Section I: Basic Course Information

Outline Status: Course Update, 2005-2006

1. College: Southwest

2. Subject (Discipline) Name\(^1\): MATHEMATICS
   (40 characters, no abbreviations)

3. Course Number: 235

4. Course Title: Finite Mathematics

5. Units: 5

6. Catalog Course Description -- Provide a description of the course, including an overview of the topics covered:

   Review of algebra, mathematics of finance, linear programming, the simplex method, logic of inclusion and exclusion, topics in probability such as counting principles, probability, random variables, Markov chain, and elementary statistics.

7. Class Schedule Course Description -- Provide a brief description of the course, including an overview of the topics covered:

   Review of algebra, mathematics of finance, linear programming, the simplex method, logic, topics in probability such as counting principles, probability, random variables, Markov chain, and statistics.

8. Initial College Course Approval Date: before 1990
   Outline Approval Date: 11/15/05

9. Updates (check all applicable boxes):

   ☒ Content Last Update: 1998
   ☒ Objectives Last Update: 1998
   ☐ College Specific Course Attributes/Data Elements Last Update: 
   ☐ Districtwide Course Attributes/Data Elements Last Update: 
   ☒ Other (describe) Last Update: Minor change in Course Description; Prerequisite revalidation

\(^1\) Underlined course attributes are the same for the course throughout the LACCD; all other course attributes are college specific.
10. CLASS HOURS:

<table>
<thead>
<tr>
<th></th>
<th>&quot;Standard Hours&quot; per Week (based on 18 weeks)</th>
<th>Total Hours per Term (hrs per week x 18)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture:</td>
<td>5.00</td>
<td>90.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Lab/activity (w/ homework):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab/activity (w/o homework):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>5.00</td>
<td>90.00</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Note: The Carnegie Rule and Title 5, section 55002 sets forth the following minimum standards: 1 unit = 1 hour lecture per week, 2 hours homework per week; OR 2 hours per week of lab with homework; OR 3 hours of lab per week without homework. The hours per week are based on a standard 18-week calendar. Lecture also includes discussion and/or demonstration hours, laboratory includes activity and/or studio hours.

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.

ENTRY SKILLS FOR COURSES WITH PREREQUISITES:

1. Use matrices to solve a consistent system of two or three equations with two or three unknowns.
2. Solve and graph linear equations and inequalities.
3. Manipulate algebraic expressions.
4. Apply order of operations in evaluating numerical expressions.
5. Translate verbally stated problems in to appropriate mathematical form.
6. Solve basic interest problems involving simple interest and annual compounding.
7. Solve exponential, logarithmic and radical equations
8. Solve equations with conics such as (circles, parabolas, hyperbolas, and ellipses)
9. Use binomial expansion, sequence and series.

Prerequisites: Yes (If Yes, complete information below)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Validation Approval Date (official use only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>125</td>
<td>Intermediate Algebra</td>
<td>5.00</td>
<td>11/15/05 (previously 2/17/1998)</td>
</tr>
</tbody>
</table>
. Corequisite: **None** (If Yes, complete information below)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Validation Approval Date (official use only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

. Advisories: **None** (If Yes, complete information below)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Validation Approval Date (official use only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

12. **REPETITIONS** -- Number of times course may be repeated for credit (three maximum): **0 None** (see: Section V, #9)

13. **OTHER LIMITATIONS ON ENROLLMENT** (see Title 5, Section 58106 and Board Rule 6803 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

| None |
### COURSE CONTENT AND OBJECTIVES:

#### COURSE CONTENT AND SCOPE – Lecture:

If applicable, outline the topics included in the lecture portion of the course *(outline reflects course description, all topics covered in class).*

