

Date Submitted: 09/28/21 8:16 am

## Viewing: **STANMS-STAT : Statistics and Analytics: Statistics Concentration**

Last approved: 02/18/21 9:50 am

Last edit: 09/30/21 2:55 pm

Changes proposed by: jgiganti

Catalog Pages Using  
this Program

[Statistics and Analytics \(STAN\)](#)

Submitter: **7332 7456**      User ID: **jgiganti kuleza**      Phone:

Program Status      Active

Academic Level      Graduate

Type of proposal      Concentration

Select a reason for this modification

Making Minor Changes to an Existing Certificate or Degree (e.g. changing 15 or fewer hours, changing admission/graduation requirements, adding/changing Focused Study or Track)

Effective Catalog Year      Fall 2022

College/School Code  
Graduate School and International Education (GRAD)

Department Code  
**Statistics and Analytics (STAN)** ~~Department of Graduate Dean (GRSD)~~

Program Code      STANMS-STAT

Degree      Master of Science

CIP Code

### In Workflow

1. GRAD Dean Initial
2. GRAD Dean Initial
3. Director of Curriculum Review and Program Assessment
4. Registrar Initial
5. Institutional Research
6. STAN Chair
7. ARSC Dean
8. AFLS Dean
9. EDUC Dean
10. ENGR Dean
11. GRAD Dean
12. WCOB Dean
13. Global Campus
14. Provost Review
15. University Course and Program Committee
16. Graduate Council
17. Faculty Senate
18. Provost Final
19. Registrar Final
20. Catalog Editor Final

### Approval Path

1. 09/28/21 8:17 am  
Jim Gigantino  
(jgiganti): Approved for GRAD Dean Initial
2. 09/28/21 8:17 am  
Jim Gigantino  
(jgiganti): Approved

- for GRAD Dean  
Initial
3. 09/29/21 5:35 pm  
Alice Griffin  
(agriffin): Approved  
for Director of  
Curriculum Review  
and Program  
Assessment
  4. 09/30/21 2:56 pm  
Lisa Kulczak  
(lkulcza): Approved  
for Registrar Initial
  5. 09/30/21 3:06 pm  
Doug Miles  
(dmiles): Approved  
for Institutional  
Research
  6. 09/30/21 3:13 pm  
Jim Gigantino  
(jgiganti): Approved  
for STAN Chair
  7. 09/30/21 3:17 pm  
Jeannie Hulen  
(jhulen): Approved  
for ARSC Dean
  8. 09/30/21 3:47 pm  
Lona Robertson  
(ljrobert): Approved  
for AFLS Dean
  9. 09/30/21 3:55 pm  
Matthew Ganio  
(msganio):  
Approved for EDUC  
Dean
  10. 10/04/21 10:38 am  
Kevin Hall (kdhall):  
Approved for ENGR  
Dean

11. 10/04/21 1:27 pm  
Jim Gigantino  
(jgiganti): Approved  
for GRAD Dean
12. 10/04/21 1:46 pm  
Alan Ellstrand  
(aellstra): Approved  
for WCOB Dean
13. 10/04/21 2:03 pm  
Suzanne Kenner  
(skenner): Approved  
for Global Campus
14. 10/04/21 3:22 pm  
Ketevan  
Mamiseishvili  
(kmamisei):  
Approved for  
Provost Review
15. 10/25/21 3:55 pm  
Alice Griffin  
(agriffin): Approved  
for University  
Course and Program  
Committee
16. 11/19/21 9:47 am  
Pat Koski (pkoski):  
Approved for  
Graduate Council

### History

1. Oct 7, 2020 by Lisa  
Kulczak (lkulcza)
2. Feb 18, 2021 by Pat  
Koski (pkoski)

27.0501 - Statistics, General.

Program Title

Statistics and Analytics: Statistics Concentration

## Program Delivery

## Method

On Campus

~~Online/Web-based~~

Is this program interdisciplinary?

Yes

College(s)/School(s)

| College/School Name   |
|---|
| Bumpers College of Agricultural, Food, and Life Sciences (AFLS) |
| Fulbright College of Arts and Sciences (ARSC)                   |
| College of Education and Health Professions (EDUC)              |
| College of Engineering (ENGR)                                   |
| Graduate School (GRAD)  |
| Walton College of Business (WCOB)                               |

Does this proposal impact any courses from another College/School?

Yes

College(s)/School(s)

| College/School Name                           |
|---|
| Fulbright College of Arts and Sciences (ARSC) |

What are the total  
hours needed to  
complete the  
program?

30

## Program Requirements and Description

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## Requirements

### Requirements for Concentration in Statistics

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## Undergraduate Deficiencies

MATH 2564

Calculus II (ACTS Equivalency = MATH 2505)

MATH 3083

Linear Algebra

CSCE 2014

Programming Foundations II

## Core

Requirements include one course from each of these areas as approved by the student’s advisory committee: 12  
 Statistical Methods, Regression Analysis, Multivariate Analysis, Experimental Design

Required Courses

|                                  |                                    |   |
|----------------------------------|------------------------------------|---|
| <a href="#"><u>STAT 5103</u></a> | Introduction to Probability Theory | 3 |
| <a href="#"><u>STAT 5113</u></a> | Statistical Inference              | 3 |
| <a href="#"><u>STAT 5333</u></a> | Analysis of Categorical Responses  | 3 |
| <a href="#"><u>STAT 5443</u></a> | Computational Statistics           | 3 |

Choose one of the following options: 6

6 hours of electives

6 hours of thesis credit and submission of acceptable thesis

Written comprehensive exam (non-thesis) or defense of thesis

Total Hours 30

Are Similar Programs available in the area?

No

Estimated Student 24

Demand for Program

Scheduled Program 2021

Review Date

Program Goals and

Objectives

**Program Goals and Objectives**

1. To provide and foster knowledge, practices and skills common to traditional first year graduate level programs in Statistics, Biological Analytics, Business Analytics, Operations Analytics, Computational Analytics, Quantitative Social Sciences, and Educational Statistics and Psychometrics.
2. To provide and foster knowledge, practices and skills from traditional advanced graduate level programs in one of the above disciplines.
3. To provide tools and experiences enabling our graduates to communicate effectively and work with practitioners in their field.
4. To provide highly skilled practitioners to industry and academic leadership positions in society.

Learning Outcomes

**Learning Outcomes**

### Learning Outcomes

1. Fundamental language of statistics (probability distributions, mean, variance, covariance, hypothesis testing, etc.)
2. Thorough knowledge of linear regression modeling and analysis.
3. Proficiency with regression in the context of many possibly collinear variables.
4. Thorough knowledge of the theory and design of statistical experiments.
5. Capability with software tools enabling general purpose statistical analysis.
6. Skill with programming tools and languages appropriate for one or more of the disciplines listed in Program Goals 1.
7. Ability to prepare and present statistical analyses.
8. Ability to communicate and collaborate effectively in both discipline specific and interdisciplinary team projects.

#### Description and justification of the request

| Description of specific change | Justification for this change   |
|--------------------------------|---|
| Eliminating online delivery    | This program was initially approved as an online program but that was in error. This program has never been offered online. |

#### Upload attachments

#### Reviewer Comments

**Lisa Kulczak (lkulcza) (09/30/21 2:55 pm):** Adjusted department to correctly reflect STAN program; workflow updated to include STAN Chair vs. GRSD Chair.

Key: 797