



COURSE OUTLINE

Outline Status: Outline Update (ECD 9983); 2009-2010

Section I: BASIC COURSE INFORMATION

1. **COLLEGE:** L.A. SOUTHWEST COLLEGE
2. **SUBJECT:** MATHEMATICS
3. **COURSE NUMBER:** 236
4. **COURSE TITLE:** CALCULUS FOR BUSINESS AND SOCIAL SCIENCE
5. **UNITS:** 5
6. **CATALOG COURSE DESCRIPTION:**

This course covers techniques of limits, differentiation; maximum-minimum problems; curve sketching; implicit differentiation; techniques of integration and differential equations. Special emphasis is placed on business and economics applications related to system optimization, cost and revenue analysis, marginal analysis and consumer and producer surplus.

7. **CLASS SCHEDULE COURSE DESCRIPTION:**

This course covers techniques of limits, differentiation; maximum-minimum problems; curve sketching; implicit differentiation; techniques of integration and differential equations. Special emphasis is placed on business and economics applications related to system optimization, cost and revenue analysis, marginal analysis and consumer and producer surplus.

8. **INITIAL COLLEGE APPROVAL DATE:** before 1990
9. **COURSE OUTLINE APPROVAL DATE:** 11/17/09

Prerequisite revalidation

10. **CLASS HOURS:**

	Standard Hrs Per Week (based On 18 weeks)	Total Hs per Term (hrs per week x 18)	Units
Lecture:	5	90	5
Lab/Activity (w / homework):	0	0	0
Lab/Activity (w /o homework):	0	0	0
Totals:	Lecture: 5	Lecture: 90	Lecture: 5
	Lab: 0	Lab: 0	Lab: 0
	Total: 5	Total: 90	Total: 5
Totals In Protocol:	Lecture: 5	Lecture: 90	
	Lab: 0	Lab: 0	
	Total: 5	Total: 90	Total: 5

11. PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, and LIMITATION ON ENROLLMENT:

Note: The LACCD's *Policy on Prerequisites, Corequisites and Advisories* requires that the curriculum committee take a separate action verifying that a course's prerequisite, corequisite or advisory is an 'appropriate and rational measure of a student's readiness to enter the course or program' and that the prerequisite, corequisite or advisory meets the level of scrutiny delineated in the policy.

PREREQUISITES: Yes

	Subject	Number	Course Title	Units	Validation Approval Date
	Mathematics	125	Intermediate Algebra	5	11/17/09

COREQUISITES: No

	Subject	Number	Course Title	Units	Validation Approval Date
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ADVISORIES: No

	Subject	Number	Course Title	Units	Validation Approval Date
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12. OTHER LIMITATIONS ON ENROLLMENT: (See Title 5, Section 58106 and Board Rule 8603 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

None

Section II: COURSE CONTENT AND OBJECTIVES

1. COURSE CONTENT AND OBJECTIVES:

COURSE CONTENT AND SCOPE - Lecture: Outline the topics included in the lecture portion of the course (<i>Outline reflects course description, all topics covered in class</i>).	Hours per topic	COURSE OBJECTIVES - Lecture: Upon successful completion of this course, the student will be able to..(<i>Use action verbs - see <u>Bloom's Taxonomy</u> for 'action verbs requiring cognitive outcomes.'</i>)
1. Linear, Quadratic, Polynomial and Rational functions. Exponential and logarithmic functions	10	1. Calculate limits and find intervals of continuity.
2. Introduction to limits. Limits and Continuity. The Derivative. Derivatives of products and quotients. Chain rule.	10	2. Find derivative of a function using secant lines and limits.
3. Marginal analysis in Business and Economics	10	3. Calculate and interpret the first and second derivative in applied business models for functions of one or more variables.
4. Graphing and optimization. Absolute Maxima and Minima	10	4. Analyze and sketch business functions (cost, revenue, profit, supply-demand) using techniques of calculus.
5. Derivatives of logarithmic and Exp. Functions. Chain rule. Implicit differentiation. Related rates.	10	5. Do curve sketching by using the first and second derivative test to find increasing and decreasing intervals, extrema points, points of inflection and concavity.
6. Integration by substitution. Differential equations, growth and decay. Definite integral. Fundamental theorem of calculus	10	6. Use implicit differentiation.
7. Area between curves. Integration by parts. Integration using tables.	10	7. Implement the rules of differentials in applying exponential and logarithmic functions emphasizing finance, population growth, decay and leaning model problems.
8. Differential equations.	10	8. Use marginal analysis in the study of business functions.
9. Trigonometric functions.	10	9. Develop realistic mathematical models for business problems (maximizing area, revenue, profit, number of participants, volume and minimizing costs, materials, storage facilities, etc.)
		10. Use integration and other given information to find total cost, revenue and profit function.
		11. Apply the fundamental rule of calculus to find area.
		12. Sketch and find consumer and producer surplus integral.
		13. Use integral rules to do integration by substitution, integration by tables, and integration by parts.

