

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

ACADEMIC SENATE

GENERAL EDUCATION COMMITTEE

REPORT TO

THE ACADEMIC SENATE

GE-005-190

MAT 1052: College Algebra Stretch II (GE Sub-Area B4)

General Education Committee

Date: 10/16/2019

Executive Committee
Received and Forwarded

Date: 11/06/2019

Academic Senate

Date: 11/13/2019
First Reading
12/04/2019
Second Reading

TITLE OF REFERRAL: MAT 1052: College Algebra Stretch II (GE Sub-Area B4)

BACKGROUND:

The Mathematics and Statistics Department wishes to add the course MAT 1052: College Algebra Stretch II to GE sub-Area B4.

RESOURCES CONSULTED:

Office of Academic Programs
Berit Givens

DISCUSSION:

This is an existing course that needs to be included in GE Sub-area B4 because its equivalent is GE certified at other institutions and, consequently, it would be in harmony with EO 1100 that encourages transfer equity. The course ECO has been upgraded and it meets the rubrics of courses for GE sub-area B4.

RECOMMENDATION:

The GE recommends approval of GE-005-190 MAT 1052: College Algebra Stretch II (GE Sub-Area B4).

Curriculog printout provided for reference only. For latest information refer to Curriculog database

MAT - 1052 - College Algebra Stretch II

C. Course - New/Modify General Education

Department*

Proposal Type* New GE Course Modify GE Course

Modification Summary This course is currently not classified as a GE course, but for numerous reasons, including increasing equity between transfer and non-transfer students, and in order to conform with the CSU system norms, we wish to elevate this course to a GE course.

Establish or Modify Articulation Agreement* Yes No

Subject Area* **Catalog Number*** 1052

Formal Course Title* College Algebra Stretch II

Abbreviated Course Title* College Algebra Stretch II

Unit(s)*

C/S Classification*

To view C/S Classification Long Description click: http://www.cpp.edu/~academic-programs/scheduling/Documents/Curriculum%20Guide/Appendix_C_CS_Classification.pdf

Component*

Contact Hour(s)

Instruction Mode(s)*

Grading Basis*

Repeat for Credit*

May be taken only once

Repeat for Credit
LimitIf course may be
repeated for
credit, total units
applicable to
degree and max
units per
semester.

When Offered

Cross Listed
Course Subject
Area and Catalog
NbrDual Listed
Course Subject
Area and Catalog
NbrCourse Category
(select all that
apply)*

- Major Course
- Service Course (used in other programs)
- GE Course
- None of the above

GE Area/Subarea*

B4

To view the General Education SubArea definitions, click <http://www.cpp.edu/~academic-programs/scheduling/Documents/Ch.3-GeneralEducationProposals.pdf>.

I. Catalog Description

Catalog Description* This is the second of a two course sequence in College Algebra.

The theory and applications of real-valued functions. Graphing and solving equations with exponential and logarithmic functions. Equations and inequalities, including polynomial and absolutely value inequalities. Systems of equations, both linear and nonlinear. Symbolic and graphical representations of functions. Use of graphing devices to support reasoning about functions.

II. Required Coursework and Background (i.e. Enrollment Requirements)

Prerequisite(s)
(leave blank if
none)

C- or better in [MAT 1051](#).

(leave blank if none)

Pre or
Corequisite(s)
(leave blank if none)

Concurrent (leave blank if none)

III. Course Note(s) (OPTIONAL)

Note(s)

IV. Expected Outcomes

A. List the knowledge, skills, or abilities which students should possess upon completing the course.*

Upon successful completion of the course, students will be able to:

- 1) Synthesize results from graphs and/or equations of functions;
- 2) Solve and apply absolute value, exponential, and logarithmic equations;
- 3) Solve and apply linear, nonlinear, and absolute value inequalities;
- 4) Solve systems of equations and inequalities.
- 5) Apply functions, equations, and inequalities to model real world applications in STEM and social sciences.

B. If this is a course for the major, describe how these outcomes relate to the mission, goals and objectives of the major program.

C. Explain how the course meets the description of the GE SubArea(s). Please select appropriate outcomes according to the GE Area/SLO mapping.*

The course description for subarea B4 is:

Courses in this area will require the student to use basic mathematical skills to develop mathematical reasoning, investigative and problem solving abilities, including applications from/to real life situations. Courses in this area will have an explicit intermediate algebra prerequisite, and students shall develop skills and understanding beyond the level of intermediate algebra. Students will not only practice computational skills, but will also be able to explain and apply basic mathematical concepts and solve problems using quantitative methods.

The Expected Outcomes for MAT 1052 includes outcomes related to basic mathematical skills (SLOs 1-4) to develop mathematical reasoning (SLOs 4, 5),

goes well beyond the level of intermediate algebra. Students will be required to express their answers in complete sentences, without coherent explanations of the problem-solving and interpretations of the mathematics.