| Hours per topic | COURSE OBJECTIVES - Lecture *(If applicable):* Upon completion of this course, the student will be able to:
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1. Use matrices to solve linear system of equations</td>
</tr>
<tr>
<td>8</td>
<td>2. Calculate elementary mathematics of finance: compound interest, annuities, and amortization.</td>
</tr>
<tr>
<td>8</td>
<td>3. Apply counting techniques to compute probabilities where outcomes are equally likely.</td>
</tr>
<tr>
<td>8</td>
<td>4. Explain and apply elementary combinatorics, including multiplication principles, permutations, combinations, partitions, and principles of inclusion and exclusion.</td>
</tr>
<tr>
<td>10</td>
<td>5. Appraise a problem and choose appropriate foundation skills to perform operations involving statistics and operation research</td>
</tr>
<tr>
<td>10</td>
<td>6. Given raw data groups, compute the mean, variance and standard deviation.</td>
</tr>
<tr>
<td>10</td>
<td>7. Use the formulas for simple and compound interest to apply to sinking funds and amortization.</td>
</tr>
<tr>
<td>10</td>
<td>8. Apply the study of matrices to the Leontieff Input-Output Analysis.</td>
</tr>
<tr>
<td>10</td>
<td>9. Formulate a linear programming problem and apply the simplex method to its solution.</td>
</tr>
</tbody>
</table>

#### STUDENT LEARNING OUTCOMES:

As a result of this learning experience students can:

1. Assess real and potential statistical and finance problems and use mathematical applications to solve them.
2. Compare and contrast two data groups by using statistical principles.
**COURSE CONTENT AND SCOPE -- Laboratory:**
If applicable, outline the topics included in the laboratory portion of the course (outline reflects course description, all topics covered in class).

**COURSE OBJECTIVES - Laboratory (if applicable):**
Upon successful completion of this course, the student will be able to… (Use action verbs – see Bloom’s Taxonomy below for “action verbs requiring cognitive outcomes.”)²

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### Bloom’s Taxonomy

#### SIMPLE SKILLS <<-------------------------->> COMPLEX SKILLS

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>define</td>
<td>translate</td>
<td>interpret</td>
<td>distinguish</td>
<td>compose</td>
<td>judge</td>
</tr>
<tr>
<td>repeat</td>
<td>restate</td>
<td>apply</td>
<td>analyze</td>
<td>plan</td>
<td>appraise</td>
</tr>
<tr>
<td>record</td>
<td>discuss</td>
<td>employ</td>
<td>differentiate</td>
<td>propose</td>
<td>evaluate</td>
</tr>
<tr>
<td>list</td>
<td>describe</td>
<td>use</td>
<td>appraise</td>
<td>design</td>
<td>rate</td>
</tr>
<tr>
<td>recall</td>
<td>recognize</td>
<td>demonstrate</td>
<td>calculate</td>
<td>formulate</td>
<td>compare</td>
</tr>
<tr>
<td>name</td>
<td>explain</td>
<td>dramatize</td>
<td>experiment</td>
<td>arrange</td>
<td>value</td>
</tr>
<tr>
<td>relate</td>
<td>express</td>
<td>practice</td>
<td>test</td>
<td>assemble</td>
<td>revise</td>
</tr>
<tr>
<td>underline</td>
<td>identify</td>
<td>illustrate</td>
<td>compare</td>
<td>collect</td>
<td>score</td>
</tr>
<tr>
<td></td>
<td>locate</td>
<td>operate</td>
<td>contrast</td>
<td>construct</td>
<td>select</td>
</tr>
<tr>
<td></td>
<td>report</td>
<td>schedule</td>
<td>criticize</td>
<td>create</td>
<td>choose</td>
</tr>
<tr>
<td></td>
<td>review</td>
<td>shop</td>
<td>diagram</td>
<td>set up</td>
<td>assess</td>
</tr>
<tr>
<td></td>
<td>tell</td>
<td>sketch</td>
<td>inspect</td>
<td>organize</td>
<td>estimate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>debate</td>
<td>prepare</td>
<td>measure</td>
</tr>
</tbody>
</table>

² In general “activity” courses or portions of courses are classified “laboratory.”
2. REQUIRED TEXTS:

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

Lial/Greenwood/Ritchey; Finite Mathematics; 7th Edition; 2002

3. SUPPLEMENTARY READINGS:

Reading assignments may include, but are not limited to the following:

Intermediate Algebra and Introductory Statistics books.

4. WRITING ASSIGNMENTS:

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.” Writing assignments in this course may include, but are not limited to the following:

Students will apply Logarithmic expressions to reduce mathematical calculations. Rational expressions and functions are also written in mathematical terms.