Total:	90	
Total Hrs In Protocol:	90	

1. (cont'd) LAB:

COURSE CONTENT AND SCOPE - Lab: Outline the topics included in the laboratory portion of the course (<i>Outline reflects course description, all topics covered in class.</i>)	Hours per topic	COURSE OBJECTIVES - Lab: Upon successful completion of this course, the student will be able to.. (<i>Use action verbs - see Bloom's Taxonomy for 'action verbs requiring cognitive outcomes.'</i>)
Total:	0	
Total Hrs In Protocol:	0	

1. (cont'd) SLO:

The student will... (outcome)	As measured by the following method.. (assessment strategy)	And, if applicable, scored by the following learning rubric. (provide attachment)	Results are examined to determine if the outcome is achieved. Include planned or actual assessment date. (results & evaluation)	Recommendations to improve teaching and learning. (modifications)
1. use the graphing strategy to correctly analyze the function $f(x)$ and state all pertinent information and sketch the graph of $f(x)$.	1. Embedded assessment in final exam. Example question: Use the graphing strategy to analyze the function $f(x)$... State all pertinent information and sketch the graph of f . Step 1: Analyze function $f(x)$: (A) Find the domain of f . (B) Find the intercepts. (C) Find the asymptotes. Step 2: Analyze $f'(x)$. Find the partition numbers for, and critical values of, $f'(x)$. Construct a sign chart for $f'(x)$, determine the intervals on which f is increasing and decreasing, and find local maxima and minima. Step 3: Analyze $f''(x)$. Find the partition numbers of $f''(x)$. Construct a sign chart for $f''(x)$, determine the intervals on which the graph of f is concave upward and concave downward, and find inflection points. Step 4: Sketch the graph of f .	Rubric in column 2	Spring 2010	

SLO reviewed 11/6/09 by GY	<p>Draw asymptotes and locate intercepts, local maxima and minima, and inflection points. Sketch in what you know from Step 1 to 3. Plot additional points as needed and complete the sketch.</p> <p>Rubric: Excellent (20 pts) Steps 1-4 correct</p> <p>Acceptable (15 pts) Steps 1-3 correct, Step 4 incorrect</p> <p>Unacceptable (5 pts) Step 1 correct, cannot go any further</p> <p>Expected level of competency: 13 pts. (average)</p>			
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2. REQUIRED TEXTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Applied Calculus for Business, Economics, Life Sciences and Social Sciences, Barnett, A., Ziegler, R, Byleen, E., 2008

3. READING ASSIGNMENTS:

Provide a representative list of textbooks and other required reading; include author, title and date of publication:

Intermediate Algebra books and reference materials.

4. WRITING ASSIGNMENTS:

Writing assignments, as required by Title 5, in this course may include, but are not limited to the following:

Describe mathematical ideas and processes by word, graph, and number.

5. REPRESENTATIVE OUTSIDE ASSIGNMENTS (HOMEWORK):

Out of class assignments (Homework) may include, but are not limited to the following:

Read economic indexes; watch for new economic trends and forecasting.

6. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Provide examples of assignments, as required by Title 5, that demonstrate critical thinking.

Example: A walnut grower estimates from past records that if 20 trees are planted per acre, each tree will average 60 pounds of nuts per year. If for each additional tree planted per acre (up to 15) the average yield per tree drops 2 pounds, how many trees should be planted to maximize the yield per acre? What is the maximum yield?

