anxiety
Reduction

Reading Note-taking System for Paper or Online Text Books

Reading Pages:		
Terms	Information/Examples	Definitions/Explanations



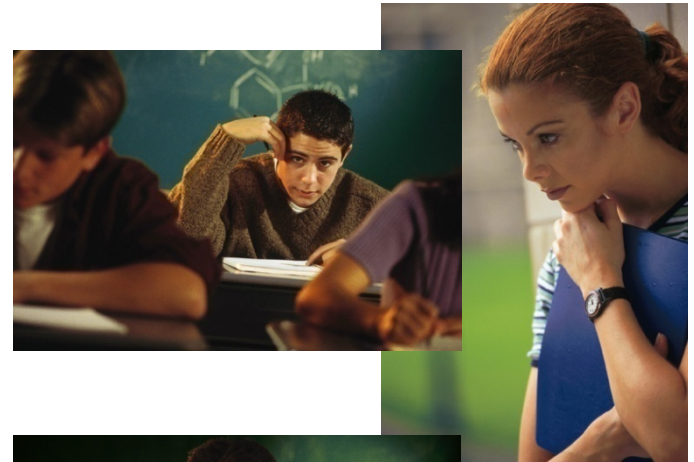
Homework Techniques

- ⊗ Ten steps for doing online/textbook homework
- ⊗ Solving word problems – terms and expressions
- ⊗ Metacognitive techniques
 - Making a plan
 - Questions to ask yourself, tutor
 - Using technique in class
- ⊗ Additional resources
 - Apps**
 - Google**
 - YouTube**
 - Web sites – www.academicsuccess.com
- ⊗ Working with a study buddy

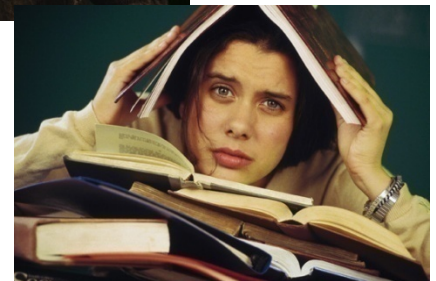


Managing Test Anxiety: Causes & Solutions

- ⚓ Association of grades with worth.
- ⚓ Poor math study skills.
- ⚓ Previous embarrassment from teacher, students, family (third grade).
- ⚓ Not due to lack of effort- To much effort sometimes
- ⚓ Poor math self-efficacy
- ⚓ **Instructor Solutions – Relaxation techniques, positive cognitive statements, acceptance & math study skills**



Anxiety strikes all types of students





Strategies to Improve Success

Mathematic supplemental resources sheet

Staffing repeating students with a Math Success Committee and developing student math success plans

Using College Success courses teaching math study skills course for repeating students

Department plans to develop/improve co-requisite success – What strategies are best?

Summary and Questions

Contact Us for Follow-up Conversations



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941-746-1645

www.academicsuccess.com

College Algebra

Co- Requisite Lab xxL3 Syllabus (2 units)

Course description:

This lab course is to supplement MATH xxxx College Algebra to instruct pre-requisite mathematics skills and to improve math study skills. This lab will be used to improve math study skills, assess students' prerequisite needed math skills, provide remediation, just-in-time instruction and tutoring. The first week of class students will take the Hawkes Learning System Intermediate Algebra diagnostic assessment and the Math Study Skills Evaluation. The Math Study Skills Evaluation results will be explained indicating that low scores bring more opportunity to improve learning and grades. Math study skills will be taught in the lab concluding by around midterm. During the lab, these math skills will be practiced and reinforced.

The results from the math diagnostic will be aggregated to determine which math skills are most needed for remediation and just-in-time learning. Remediation on the below specific topics of prerequisite math skills will be taught as a lecture. Instructors may conduct student group "pull outs" based on student need. During the "pull outs", other students can be conducting individualized computer work. The lecture can then switch to just-in-time topics and tutoring. Student who need math skills below the levels list below will be referred to the math lab with a tutoring plan. Students can also be referred to the College Algebra Integrated Review program for individual help. The lab will first help students with math study skills and needed remediation. Then later on the instruction will become just-in-time learning, tutoring and applying math study skills.