5. REPRESENTATIVE OUTSIDE ASSIGNMENTS:

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

N/A

6. REPRESENTATIVE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

Title 5, section 55002(a) requires that a degree-applicable course have a level of rigor that includes “critical thinking and the understanding and application of concepts determined by the curriculum committee to be at college level”. Critical thinking may include, but is not limited to analysis, synthesis, and evaluation. Provide examples of assignments that demonstrate critical thinking.

By the case of factoring to achieve an outcome, graphs, and solving exponential equations.

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):

Sequences of tests, home work, computer assisted instruction and final exam.

8. METHODS OF INSTRUCTION:

Methods of instruction may include, but are not limited to the following:

- Lecture
- Discussion
- Laboratory
- Activity
- Field Experience
9. SUPPLIES:

List the supplies the student must provide.

| Pen, pencil, scientific calculator, graphing calculator, textbook. |

10. COMPUTER COMPETENCY:

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

| Student’s ability to succeed can be enhanced by math software tutorials in LRC computer lab. |

11. INFORMATION COMPETENCY:

Information competency is the ability to find, evaluate use, and communicate information in all its various formats. It combines aspects of library literacy, research methods and technological literacy. Information competency includes consideration of the ethical and legal implications and requires the application of both critical thinking and communications skills. If applicable, explain how information competency is included in the course.

| When using computer/software in the LRC, students improve their skills to access, retrieve, and use information and math functions across the math curriculum. |

12. DIVERSITY:

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

| Math is a universal language. It crosses all cultures |

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 http://misweb.cccco.edu/esed/webproginv/prod/invmenu.htm

   Restricted elective for Business Administration: Accounting/General Business, (Program ID # ----), Economics (Program ID # 08443) and Management/Supervision (Program ID # 02862)

   NOTE: In order for a course to be approved as a requirement for an associate degree or certificate program, the program must be listed on the State Chancellor’s Office Inventory of Approved Programs AND the course must be listed in the college catalog as either a requirement or an elective for the program. If course is not part of an approved program at the college adopting the course, it will be considered to be a “stand-alone” course, and is subject to the State Chancellor’s approval criteria. The college must complete and submit the Chancellor’s Office “APPLICATION FOR APPROVAL OF CREDIT” form. Certain courses are granted “blanket approval” by the State Chancellor’s Office and do not require separate approval. See the Chancellor’s Office Program and Course Approval Handbook for details. LACCD Skills Certificates are not State approved programs and are not listed on the Chancellor’s Office Inventory of Approved Programs.

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

   a. 2nd Area requested: None Approval date:

   If applicable, provide an explanation of how the course meets General Education parameters for an additional general education area – 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
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: before 1990
   c. Transferable to the California State University: Yes
   d. College approval date: before 1990

2. GENERAL EDUCATION FOR TRANSFER:

   IGETC Certification:  
   a. Area requested: 2:Mathematical concepts Quantitative reasoning
   b. Date requested: 12/91
   c. IGETC approval date: Fall 92

   If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.

   CSU Certification:
   a. Area requested: B-4 Mathematical Quantitative Reasoning
   b. Date requested: before 1990
   c. CSU approval date: before 1990

   If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in CSU Certification Guidelines.

   a. 2nd Area requested: None
   b. Date requested:
   c. IGETC approval date:

   If applicable, provide an explanation of how the course meets the appropriate General Education parameters, as defined in IGETC Certification Guidelines.