7. METHODS OF EVALUATION:

Title 5, section 55002 requires grades to be 'based on demonstrated proficiency in subject matter and the ability to demonstrate that proficiency, at least in part, by means of essays, or, in courses where the curriculum committee deems them to be appropriate, by problem solving exercises or skills demonstrations by students.' Methods of evaluation may include, but are not limited to the following (please note that evaluation should measure the outcomes detailed 'Course Objectives' at the beginning of Section II):

Chapter tests, homework, and final exam.

8. METHODS OF INSTRUCTION:

Please Check All That Apply

- Lecture
- Discussion
- Laboratory
- Activity
- Field Experience
- Independent Study
- Other (Please Explain)

Computer aided instruction for out-of-class reinforcement.

9. SUPPLIES:

List the supplies the student must provide.

Pen, pencil, scientific calculator, textbook.

10. COMPUTER COMPETENCY:

If applicable, explain how computer competency is included in the course.

Basic computer competency helps student use tutorial software to provide more practice and better ensure success.

11. INFORMATION COMPETENCY:

If applicable, explain how information competency is included in the course.

Locating and using available resources, students analyze information and find solutions.

12. DIVERSITY:

If applicable, explain how diversity (e.g., cultural, gender, etc.) is included in the course.

Math is a universal language.

13. SCANS COMPETENCIES:

(required for all courses with vocational TOP Codes; recommended for all courses)

SCANS (Secretary's Commission on Necessary Skills) are skills the Department of Labor identified, in consultation with business and industry leaders, which reflect the skills necessary for success in the workplace. Check the appropriate boxes to indicate the areas where students will develop the following skills (please note that all SCANS competencies do not apply to all courses):

RESOURCES

- Managing Time:** Selecting relevant goal-related activities, ranking them in order of importance, allocating time to activities, and understanding, preparing and following schedules.
- Managing Money:** Using or preparing budgets, including making cost and revenue forecasts; keeping detailed records to track budget performance, and making appropriate adjustments.
- Managing Material and Facility Resources:** Acquiring, storing, allocating, and distributing materials, supplies, parts, equipment, space or final products in order to make the best use of them.

INTERPERSONAL

- Participating as Member of a Team:** Working cooperatively with others and contributing to group's efforts with ideas, suggestions and effort.
- Teaching Others New Skills:** Helping others learn needed knowledge and skills.
- Exercising Leadership:** Communicating thoughts, feelings, and ideas to justify a position, encouraging, persuading, convincing or otherwise motivating an individual or group, including responsibly challenging existing procedures, policies or authority.
- Negotiating:** Working toward agreement that may involve exchanging specific resources or resolving divergent interests.
- Working with Cultural Diversity:** Working well with men and women and with people from a variety of ethnic, social, or educational backgrounds.

INFORMATION

- Acquiring and Evaluating Information:** Identifying a need for data, obtaining the data from existing sources or creating them, and evaluating their relevance and accuracy.
- Organizing and Maintaining Information:** Organizing, processing and maintaining written or computerized records and other forms of information in a systematic fashion.
- Interpreting and Communicating Information:** Selecting and analyzing information and communicating the results of others, using oral, written, graphic, pictorial, or multimedia methods.
- Using Computers to Process Information:** Employing computers to acquire, organize, analyze and communicate information.

SYSTEMS

- Understanding Systems:** Knowing how social, organizational and technological systems work and operating effectively with them.
- Monitoring and Correcting Performance:** Distinguishing trends, predicting impacts of actions on system operations, diagnosing deviations in the functioning of a system/organization, and taking necessary steps to correct performance.
- Improving or Designs Systems:** Making suggestions to modify existing systems in order to improve the quality of products or services and developing new or alternative systems.

TECHNOLOGY

- Selecting Technology:** Judging which sets of procedures, tools or machines, including computers and their programs, will produce the desired results.
- Applying Technology to Tasks:** Understanding overall intent and proper procedures for setting up and operating machines, including computers and their reprogramming systems.
- Maintaining and Troubleshooting Equipment:** Preventing, identifying, or solving problems with equipment, including computers and other technologies.

