Proposal

College logo

Proposal

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SECTION A – Course Information

1. Course ID:	MATH 55
2. Course Title:	Statway I
3. Division:	Natural Sciences Division
4. Department:	Mathematics and Computer Science
5. Discipline:	Mathematics
6. Short Course Title:	Statway I
7. Proposed Effective Term:	Fall 2011

Note: The required Cover Sheet Supplemental Form can be created after completion of Section A

SECTION B – Official Course Information

1. Recommended Class Size:

a. Maximum Class Size: 36

Note: If the course is new or class size of an existing course is to be changed, a Class Size Supplemental Form is required.

b. Class Size Approval Date:

Note: Date to be entered by the Instruction Office.

2. Method of Instruction:

- **Lecture**
- **Laboratory**
- **Lecture and Laboratory**
- **Independent Studies**
- **Work Experience, Occupational**
- **Work Experience, General**
- **Open Entry/Exit**
- **Apprentice**

3. Contact Hours for a Term:

Note: If not a variable unit/hour course, enter the same value for Low/High.

	Low		High
Lecture:	90.00	**To**	90
		To	

Lab: **Lab/Lecture Parity?** [X] **Yes** [X] **No**

Activity: **To**

Clinical: **To**

Total Hours: 90 **To**

4. Credit Units: 5.00 **To**

Note: Units of credit are based on:
1 Unit of credit per eighteen (18) hours of lecture contact hours for a term
1 Unit of credit per fifty-four (54) hours of lab, activity or clinical contact hours for a term

5. Taxonomy of Programs (TOPS) Information:

a. TOPS Code and Course Program Title:

170100 - Mathematics, General

b. Course Control Number:
(To be entered by the Instruction Office Only.)

6. SAM Priority Code: [Select One]

[X] **A. Apprenticeship**
Courses offered to apprentices only.

[X] **B. Advanced Occupational**
Courses taken in the advanced stages of an occupational program. Each "B" level course must have a "C" level prerequisite in the same program area.

[X] **C. Clearly Occupational**
Courses taken in the middle stages of an occupational program. Should provide the student with entry-level job skills.

[X] **D. Possible Occupational**
Courses taken in the beginning stages of an occupational program.

[X] **E. Non-Occupational**

7. General Course Information

a. State Transfer Code: C0 Not Transferable, No Degree

b. State Classification Code: A Liberal Arts/Sciences Degrees

c. Basic Skills Status/Level: N0 Not a Basic Skills Course

d. Grading Method: Letter Grade Only

e. Frequency Offered:

[X] **Fall**
[X] **Winter**
[X] **Spring**
[X] **Summer**
[X] **On Demand**

f. Number of repeats allowed: 0 - Not Repeatable

Note: If course is repeatable, complete the Repeatability Supplemental Form.

g. Overlap/Duplicate Course: Math 51, Math 71, Math 71X, Math 110, Psych 10

h. Material Fee: No Fee

8. Course Preparation

Note: If this course has a new requisite, complete the Content Review Supplemental Form.

a. [x] **Prerequisite**
Math 50 or qualifying score on current department placement test.

b. [x] **Corequisite**

c. [x] **Advisories**

d. [x] **None**

9. Course Special Designators:

B1 - Bridge Program/Freshman Exper
P1 - Permission Required to Enroll
P3 - Linked Classes
W2 - Weekend College Classes

10. Course Program Status:

[x] **Program Applicable** [x] **Stand-alone**

11. Funding Agency Category:

[x] **Not Applicable**
[x] **Primarily developed using economic development funds**
[x] **Partially developed using economic development funds**

SECTION C – Transfer Status

Baccalaureate Status is granted by the Educational Design General Education and Baccalaureate Level Subcommittee.

Note: If requesting transfer status, complete the Articulation Matrix Supplemental Form or the Proposal for Attaining Baccalaureate Level Status (CSU) Supplemental Form before submitting course for approval.

[x] **CSU Transferable**
[x] **UC Transferable**

Note: CSU Transfer Status must be obtained prior to submitting a request for UC Transfer Status to the UC Chancellor.

SECTION D - General Education Request

Mt. San Antonio College and CSU General Education course approval are submitted to the Educational Design GE and BL Subcommittee for approval.

1. ***The Articulation Officer submits the course directly to the CSU Chancellor for approval.***
2. ***Upon receiving approval, the course is approved for the Mt. SAC Associate Degree GE and placed in the area(s) CSU approval indicate(s).***

[x] **Yes** [x] **No** **Requesting approval for inclusion on Mt. SAC and CSU General Education List?**

Note: If requesting approval for inclusion on the General Education List, the General Education Course Evaluation Supplemental Form must be completed before submitting course for approval. If request is approved, the remainder of Section D will be completed by the Instruction Office.

1. Mt SAC General Education Applicability:

2. CSU General Education Applicability (Requires CSU approval):

3. IGETC Applicability (Requires CSU/UC approval):

SECTION E – CAN Articulation Information

CAN Code Information:

Note: Section E will be completed by the Articulation Officer.

CAN Code 1

CAN Sequence Code 1:

CAN Effective Term 1:

CAN End Term 1:

SECTION F - Course Content

1. Course Descriptions

a. Catalog Description:

(Write a clear, concise course description, summarizing the course content. Include major goals of the course, scope, requirements for successfully completing the course, and any unusual aspects of the course.)

Math 55 is the first semester of two in the Statway sequence. The Statway path is a two-

semester sequence recommended for majors that require no mathematics beyond freshman-level statistics. Both courses in the sequence, Math 55 and 115, must be taken to receive credit for college level statistics. Math 55 includes topics from descriptive statistics (experimental design and descriptive statistics), and beginning algebra (linear and quadratic algebraic phenomena), and is a prerequisite for Math 115, the second course in the Statway sequence.

b. Class Schedule Description:

[X] **Yes** [X] **No** **Is a course description to be printed in the Class Schedule?**

(If yes, write one or two sentences condensing the catalog description for the prospective student. Does not require as much detail as the catalog description. Limited to 130 characters, including spaces.)

