

Proposal

College logo

### Proposal

Previous Page  To Previous

### SECTION A – Course Information

- 1. **Course ID:** MATH 115
- 2. **Course Title:** Statway II
- 3. **Division:** Natural Sciences Division
- 4. **Department:** Mathematics and Computer Science
- 5. **Discipline:** Mathematics
- 6. **Short Course Title:** Statway II
- 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:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Lecture                | <input checked="" type="checkbox"/> Work Experience, Occupational |
| <input checked="" type="checkbox"/> Laboratory             | <input checked="" type="checkbox"/> Work Experience, General      |
| <input checked="" type="checkbox"/> Lecture and Laboratory | <input checked="" type="checkbox"/> Open Entry/Exit               |
| <input checked="" type="checkbox"/> Independent Studies    | <input checked="" type="checkbox"/> 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?  Yes  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]

- A. **Apprenticeship**  
Courses offered to apprentices only.
- 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.
- C. **Clearly Occupational**  
Courses taken in the middle stages of an occupational program. Should provide the student with entry-level job skills.
- D. **Possible Occupational**  
Courses taken in the beginning stages of an occupational program.
- E. **Non-Occupational**

7. General Course Information

- a. State Transfer Code: B Transferable, CSU/Private
- 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:

- Fall
- Winter
- Spring
- Summer
- 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 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.  **Prerequisite**  
Math 55

b.  **Corequisite**

c.  **Advisories**

d.  **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:**

**Program Applicable**

**Stand-alone**

**11. Funding Agency Category:**

**Not Applicable**

**Primarily developed using economic development funds**

**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.

**CSU Transferable**

**UC Transferable**

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



freshman-level statistics. Math 115 includes topics from intermediate algebra (radical, exponential, and logarithmic algebraic phenomena) and inferential statistics.

**b. Class Schedule Description:**

Yes

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 115 is the second semester in the Statway sequence, including topics from inferential statistics and intermediate 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.)

- Radical relationships, equations and graphs.
- Exponential relationships, equations and graphs.
- Logarithms and logarithmic equations.
- Reasoning about bivariate categorical data.
- Statistical inference and probability.
- Proportion inferences, one and two populations.
- Mean Inferences, one and two populations.
- Chi-square tests, goodness of fit and two-way tables,
- Test for linear correlation,
- One way analysis of variance.
- 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. Solve equations and graph functions of radical, exponential, and logarithmic forms.
2. Graph and analyze bivariate numerical data and determine regression equation and strength of exponential relationships.
3. Use correct statistical and mathematical terminology and notation.
4. Explain the basic concepts of probability theory and calculate probabilities.
5. Perform statistical inference for estimation and hypothesis testing.
6. Utilize computer technology to aid in the solution of statistical analyses.

**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 solving equations, graphing functions and inferential statistics.

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

Solve algebraic problems, determining the correct inferential method to be applied to a situation

**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 statistical inference and hypothesis testing, short answer questions on probability.

**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:**

[Exponential Growth] A frog species in danger of extinction has a population that is decreasing exponentially. Five years ago the population was 1500 and today only 900 of the frogs are alive. Once the population drops below 100, the situation will be irreversible. When will this happen?

[Confidence Interval] A sociologist develops a test to measure attitudes about public transportation, and 27 randomly selected subjects are given the test. Their mean is 76.2 and their standard deviation is 21.4. Construct the 95% confidence interval for the mean score of all such subjects.

[Hypothesis Test] A manufacturer considers her production process to be out of control when defects exceed 3%. In a random sample of 85 items, the defect rate is 5.9%. At the 1% level of significance, test the claim the defect proportion exceeds 3%.

**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:** Elementary Statistics - Managing Variability and Error  
**Publisher:** ECKO House Publishing  
**Date of Publication:** Fall 2006  
**Edition:** 1

**b. Book 2:**

**Author:** Scott Guth  
**Title:** Practical Intermediate Algebra  
**Publisher:** Guth Publishing  
**Date of Publication:** Fall 2009  
**Edition:** 1

**c. Book 3:**

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