Section III: RELATIONSHIP TO COLLEGE PROGRAMS

1. THIS COURSE WILL BE AN APPROVED REQUIREMENT FOR AN APPROVED ASSOCIATE DEGREE OR CERTIFICATE PROGRAM: Yes

a. If yes, the course will be a restricted elective portion of the 'approved program' listed on the State Chancellor's Inventory of Approved Programs (approved programs can be found on the State Chancellor's Office website at <https://misweb.cccco.edu/webproginv/prod/invmenu.htm>)

Banking and Finance AA - Program: 050400 State ID: 02861 Banking and Finance Certificate - Program: 050400 State ID: 02861 Business - Acctg./General Business AA - Program: 050500 State ID: 08443 Business - General Certificate - Program: 050100 State ID: 02860 Economics - Business Administration AA - Program: 050501 State ID: 08443 Economics - Business Administration Certificate - Program: 050502 State ID: 08443

2. GENERAL EDUCATION REQUIREMENTS FOR THE ASSOCIATE DEGREE STATUS:

a. Area Requested: D(2). Communications and Analytical Thinking

Approval Date: before 1990

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements.
http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

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b. Area Requested: None

Approval Date:

If applicable, provide an explanation of how the course meets the General Education parameters for one of the five general education areas - Natural Sciences, Social and Behavioral Sciences, Humanities, Language and Rationality, Health and Physical Education -- contained in Board Rule 6201.14 -General Education Requirements.
http://marlin.laccd.edu/district/BoardRules_AdmRegs/boardrules.htm

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Section IV: ARTICULATION INFORMATION

(Complete in consultation with College Articulation Officer)

1. TRANSFER STATUS:

a. Transferable to the University of California: Yes b. UC Approval Date:	c. Transferable to the California State University: Yes d. College Approval Date:
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2. GENERAL EDUCATION FOR TRANSFER:

<p><i>IGETC Certification</i></p> <p>a. Area Requested: 2A : Mathematics b. Date Requested: 1990 c. IGETC Approval Date: Fall 1991</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>	<p><i>CSU Certification</i></p> <p>a. Area Requested: B4 : Mathematics/Quantitative Reasoning b. Date Requested: before 1990 c. CSU Approval Date: before 1990</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>
<p>a. 2nd Area Requested: b. Date Requested: c. IGETC Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>	<p>a. 2nd Area Requested: None b. Date Requested: c. CSU Approval Date:</p> <p>If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.</p> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>

3. MAJOR REQUIREMENT FOR TRANSFER:

Will this course be articulated to meet lower division major requirements?: Yes

List college/university and the majors:

Various; Business Administration

CAN NUMBER: **CAN SEQUENCE #: N/A**

CAN Approval -

Date requested: Date approved:

Section V: SUPPLEMENTAL COURSE INFORMATION

1. **DEPT/DIVISION NAME:** Mathematics
2. **DEPT/DIVISION CODE:** 08
3. **SUBJECT CODE:** 589
4. **SUBJECT ABBREVIATION:** MATH
5. **RECOMMENDED MINIMUM QUALIFICATION AREA:**
6. **ABBREVIATION FOR TRANSCRIPTS:** CALCULUS BUS SOC SCI
7. **DEGREE CREDIT:**

Indicate whether the course meet the 'standards for approval' for degree credit course set forth in Title 5, section 55002(a)(2), which requires the course to have a degree of intensity, difficulty, and vocabulary that the curriculum committee has determined to be at the college level: **Degree Applicable**

8. **GRADING METHOD:** LETTER GRADE
9. **REPETITIONS:** # of times repeated for credit: **0**

If this course is repeatable, explain how repetition of this course meets Title 5, section 55041(c)(2)(B):

10. **PRIOR TO TRANSFERABLE LEVEL:**

This course attribute applies to **English, Writing, ESL, reading and mathematics** courses ONLY. If applicable, indicate how many levels below the transferable level this course should be placed: **Not applicable**