Course Content:

1. Develop study skills that promote success in College Algebra, such as the use of reading and metacognitive strategies to improve understanding and performance. (CO)
 - a. **The student will demonstrate math study skill, test anxiety reduction techniques and test-taking skills:**
 - b. identify the difference in studying math and other subjects.
 - c. identifying their math learning and areas for improvement.
 - d. explain the different types of math test anxiety.
 - e. model three short-term relaxation techniques
 - f. identify their Stages of Memory strengths and areas to improve.
 - g. utilize the math note-taking system
 - h. utilize math reading techniques
 - i. utilize math homework techniques
 - j. utilize math text-taking skills
 - k. analyze six types of math test-taking errors.
 - l. utilize different types of math and recording apps
 - m. develop strategies to improve math self-efficacy
 - n. develop a student math success plan

2. Linear Equations and Inequalities (CO)
 - a. Expressions vs. Equations/Inequalities
 - b. Solving equations and inequalities
 - c. Graphing lines using slope-intercept form and general/standard form
 - d. Modeling with linear equations and inequalities
3. Functions (CO)
 - a. Function notation
 - b. Domain and range
 - c. Evaluating and graphing
4. Polynomials (CO)
 - a. Definition of polynomials and other terminology including coefficient, degree and term
 - b. Addition, subtraction, and multiplication of polynomials
5. Factoring (CO)
 - a. Greatest common factor
 - b. Trinomials
 - c. Grouping
 - d. Special cases
6. Quadratics (CO)
 - a. Solve by square root method
 - b. Solve by factoring
 - c. Solve by quadratic formula
7. Radicals (CO)
 - a. Simplifying radicals
 - b. N-th roots as rational exponents
 - c. Solving power equations
8. Rational Expressions and Equations (CO)
 - a. Domain of rational functions
 - b. Simplifying, multiplying, dividing, adding, and subtracting rational expressions

Statement: Course will cover a SUBSET of these topics algebra topics in remediation and just-in-time learning for the “parent” course.

MATH xxxE - Mathematical Reasoning and Problem Solving – With course and co-requisite lab together

- **Course Description**
(3-0-3); I, II, III. A course providing the student with experiences designed to improve the ability to make decisions and solve a variety of problems. Mathematical content includes topics, which are related to consumer mathematics, geometry, graphs, probability and statistics.

This is a six hour co-requisite course that has three hours of lectures and three hours of lab work that is embedded into the course. The course is taught by the instructor and the lab is taught by a graduate student or another instructor. The lab consist of math study skills the first few weeks, just-in-time learning and tutoring. The Success Lab grade is base on math study skills tests, assignments and various areas.

- **Text**
Hawkes Learning System and Winning at Math 6th edition

- **Student Population**

Students with a Mathematics ACT < 19

A lower limit is not defined, but these students may have ACT scores of 12 or 13.

Students may be provisionally admitted

Provisionally admitted students can have 2 or more areas needing remediation.

Students who suffer from math anxiety, low-level study skills, low motivation and often traumatic mathematics backgrounds.

Grading

Assignment Type and SLOs Measured	Number	Percentage of Overall Grade
Tests (All SLOs)	3	40%
Quizzes (All SLOs)	6	10%
Connect Assignments (All SLOs)	13	15%
Group Project	1	10%
Success Lab	various	20%
Attendance/Participation		5%

GRADING SCALE:

- A: 90% - 100%
- B: 80% - 89%
- C: 70% - 79%
- E: 0% - 69%

Note: You must pass this course with a C or better.

Tentative Course Schedule: (The instructor reserves the right to alter with due notice given to students.)

Week	Topic	Assignments/Assessments
Jan 16	Introduction to Problem Solving	Mathematics <u>Autobiography</u> WAM Introduction & Math Study Skills Assessment
Jan 22	1-1 The Nature of Mathematical Reasoning 1-2 Estimation and Interpreting Graphs	Quiz 1 Connect Homework 1 WAM Chapter 1 and 6
Jan 29	1-3 Problem Solving Strategies	Connect Homework 2 WAM Chapter 7
Feb 5	1-3 Problem Solving Strategies	Connect Homework 3 WAM Chapter 3 & 4 Quiz 2
Feb 12	4-1 Early and Modern Numeration Systems 4-2 Tools and Algorithms in Arithmetic	Connect Homework 4 WAM Chapters 8
Feb 19	4-2 Tools and Algorithms in Arithmetic Exam 1	Connect Homework 5 Exam 1
Feb 26	8-1 <u>Percents</u> 8-2 Simple Interest 8-3 Compound Interest	Connect Homework 6 WAM Chapter 2 & 5
Mar 5	8-4 Installment Buying 8-5 Student Loans and Home Buying	Connect Homework 9 Quiz 3 WAM Chapter 9
Mar 12	8-5 Student Loans and Home Buying Exam 2	Connect Homework 8 Exam 2
Mar 19	Spring Break – No Classes	
Mar 26	14-1 Basic Concepts of Graph Theory	Connect Homework 9 Quiz 4
Apr 4	14-2 Euler's Theorem	Connect Homework 10 Quiz 5
Apr 9	14-3 Hamiltonian Paths and Circuits	Connect Homework 11
Apr 16	14-4 Trees	Connect Homework 12 Quiz 6
Apr 23	Group Project Work	Connect Homework 13
Apr 30	Group Project Work / Review for Final	Quiz 7
Final Exam: Date and Time as listed in schedule		