3. MAJOR REQUIREMENT FOR TRANSFER – Will this course be articulated to meet lower division major requirements? YES

   List college/university and the majors:

<table>
<thead>
<tr>
<th>College/University</th>
<th>Major(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSU Chico, Dominguez Hills, Fresno, et al.</td>
<td>Business</td>
</tr>
</tbody>
</table>

CAN NUMBER: CAN SEQUENCE NUMBER:
CAN Approval -- Date requested: Date approved:
Section V: SUPPLEMENTAL COURSE INFORMATION

1. DEPARTMENT/DIVISION NAME: Mathematics

2. DEPARTMENT/DIVISION CODE: 8

3. SUBJECT CODE -- 3 characters, assigned by District Office: 589 (existing subject codes are available on the LACCD web site at http://www.laccd.edu/curriculum/directory-programs-courses/index.htm

4. SUBJECT ABBREVIATION -- 7 characters, assigned by District Office: MATH

5. SPC CODE -- 3 characters, assigned by District Office:

6. ABBREVIATION FOR TRANSCRIPTS -- 20 characters, assigned by District Office: MATH

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: 
   This courses is Degree Applicable

8. CREDIT/NO CREDIT GRADING: No

9. REPETITIONS -- Number of times course may be repeated for credit (three maximum): 0

   How does the repetition of this course meet Title 5, section 58161 requirements? A course may be repeatable when, “course content differs each time it is offered, and that the student who repeats it is gaining an expanded educational experience for one of the following reasons: (A) Skills or proficiencies are enhanced by supervised repetition and practice within class periods; or (B) Active participatory experience in individual study or group assignments is the basic means by which learning objectives are obtained."

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 5502(d) 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 5502(b)." No If Yes, course must be non-degree applicable.

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 WITH 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 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 www.cccco.edu/cccco/esed/curric/curriculum.htm.

17. SAM CODE (Student Accountability Model): E – Non-Occupational

SAM Codes (see CCC Chancellor’s Office Student Accountability Model Operations Manual, 1984) should be assigned as follows:

Priority "A" -- Apprenticeship: Courses designed for an indentured apprentice must have the approval of the State of California, Department of Industrial Relations Department, Division of Apprenticeship Standards.

Priority "B" -- Advanced Occupational: Courses taken by students in the advanced stages of their occupational programs. Courses should be offered in one specific occupational area only. Priority letter “B” should be assigned sparingly; in most cases, no more than two courses in any one program should be labeled “B.” “B”-level courses must have Priority “C” prerequisites in the same program area.

Priority "C" -- Clearly Occupational: Courses generally taken by students in the middle stages of their programs should have a difficulty level sufficient to detract "drop-ins." Courses may be offered in several occupational programs within a broad area. The "C" priority, however, should also be used for courses within a specific program area when the criteria for "B" classification are not met. A “C”-level course should provide the student with entry-level job skills.

Priority "D" -- Possibly Occupational: “D” courses are those taken by students in the beginning stages of their occupational programs. The “D” priority can also be used for service (or survey) courses for other occupational programs.

Priority "E" -- Non-occupational.
SECTION VI: APPROVAL STATUS

1. APPROVAL STATUS:

a. ☐ New Course  . Board Approval Date:  . Effective Semester:
b. ☐ Addition of Existing District Course  . College Approval Date:  . Effective Semester:
c. ☐ Course Change*  . College Approval Date:  . Effective Semester:
d. ☑ Outline Update  . College Approval Date: 11/15/05

* 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.
LOS ANGELES COMMUNITY COLLEGE DISTRICT
COURSE STANDARDS AND CRITERIA

Subject: **MATHEMATICS**  Number:  **235**  Course Title: **FINITE MATHEMATICS**

Using the Official Course Outline, please determine whether or not the above listed credit course meets the following standards and criteria required in Title V, Part VI of the California Administrative Code, and which has been designated as appropriate to the Associate Degree. Place a (X) in the appropriate box.