11. **CREDIT BASIC SKILLS:**

Title 5, section 55000(j) defines basic skills as 'courses in reading, writing, computation, and English as a Second Language, which are designated as non-degree credit courses pursuant to Title 5, section 55002(b)'.: **No**

12. **CROSS REFERENCE:**

Is this course listed as equivalent in content to existing College/District courses in another discipline?: **No**

If Yes, list courses (documentation of cross-discipline agreement must be provided):

13. **COURSE SPECIFICALLY DESIGNED FOR STUDENTS W/ DISABILITIES:**

Title 5, section 56029 allows a course to be repeatable when continuing success of the students with disabilities is dependent on additional repetitions of a specific class. Is this course designated as an 'approved special class' for students with disabilities?: **No**

If yes, provide an explanation of how this course meets the requirements of Title 5, section 56029:

14. COOPERATIVE EDUCATION STATUS:

Title 5, section 55252 allows for two types of Cooperative Education: 1) General Work Experience Education -- i.e., supervised employment, which is intended to assist students in acquiring desirable work habits, attitudes and career awareness, which need not be related to the students' educational goals; or 2) Occupational Work Experience Education - i.e., supervised employment, extending classroom based occupational learning at an on-the-job learning station, which is related to the students' educational or occupational goal. Is this course part of the college's approved cooperative work experience education program?: **No**

15. COURSE CLASSIFICATION: Liberal Arts and Sciences

Note: A course's Classification, TOP Code and SAM code must be aligned e.g., Courses with an 'Occupational' Course Classification must have an 'Occupational' TOP Code and a SAM Code of A, B, C, or D; courses that do not have an 'Occupational' Course Classification cannot have an Occupational TOP Code and must have an 'E' SAM Code. Courses coded as 'basic skills' in #11 should be coded 'Adult and Secondary Basic Skills.'

16. TOP CODE - (6 digits XXXX.XX): **1701.00**

Course content should match discipline description in Taxonomy of Programs found at <http://ecd.laccd.edu/TaxonomyOfPrograms.doccurriculum.htm>

17. SAM CODE (Student Accountability Model): **E**

18. FUNDING AGENCY CODE:

19. STATE COURSE ID:

Section VI: APPROVAL STATUS

1. APPROVAL STATUS:

		Approval Date Of	Board Date	Requested Effective Semester	Approved Effective Semester
a.	<input type="checkbox"/> New Course	College:	Board: 5/11/01	Effective Semester:	Effective Semester:
b.	<input type="checkbox"/> Addition of Existing District Course	College:	Board:	Effective Semester:	Effective Semester:
c.	<input type="checkbox"/> Course Change*	College:		Effective Semester:	Effective Semester:
d.	<input checked="" type="checkbox"/> Outline Update	College: 11/17/09			Effective Semester:
e.	<input type="checkbox"/> New Course	College:		Effective Semester:	Effective Semester:
f.	<input type="checkbox"/> New Course	College:	Board:	Effective Semester:	Effective Semester:

* Changes to a course require the completion of a 'Course Change Request' form and approval by the college's Curriculum Committee. In some cases districtwide approval is also required; see, Administrative Regulation E-65, section 3(c) for details.

Section VII: APPROVAL INFORMATION FOR NEW OR ADDED COURSES

(complete in consultation with Department Chair and the appropriate Academic Administrator)

N/A – Existing Course

1. **ORIGINATOR: Saakian, Lernik**

2. **DEPARTMENT: 08**

3. **IF THIS IS A NEW COURSE, INDICATE HOW THE COLLEGE PLANS TO MEET THE EXPENSE OF THIS COURSE:**

By additional funds. Describe:

By deleting courses from the college catalog and course database. List specific courses to be deleted:

By deleting sections of existing course. List courses and number of sections to be deleted:

FIRST YEAR: SECOND YEAR: THIRD YEAR:

By rotating sections of existing courses. List courses and number of sections to be rotated, as well as the semesters in which they will be offered:

4. **IMPACT**

IMPACT -- Will this course directly impact other course offerings and/or associate degree or certificate programs on campus? No (If yes, briefly explain how)

5. **METHOD OF SUPPORT**

-- Indicate how the college plans to support the proposed course:

