Cerro Coso College

Course Outline of Record Report

10/14/2021

MATHC053 : Preparation for Statistics

General Information

Author:	-
Course Code (CB01) :	MATHC053
Course Title (CB02) :	Preparation for Statistics
Department:	Mathematics
Proposal Start:	Fall 2013
TOP Code (CB03) :	(1702.00) Mathematics Skills
SAM Code (CB09) :	Non-occupational
Distance Education Approved:	Yes
Course Control Number (CB00) :	CCC000574430
Curriculum Committee Approval Date:	04/15/2016
Board of Trustees Approval Date:	06/09/2016
External Review Approval Date:	06/21/2016
Course Description:	This is an accelerated transfer-level statistics preparation course for non-STEM majors. Topics include linear, quadratic, rational, exponential, and logarithmic functions and equations; systems of linear equations and inequalities; and data collection, data summaries, and descriptive statistics. The emphasis is on statistical applications of the algebraic material.
Submission Type:	New Course
Author:	No value

Faculty Minimum Qualifications

Master Discipline Preferred:	• Engineering • Mathematics
Alternate Master Discipline Preferred:	No value
Bachelors or Associates Discipline Preferred:	No value
Additional Bachelors or Associates Discipline Preferred:	No value

Course Development Options

Basic Skills Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Allowed Number of Retakes

0

Grade Options

- Letter Grade Methods

Course Prior To College Level (CB21)

One level below transfer.

Rationale For Credit By Exam/Challenge

No value

Retake Policy Description

Type:|Non-Repeatable Credit

☐ Allow Students To Audit Course

Course Support Course Status (CB26)

No value

Associated Programs

☐ Course is part of a program (CB24)

Associated Program

No value

Award Type

No value

Active

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

No value

Transferability

Not transferable

Transferability Status

Not transferable

Units and Hours

Summary

Minimum Credit Units (CB07)	4
Maximum Credit Units (CB06)	4
Total Course In-Class (Contact) Hours	72
Total Course Out-of-Class Hours	144
Total Student Learning Hours	216
Faculty Load	0

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Non-Credit Characteristic

No Value

Course Classification Status (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Classs
Lecture Hours	4	8
Laboratory Hours	0	0
Activity Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	72
Laboratory	0
Activity	0
Total	72
Course Out-of-Class Hours	
Lecture	144
Laboratory	0
Activity	0
Total	144

Time Commitment Notes for Students

No value

Faculty Load

Extra Duties: 0

Faculty Load: 0

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

MATHC050 - Elementary Algebra

Students will be expected to use operations (add, subtract, divide, multiply) with real numbers. A student exiting Math C050 should be proficient in these skills

Entrance Skills

Entrance Skills	Description
No value	No value

Limitations on Enrollment

Limitations on Enrollment	Description
No value	No value

Specifications

Methods of Instruction

Methods of Instruction	Problem Solving
Rationale	No value
Methods of Instruction	Written work
Rationale	No value
Methods of Instruction	Presentations (by students)
Rationale	No value
Methods of Instruction	Lecture
Rationale	No value
Methods of Instruction	Outside reading
Rationale	No value
Methods of Instruction	Peer analysis, critique & feedback
Rationale	No value

Methods of Instruction	In-class writing
Rationale	No value

Methods of Instruction	Instruction through examination or quizzing
Rationale	No value

Methods of Instruction	Case Study
Rationale	No value

Methods of Instruction	Computational Work
Rationale	No value

Methods of Instruction	Discussion
Rationale	No value

Methods of Instruction	Group Work
Rationale	No value

Assignments

A. Daily homework assignments Students work mathematics problems. For example, given summary statistics and a significance level, students perform a hypothesis test to test the claim that more than 75% of adults know what Twitter is. B. Online Course Management System Example: Students determine a Probability Value for a right-tailed hypothesis test about a claim of a population mean using StatCrunch and the MyStatLab website.