**Algebra Course with Computer Support/homework (generic 10 wk)
Math Study Skills Supplement
SPRING 2019 SCHEDULE**

TEXT: *Algebra text*

Winning at Math: Your Guide to Learning Mathematics Through Successful Study Skills (WAM) by Nolting, 6th Edition

MATERIALS: A scientific calculator is required. It is allowed during chapter tests and quizzes as directed by your instructor. Calculators with symbolic manipulation capabilities (e.g., TI-89, TI-92) will not be allowed for use during exams.

EXAMINATIONS: There will be four chapter exams and a department final exam. There will be math problems and at least one math study skills question per test. The math study skills question will be either short answers or multi choice questions through the LMS.

NO MAKE-UP EXAMS WILL BE GIVEN.

GRADING: The grading system consists of 1000 points.

POINTS SCALE

3 Chapter Exams	300
Assigned Math Lab (outside, in class or co-requisite)	150
Quizzes	150
Quizzes/Participation/Text Homework	100
WAM Homework/Assessments	100
Department Final Exam (cumulative)	200

94 – 100% = A

85 – 93% = B

75 – 84% = C

0 – 74% - No pass

Schedule is based a week of classes

**** Any adjustments to assignments or due dates will be shared with the class in advance...this is subject to change with notice.**

Week	Dates	Material Covered / Content
1	January 7	Course Introduction / Syllabus / Motivation / Assessments Assignment Winning at Math (WAM) - Chapter 1 – How Learning Math is Different and How to Take Control of Your Learning Complete Assignments for Chapter One Math text chapter and sections
2	January 14	Math text chapter and sections
3	January 21	Completing Assessments: Math Study Skills Evaluation and Learning Modality Inventory for Math Students - Print or Record Results – Practice note-taking skills

		WAM - Chapter 2 – How to Improve Listening and Note-Taking Skills Complete Assignment for Chapter Two Math text chapter and sections
4	January 28	Complete Assignments: Planning use of Daily Time WAM - Chapter 3 – How to Improve Your Study Environment, Time-Management and Reading Complete Assignment for Chapter Three Math text book chapter and sections
5	February 4	Exam 1 Complete Assignment: Patrice homework note-taking WAM – Chapter 4 - How to Improve Your Homework Complete Assignment for Chapter Four Math text chapter and sections
6	February 11	Math text chapter and sections
7	February 18	Complete Assignments: Practice relaxation techniques WAM – Chapter 5 – Managing Anxiety and Taking Math Tests Math text chapter and sections
8	February 26	Complete Assignments: Practice test-taking techniques WAM – Chapter 5 –Managing Anxiety and Taking Math Tests (continued) Complete Assignment for Chapter 5 Math text chapter and sections
9	March 4	Complete Assignments: Practice learning strategies WAM – Chapter 6 – Assessing and Using Your Memory and Math Learning Strategies Math text chapter and sections
10	March 11	Spring Break
11	March 18	Exam 2 Complete Assessments: My Math Success Plan WAM – Chapter 6; Assessing and Using Your Memory and Math Learning Strategies Complete Assignment for Chapter 6 Math text chapter and sections
12	March 25	Math text chapter and sections
13	April 1	Math text chapter and sections
13	April 8	Math text chapter and sections
14	April 15	Math text chapter and sections
15	April 22	Math text chapter and sections