Additional staff -- List additional staff needed:

Classroom -- List classroom type needed:

Equipment -- List new equipment needed and indicate funding source for any new equipment:

Supplies- List supplies and indicate dollar value:

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Library/Learning Resources- The course initiator shall consult with the College Librarian and review the college library, book, periodical, and electronic resource collections relevant to this course. List additional titles and resources to be considered for purchase as funding permits:

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CERTIFICATION AND RECOMMENDATION

- This course meets Title 5 requirements for Associate Degree applicable college credit towards an Associate Degree.
- This course meets Title 5 requirements but does not satisfy the requirements for an Associate Degree applicable course.

We certify that the information and answers above properly represent this course.

Lernik Saakian	11/17/2009
Originator	Date
Lernik Saakian	11/17/2009
Department/Cluster Chairperson	Date
Linda Larson-Singer	11/17/2009
Articulation Officer	Date
Ramon Miramontes	11/23/2009
Librarian	Date
Dan Walden	11/17/2009
Dean (if applicable)	Date
Linda Larson-Singer	11/17/2009
Curriculum Committee Chairperson	Date
Allison Moore	11/30/2009
Academic Senate President	Date
Mary Callahan	12/08/2009
Vice President, Academic Affairs	Date

Section VIII: ADDENDA

(Uploaded Documents)

CONTENT REVIEW FOR PREREQUISITE VALIDATION

Target Course & Number, Title: **MATH 236, CALCULUS FOR BUSINESS AND SOCIAL SCIENCES**
 (Course to which pre/corequisite/advisory applies)

Check
Applicable
Box

Prerequisite: **Mathematics 125, Intermediate Algebra**

Corequisite:

Advisory:

Target Course Entry Skills: Calculus for Business and Social Sciences

(For prerequisites/corequisites, list specific skills and/or knowledge necessary for students to succeed in the target class. For advisories, list skills/knowledge, which will enrich or deepen the student's knowledge obtained from the course but without which the student may still succeed in the course. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Solving linear and quadratic equations;
2. Solving linear system of equations and inequalities, matrices;
3. Rational and exponential expressions, applications;
4. Solving exponential and logarithmic equations.

B. Exit Skills Provided By Prerequisite/Corequisite/Advisory Course or Assessment:
Course & Number, Title (Math 125)

(List specific skills and/or knowledge that are the outcome of the prerequisite/corequisite/advisory course or assessment. For courses already in the curriculum, these should be present in the course objectives in the course outline. Attach additional sheet if necessary. NUMBER EACH SKILL.)

1. Set up and solve mathematical equations involving linear, quadratic, exponential, radical and logarithmic equations.
2. Set up and solve word problems involving linear, quadratic, exponential, radical and logarithmic equations.
3. Construct graphical tables and graphs of various functions.
4. Factor various linear, quadratic, exponential, radical and logarithmic equations.
5. Set up and construct graphs involving inequalities and absolute inequalities using appropriate properties of linear, quadratic, exponential, radical and logarithmic equations.

CONTENT REVIEW SKILLS MATRIX FOR PREREQUISITE VALIDATION*

***Validation requires at least one match of each entry skill with any exit skill(s).**

**MATH 236, Calculus for Business and Social Sciences
Entering Skills of Target Course**

**MATH 125
Intermediate Algebra
Exit Skills of Prerequisite Course**

	1	2	3	4	5	6	7	8	9
1	X			X					
2	X	X	X						
3				X					
4	X			X					
5				X					
6									
7									
8									

(Include justification for assessments, health and safety, or non-course prerequisites)

PARTICIPANTS IN CONTENT REVIEW:

(Signatories should include instructors for both exit and entering skills courses.)

Name: Lernik Saakian Title: Math Department Chair Initial: LS Date: 11/17/2009

Name: _____ Title: _____ Initial: _____ Date: _____

Name: _____ Title: _____ Initial: _____ Date: _____

CERTIFIED BY:

Lernik Saakian 11/17/2009
Initiator Date

Lernik Saakian 11/17/2009
Department Chairperson Date

Linda Larson-Singer 11/17/2009
Curriculum Chairperson Date