MATH M725A: BRIDGE TO MATH M25A

Originator
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Co-Contributor(s)

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College
Moorpark College

Discipline (CB01A)
MATH - Mathematics

Course Number (CB01B)
M725A

Course Title (CB02)
Bridge to MATH M25A

Banner/Short Title
Bridge to MATH M25A

Credit Type
Credit

Start Term
Fall 2023

Catalog Course Description
Reviews the prerequisite materials necessary to be successful in MATH M25A. Includes rationalizing denominators, factoring, logarithms, piecewise functions, and trigonometric functions.

Taxonomy of Programs (TOP) Code (CB03)
1701.00 - Mathematics, General

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
C (Not transferable)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
E - Non-Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
2 - Not Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
Will not be required

Grading method
(P) Pass/No Pass Grading

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
8.75
Maximum Contact/In-Class Lecture Hours
8.75

Activity

Laboratory

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
8.75
Total Maximum Contact/In-Class Hours
8.75

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
17.5
Maximum Outside-of-Class Hours
17.5

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
26.25
Total Maximum Student Learning Hours
26.25

Minimum Units (CB07)
.5
Maximum Units (CB06)
.5

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	gain an understanding of mathematical topics in preparation for a first semester Calculus course by studying various Pre-Calculus topics through participating in the review session with the provided materials.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	rationalize the numerator and denominator of an expression.
2	factor polynomials.
3	expand logarithmic expressions.
4	graph piecewise and absolute value functions.
5	expand a binomial using the Binomial Theorem.
6	evaluate trigonometric expressions.
7	solve trigonometric equations.
8	solve trigonometric inequalities.
9	graph exponential functions.
10	graph logarithmic functions.
11	graph inverse trigonometric functions.

Course Content

Lecture/Course Content
40% A. Algebra
1. Rationalize the numerator and denominator of an expression
2. Factor polynomials
3. Expand logarithmic expressions

4. Expand a binomial expression

10% B. Functions
1. Graph a piecewise function
2. Graph an absolute value function

25% C. Graph functions
1. Graph exponential functions
2. Graph logarithmic functions
3. Graph inverse trigonometric functions

25% D. Trigonometric equations, expressions and inequalities
1. Evaluate trigonometric expressions
2. Solve trigonometric equations
3. Solve trigonometric inequalities

Laboratory or Activity Content

N/A

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Written expression
Problem solving exercises
Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Other (specify)
Classroom Discussion

Other

Since this is a non-graded module, students receive credit for attendance to the full hours of the course.

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Class activities
Class discussions
Demonstrations
Distance Education
Instructor-guided interpretation and analysis
Instructor-guided use of technology
Lecture
Other (specify)

Specify other method of instruction

All instructors will use best practices to provide an inclusive learning
environment that respects all forms of racial, ethnic, age, and gender
diversity, and provides for the individual needs of students of all learning
styles.

Describe specific examples of the methods the instructor will use:

use of whiteboard or document camera to demonstrate methods of solving equations such as logarithmic and trigonometric equations.

guided classroom practice, facilitated by instructor, with the assistance of Course Embedded Tutor, such as practice sets on factoring, graphing, and identifying features of polynomial functions.

discussion of topics, including student question and response, such as determining proper strategies to graph polynomial, trigonometric or logarithmic functions.

Representative Course Assignments

Writing Assignments
1. Problems selected from the bridge packet where answers require a written explanation of the solution, such as solving an equation.

2. Assignments requiring complete solutions using both written English and symbolic mathematical language, such a solving a quadratic trigonometric equation.

Critical Thinking Assignments
1. Compare and contrast methods of solution to mathematical problems.
2. Apply analytic techniques for solving mathematical and application problems.

Reading Assignments
1. Reading prepared materials distributed to students, such as workbook and guided notes.
2. Reading word problems or application type problems.

Skills Demonstrations
1. Demonstration of complete factorization of polynomials or simplification of algebraic expressions.
2. Demonstration of graphing logarithmic, exponential, and inverse trigonometric functions.

Problem-Solving and Other Assignments (if applicable)
1. Solving trigonometric equations and inequalities.
2. Solving polynomial, trigonometric and logarithmic equations.

Outside Assignments

Representative Outside Assignments
1. Problems selected from the bridge packet where answers require a written explanation of the solution, such as simplifying a logarithmic equation.
2. Assigned reading from bridge packet.

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Classic Textbook
No

Description
Sullivan, Michael. *Precalculus: Concepts Through Functions, A Unit Circle Approach to Trigonometry.* 4th ed., Pearson, 2021.

Resource Type
Textbook

Classic Textbook
No

Description

Larson, Ron. *Precalculus,* 11th ed., Cengage, 2022.

Resource Type

Textbook

Classic Textbook

No

Description

Schulz, Eric, Julianne Connell Sachs, and William L. Briggs. *Precalculus.* 2nd ed., Pearson, 2022.

Resource Type

Textbook

Description

Abramson, Jay. *Precalculus.* E-book, 2nd Ed., Open Stax, 2022. https://openstax.org/details/books/precalculus-2e. Accessed 20 Oct 2022.

Library Resources

Assignments requiring library resources

Research using the library's print and online resources.

Sufficient Library Resources exist

Yes

Example of Assignments Requiring Library Resources

Using the Library's print and online resources to provide support material for algebraic content and real world problems. May want to make use of the math textbooks on reserve at Circulation Desk.

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (1%–50% online)
Hybrid (51%–99% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups.
E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Face to Face (by student request; cannot be required)	Students requesting to speak to instructor in person for personal help on material, grade information, or discussion of policies and procedures.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

Hybrid (51%–99% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups.
E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Face to Face (by student request; cannot be required)	Students requesting to speak to instructor in person for personal help on material, grade information, or discussion of policies and procedures.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

100% online Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups.
E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

Examinations

Hybrid (1%–50% online) Modality
On campus
Online

Hybrid (51%–99% online) Modality
On campus
Online

Primary Minimum Qualification
MATHEMATICS

Review and Approval Dates

Department Chair
10/12/2022

Dean
10/17/2022

Technical Review
10/20/2022

Curriculum Committee
11/01/2022

DTRW-I
MM/DD/YYYY

Curriculum Committee
MM/DD/YYYY

Board
MM/DD/YYYY

CCCCO
MM/DD/YYYY

Control Number
CCC000597398

DOE/accreditation approval date
MM/DD/YYYY