D. Describe how these outcomes relate to the associated GE Learning Outcomes listed below.*

Students are required to present their solutions to problems in clear and coherent form. Solutions must be organized so as to give a clear exposition of the problem or topic being discussed. These go towards Course SLOs 1 and 5, which supports the GE SLOs (1a) and (1e).

GE SLO (2a) is related to Course SLO 5.

GE SLO (4b) is related to all of the Course SLOs, as the topics of algebra are challenging subjects that require intellectual growth to master.

This course also includes a meaningful written component as described in section IX.

General Education Outcomes*

Ia. Write effectively for various audiences

Ie. Apply and communicate quantitative arguments using equations and graphical representations of data.

IIa. Apply scientific methods and models to draw quantitative and qualitative conclusions about the physical and natural world.

IVb. Demonstrate activities, techniques, or behaviors that promote intellectual or cultural growth.

To view the mapping, click <https://www.cpp.edu/~academic-programs/Documents/GE%20SLO%20Mapping.pdf>

V. Instructional Materials

Provide bibliography that includes texts that may be used as the primary source for instruction, and other appropriate reference materials to be used in instruction. The reference list should be current, arranged alphabetically by author and the materials should be listed in accepted bibliographic form.

Instructional Materials*

A standard college algebra textbook, for example:

- *Algebra and Trigonometry*, Cynthia Young, 4th ed. Wiley, 2016.
- *Algebra and Trigonometry*, Ron Larson, 10th ed. Cengage.
- *Algebra and Trigonometry*, Sullivan, 8th ed.

Faculty are encouraged to make all materials accessible. Indicate with an asterisk those items that have had accessibility (ATI/Section 508) reviewed For more information <http://www.cpp.edu>

VI. Minimum Student Materials

List any materials, supplies, equipment, etc., which students must provide, such as notebooks, computers, internet access, special clothing or uniforms, safety equipment, lockers, sports equipment, etc. Note that materials that require the assessment of a fee may not be included unless the fee has been approved according to University procedures.

Minimum Student Materials* Paper, pen or pencil, internet access, computer or access to computer lab, calculators may be required by some instructors

VII. Minimum College Facilities

List the university facilities/equipment that will be required in order to offer this class, such as gymnastic equipment, special classroom, technological equipment, laboratories, etc.

Minimum College Facilities* Classroom with standard computer, classroom projection system, whiteboard or chalkboard, and screen.

VIII. Course Outline

Describe specifically what will be included in the course content. This should not be a repetition of the course description but an expansion that provides information on specific material to be included in the class, e.g. lecture topics, skills to be taught, etc. This should not be a week-by-week guide unless all instructors are expected to follow that schedule.

Course Outline* Functions including exponential, absolute value, logarithmic; domain and range, evaluation;

Graphs and transformations of the aforementioned functions;

Equations including exponential, logarithmic, and absolute value functions;

Linear, nonlinear, and absolute value inequalities;

Systems of equations and inequalities.

IX. Instructional Methods

Describe the type(s) of method(s) that are required or recommended for the instruction of this course (lectures, demonstrations, etc.). Include any method that is essential to the course, such as the use of particular tools or software.

Instructional Methods* Lecture, classroom discussion, activity, computer-aided demonstration.

X. Evaluation of Outcomes

A. Describe the Written and/or online homework or quizzes

learning, i.e. written exams, term papers, projects, participation, quizzes, attendance, etc.*

Final exam;
In-class activities or participation (optional)

B. Describe the required meaningful writing assignments to be included.*

This course contains multiple assessments with a written component. Clear writing is important in mathematics, as it is in any other field. Students are required to present their solutions in a clear and coherent form. Complete sentences are required, whether they be verbal or symbolic, and these sentences must be organized in such a fashion as to give a clear exposition of the problem. Feedback will be given throughout the quarter by the instructor.

C. Discuss how these methods may be used to address the course and program outcomes, as appropriate. Include or attach a matrix to align the evaluation methods to the outcomes.*

	HW/quizzes	Exams	Written assignments
SLO 1	X	X	X
SLO 2	X	X	
SLO 3	X	X	
SLO 4	X	X	
SLO 5	X	X	X

D. If this is a general education course, discuss how these methods may be used to address the associated GE Learning Outcomes listed below. Include or attach a matrix to align the evaluation methods to the outcomes.*

	HW/Quizzes	Exams	Written assignments
Goal 1a	X	X	X
Goal 1e	X	X	X
Goal 2a	X	X	
Goal 4b	X		X

XI. Course/Department/College Specific Requirements (OPTIONAL)

**Department/
College Required
ECO Information
(Optional)**

FOR OFFICE OF ACADEMIC PROGRAMS USE ONLY

**AY Proposal
Submitted**

2019-2020

**AY Proposal
Implemented**

**PS Academic
Group** 75-CSCI

**PS Academic
Organization** 487-MATH

Course Type Mathematics

**PS Course ID (for 014537
modified courses
only)**

Impact Report Attached
**(for modified
courses only)**

FOR ACADEMIC SENATE OFFICE USE ONLY

Senate Referral GE-005-190
Number

**Senate Report
Number**

2019-2020