<table>
<thead>
<tr>
<th>CRITERIA AND STANDARDS</th>
<th>RATING CRITERION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 55002</strong></td>
<td><strong>MET</strong></td>
</tr>
<tr>
<td>Is recommended by the responsible college officials, and the academic senate or other appropriate faculty body as meeting the requirements of this subsection and has been approved by the local district governing board as a course meeting the needs of the students for admission.</td>
<td>X</td>
</tr>
<tr>
<td>Is taught by a credentialed instructor in the discipline.</td>
<td>X</td>
</tr>
<tr>
<td>Is offered as described in an outline in official college files. That the outline shall specify the unit value, scope, objectives, content in terms of a specific body of knowledge, appropriate reading and writing assignments, outside of class assignments, instructional methodology and methods of evaluation for determining whether the stated objectives have been met by students.</td>
<td>X</td>
</tr>
<tr>
<td>Is taught in accordance with a set of instructional objectives common to all students.</td>
<td>X</td>
</tr>
<tr>
<td>Provides for measurement of students performance in terms of the stated course objectives and culminates in a formal recorded grade based upon uniform standards in accordance with Section 55578 of Title 5, which is permanently recorded as an evaluation of student performance; bases grades on demonstrated proficiency in subject matter determined by multiple measurement for evaluation; and has examinations, including essays and/or, where appropriate, uses appropriate symbol systems and/or skills demonstrations by students.</td>
<td>X</td>
</tr>
<tr>
<td>Grants units of credit based upon a specified relationship between the number of lecture and/or laboratory hours or performance criteria specified in the course outline; and requires a minimum of three hours of work per week including class time for each unit of credit, prorated for short-term, lab and activity courses.</td>
<td>X</td>
</tr>
<tr>
<td>Treats subject matter with a scope and intensity which requires students to study independently outside of class time.</td>
<td>X</td>
</tr>
<tr>
<td>Requires, when appropriate, entrance skills and consequent prerequisites for the course before students are enrolled</td>
<td>X</td>
</tr>
<tr>
<td>Requires the ability to think critically and to understand and apply concepts in order to participate in the course.</td>
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<td>Requires learning skills and a vocabulary appropriate for a college course.</td>
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<td>Requires the use of college level educational materials.</td>
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CONTENT REVIEW FOR PREREQUISITE VALIDATION

Target Course & Number, Title: MATH 235, FINITE MATHEMATICS
(Course to which pre/corequisite/advisory applies)

Check
Applicable
Box

☐ Prerequisite: Math 125, Intermediate Algebra

☐ Corequisite:

☐ Advisory:

A. Target Course Entry Skills: Math 235, Finite Mathematics
(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. Use matrices to solve a consistent system of two or three equations with two or three unknowns.
2. Solve and graph linear equations and inequalities.
3. Manipulate algebraic expressions.
4. Apply order of operations in evaluating numerical expressions.
5. Translate verbally stated problems in to appropriate mathematical form.
6. Solve basic interest problems involving simple interest and annual compounding.
7. Solve exponential, logarithmic and radical equations.
8. Solve equations with conics such as (circles, parabolas, hyperbolas, and ellipses).
9. Use binomial expansion, sequence and series.

B. Exit Skills Provided By Prerequisite/Corequisite/Advisory Course or Assessment: Math 125, Intermediate Algebra
(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 words 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 235, Finite Mathematics**

**Entering Skills of Target Course**

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<tr>
<th>Math 125, Intermediate Algebra</th>
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<td>Exit Skills of Prerequisite Course</td>
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**Comments:**
(Include justification for assessments, health and safety, or non-course prerequisites)

*Validation requires at least one match of each entry skill with any exit skill(s). Was validation achieved? YES

**PARTICIPANTS IN CONTENT REVIEW:**
(Signatories should include instructors for both exit and entering skills courses.)

- Name: __________________________ Title: __________________________ Initial: ________ Date: ________
- Name: __________________________ Title: __________________________ Initial: ________ Date: ________
- Name: __________________________ Title: __________________________ Initial: ________ Date: ________

**CERTIFIED BY:**

- Zekarias Dammenga, Date: 12/01/05
- James King, Date: 11/21/05
- Linda Larson-Singer, Date: 11/16/05
CERTIFICATION AND RECOMMENDATION

☒ This course meets Title 5 requirements for Associate Degree applicable college credit towards an Associate of Arts 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.

Zekarias Dammena
Originator
12/01/05

James King
Department/Cluster Chairperson
11/21/05

Linda Larson Singer
Articulation Officer
11/16/05

Shelley Werts
Librarian
11/25/05

Earnestine Thomas-Robertson
Dean (if applicable)
12/01/05

Linda Larson-Singer
Curriculum Committee Chairperson
11/16/05

Reggie Morris
Academic Senate President
11/21/05

Leige Henderson
Vice President, Academic Affairs
12/02/05

Audre Levy
College President
12/05/05