Math 55 is the first semester in the Statway sequence. Math 55 includes topics from descriptive statistics and beginning algebra.

2. Course Outline Information

In courses that include lecture and laboratory, the topical outlines should be separate and distinct, each specific and appropriate to the activities to be conducted.

a. Lecture Topical Outline:

(The lecture topical outline should provide a detailed record of the content of the course.)

- Change of units and other applications of ratios and proportions (direct, inverse).
- Overview of statistical research and design of experiments.
- Summarizing data graphically and numerically: descriptive statistics.
- Reasoning about bivariate numerical data.
- Linear relationships and equations: solving linear relationships, equations of lines, graphing lines, scatter-plots, regression, correlation.
- Solving linear systems of equations.
- Quadratic relationships: solving equations (with factoring and the quadratic formula) and graphing.
- Rational relationships: reducing, adding, subtracting, multiplying, dividing, solving.
-Solving inverse proportions.
- Final Exam.

b. Lab Topical Outline:

(The lab topical outline should reflect the activities in lab.)

3. Course Measurable Objectives:

(Measurable course objectives should identify expected outcomes: specific, observable student actions – what the student should be able to do, know or feel as a result of taking this course. A majority of objectives should reflect critical thinking, i.e. application, analysis, synthesis, and evaluation. Course objectives should relate directly to methods of evaluation)

Provide a minimum of five (5) course measurable objectives:

1. Demonstrate change of units and other applications of ratios and proportions (direct, inverse);
2. Use correct statistical and mathematical terminology and notation;
3. Isolate variables in literal equations;
4. Apply algebraic analysis to linear, quadratic, and rational functions and interpret intercepts, slopes, asymptotes, and extrema;
5. Solve linear, quadratic (by factoring and the quadratic formula) and rational equations, solve linear systems;

6. Graph functions of linear, quadratic, and rational forms;
7. Choose the proper procedure for performing an experiment and collecting data;
8. Summarize data graphically and numerically;
9. Graph and analyze bivariate numerical data and determine regression equation and strength of relationship (linear and quadratic).

4. Course Methods of Evaluation:

(Methods of evaluation should relate directly to measurable course objectives. They indicate the kind of assignments or performance activities designed for a course to assess student learning. Each course must list either substantial writing assignments (category 1) OR computational / non-computational problem solving demonstrations (category 2) if writing assignments are inappropriate (with an explanation of why substantial writing is not appropriate for the course). Activities typically assigned in categories 3 and 4 must also be listed in this section.)

Category 1. Substantial written assignments for this course include:

If the course is degree applicable, substantial written assignments in this course are inappropriate because:

This course is primarily computational in nature. This course primarily involves skills, demonstrations, problem solving and group discussion. Emphasis should be stressed throughout the semester on proportions, solving equations, experimental design and summarizing data.

Category 2. Computational or non-computational problem solving demonstrations:

Solve algebraic problems, summarize data sets through graphs or statistics, design statistical experiments.

Category 3. Skills Demonstrations:

Solutions to critical thinking and problem solving. Classroom analysis of large data sets.

Category 4. Objective Examinations:

Answer questions using correct mathematical and statistical language, answer questions regarding descriptive statistics, design of experiments, and word problems, numerical computations, solving beginning algebra problems.

5. Sample Assignments:

(Assignments should be directly related to the objectives of the course. They should be specific enough to provide real guidance to faculty and clear expectations for students. Descriptions of the type or examples of assignments are required. For example, rather than "term paper" state "term paper comparing and contrasting the social aspects of hunting tactics of two mammal species." This section must establish that the work is demanding enough in rigor and independence to fulfill the credit level specified. The nature of the assignments must clearly demand critical thinking. Assignments should be adequate to assure that students who successfully complete them can meet the objectives of the course. Appropriate out-of-class work is required for credit courses.)

Provide a minimum of three (3) sample assignments:

[Linear Systems of Equations] Suppose two salt solutions are to be mixed to create a 25 liter salt solution with 5 gm of salt per liter. The solutions to be mixed contain 2 gm per liter and 10 gm per liter respectively. How much of each solution should be used?

[Design of Experiments] Devise a procedure for selecting a random sample of words from a dictionary. Explain why your method would give a random sample.

[Descriptive Statistics] The following are root lengths (inches) of garlic cloves after

soaking in water for one week. { 2.23, 1.71, 1.45, 3.53, 2.57, 1.61, 1.64, 1.67, 1.79, 1.90, 3.04, 2.09, 1.42, 2.16, 1.52, 2.23, 2.26, 1.57, 2.33}. Compute the mean, median, mode, midrange, range, standard deviation, and variance of this data set.

6. Representative Text:

(List EXAMPLES of textbooks and other data sources and materials, which may be used in this course. Provide author, title, publisher, date of publication, and edition.)

If the course is requested to be or is CSU transferable, provide at least one (1) representative text. Representative text is optional for a non-transferable course.

a. Book 1:

Author:	Scott Guth
Title:	Practical Intermediate Algebra
Publisher:	Guth Publishing
Date of Publication:	Fall 2009
Edition:	1.1

b. Book 2:

Author:	Scott Guth
Title:	Elementary Statistics: Managing Variability and Error
Publisher:	Guth Publishing
Date of Publication:	Fall 2006
Edition:	1.3

c. Book 3:

Author:	
Title:	
Publisher:	
Date of Publication:	
Edition:	