Methods of Evaluation	**Rationale**
Participation	A. Daily in-class assignments Example: Students work mathematics problems assigned from the text and from handouts to reinforce concepts and skills discussed in lecture.
Tests	B. Weekly Quizzes Weekly quizzes over the previous week's lecture material, homework, and in-class assignments assess the student's understanding. C. Unit Exams Exams assess the student's ability to distinguish between and integrate all of the individual skills of the unit and apply these skills to the solving of real-life applications.

Equipment

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
	Lial, Hornsby, Miginnis. (2015) Intermediate Algebra, 12, Addison-Wesley Publishing			
	David S. Moore. (2015) Statistics Concepts and Controversies, 8th, W.H. Freeman and Company			

Other Instructional Materials

No Value

Materials Fee

No

Learning Outcomes and Objectives

Course Objectives

No value

CSLOs

Demonstrate numerical and algebraic reasoning skills. Expected SLO Performance: 70.0

Use mathematical concepts to effectively interpret statistical data. Expected SLO Performance: 70.0

Formulate and research questions that can be addressed with data, and then address these questions through proper organization, display, and analysis of the data. Expected SLO Performance: 70.0

Demonstrate the characteristics of an effective learner of mathematics. Expected SLO Performance: 70.0

Outline

Course Outline

Detailed Topical Outline
A. Linear functions; equations; and inequalities
1. Solve linear equations and inequalities
2. Compound inequalities
3. Absolute value equations and inequalities
4. Formulas
5. Slopes and Equations of lines

6. Graphing
7. Applications

B. Quadratic functions; equations; and inequalities
1. Solve quadratic equations by factoring; completing the square; and using quadratic formula
2. Graphing
3. Nonlinear inequalities
4. Applications

C. Rational functions and equations
1. Operations of Rational expressions
2. Equations and rational expressions
3. Applications

D. Radicals
1. Operations of radical expressions
2. Equations with radical expression
3. Complex numbers
4. Applications

E. Exponential and Logarithmic functions and equations
1. Properties of exponential and Logarithmic functions
2. Graphs of exponential and logarithmic functions
3. Solving equations involving exponents and logarithms
4. Applications

F. Systems of equations and inequalities
1. Solve systems of equations with two or three variables using Cramer&rsquo:s Rule or Matrix
2. Applications

G. Data Collection
1. Sources of data
2. Samples and experiments
3. Sample survey in the real world
4. Experiments in the real world
5. Data ethics

H. Data Organization
1. Displaying data with graphs
2. Displaying data with numbers (summary and descriptive statistics)

Delivery Methods and Distance Education

Delivery Method: Please list all that apply -Face to face -Online (purely online no face-to-face contact) -Online with some required face-to-face meetings (“Hybrid”) -Online course with on ground testing -iTV – Interactive video = Face to face course with significant required activities in a distance modality -Other

Face 2 Face

Rigor Statement: Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section?

No Value

Effective Student-Instructor Contact: Good practice requires both asynchronous and synchronous contact for effective contact. List the methods expected of all instructors teaching the course. -Learning Management System -Discussion Forums -Moodle Message -Other Contact -Chat/Instant Messaging -E-mail -Face-to-face meeting(s) -Newsgroup/Discussion Board -Proctored Exam -Telephone -iTV -Interactive Video -Other (specify)

No Value

Software and Equipment: What additional software or hardware, if any, is required for this course purely because of its delivery mode? How is technical support to be provided?

No Value

Accessibility: Section 508 of the Rehabilitation Act requires access to the Federal government's electronic and information technology. The law covers all types of electronic and information technology in the Federal sector and is not limited to assistive technologies used by people with disabilities. It applies to all Federal agencies when they develop, procure, maintain, or use such technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden". I am using -iTV—Interactive Video only -Learning management system -Publisher course with learning management system interface.

itv
LMS
publisher

Class Size: Good practice is that section size should be no greater in distance ed modes than in regular face-to-face versions of the course. Will the recommended section size be lower than in on-ground sections? If so, explain why.

No Value