16	April 29	Exam 3 Math text chapter and sections
17	May 6	<i>Final Exam Day</i>

College Algebra Co-requisite Lab 10L3

Course Schedule

Week	Dates	Material Covered / Content
1	January 7	<p>Course Introduction / Syllabus / Motivation / Assessments Assignment/Math Stud Skills Evaluation & math diagnostic Winning at Math (WAM) - Chapter 1 – How Learning Math is Different and How to Take Control of Your Learning Complete Assignments for Chapter One Math Skill: Remediation</p>
2	January 14	<p>Completing Assessments: Learning Modality Inventory for Math Students - Record Results – Practice note-taking skills WAM - Chapter 2 – How to Improve Listening and Note-Taking Skills Complete Assignment for Chapter Two Math Skills: Remediation, Just-in-Time Learning, Lab Referral</p>
3	January 21	<p>Complete Assignments: Planning use of Daily Time WAM - Chapter 3 – How to Improve Your Study Environment, Time-Management and Reading Complete Assignment for Chapter Three Math Skills: Remediation & Just-in-Time Learning</p>
4	January 28	<p>Exam 1: WAM chapters 1 - 3 Complete Assignment: Patrice homework note-taking WAM – Chapter 4 - How to Improve Your Homework Complete Assignment for Chapter Four Math Skills: Remediation & Just-in-Time Learning</p>
5	February 4	<p>Complete Assignments: Practice relaxation techniques WAM – Chapter 5 – Managing Anxiety and Taking Math Tests Math Skills: Just-in-Time Learning & Tutoring</p>
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8	February 25	<p>Complete Assessments: My Math Success Plan WAM – Chapter 6; Assessing and Using Your Memory and Math Learning Strategies (continued) Complete Assignment for Chapter 6 Math Skills: Just-in-Time Learning & Tutoring</p>
9	March 4	<p>Exam- WAM Chapters 4 - 6 Math Skills: Tutoring, Computer Learning & SS Practice</p>

10	March 11	Spring Break
11	March 18	Math Skills: Tutoring, Computer Learning & Study Skills Practice
12	March 25	Math Skills: Tutoring, Computer Learning & Study Skills Practice
13	April 1	Math Skills: Tutoring, Computer Learning & Study Skills Practice
13	April 8	Math Skills: Tutoring, Computer Learning & Study Skills Practice
14	April 15	Math Skills: Tutoring, Computer Learning & Study Skills Practice
15	April 22	Math Skills: Tutoring, Computer Learning & Study Skills Practice
16	April 29	Math Skills: Practice for the Final Exam
17	May 6	Final Exam

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Attendance/Participation		5%

GRADING SCALE:

A: 90% - 100%

B: 80% - 89%

C: 70% - 79%

E: 0% - 69%

Note: You must pass this course with a C or better.

Making the Enhancement Part of the Content

Tentative Course Schedule: (The instructor reserves the right to alter with due notice given to students.)

Week	Topic	Assignments/Assessments
Jan 16	Introduction to Problem Solving	Mathematics Autobiography WAM Introduction & Math Study Skills Assessment
Jan 22	1-1 The Nature of Mathematical Reasoning 1-2 Estimation and Interpreting Graphs	Quiz 1 Connect Homework 1 WAM Chapter 1 and 6
Jan 29	1-3 Problem Solving Strategies	Connect Homework 2 WAM Chapter 7
Feb 5	1-3 Problem Solving Strategies	Connect Homework 3 WAM Chapter 3 & 4 Quiz 2
Feb 12	4-1 Early and Modern Numeration Systems 4-2 Tools and Algorithms in Arithmetic	Connect Homework 4 WAM Chapters 8
Feb 19	4-2 Tools and Algorithms in Arithmetic Exam 1	Connect Homework 5 Exam 1
Feb 26	8-1 Percents 8-2 Simple Interest 8-3 Compound Interest	Connect Homework 6 WAM Chapter 2 & 5
Mar 5	8-4 Installment Buying 8-5 Student Loans and Home Buying	Connect Homework 9 Quiz 3 WAM Chapter 9
Mar 12	8-5 Student Loans and Home Buying Exam 2	Connect Homework 8 Exam 2
Mar 19	Spring Break – No Classes	
Mar 26	14-1 Basic Concepts of Graph Theory	Connect Homework 9 Quiz 4
Apr 4	14-2 Euler's Theorem	Connect Homework 10 Quiz 5
Apr 9	14-3 Hamiltonian Paths and Circuits	Connect Homework 11
Apr 16	14-4 Trees	Connect Homework 12 Quiz 6
Apr 23	Group Project Work	Connect Homework 13
Apr 30	Group Project Work / Review for Final	Quiz 7
Final Exam: Date and Time as listed in schedule		