

Date Submitted: 09/28/21 9:42 am

Viewing: **STANMS-CPAN : Statistics and Analytics: Computational Analytics Concentration**

Last approved: 09/27/21 3:52 pm

Last edit: 09/30/21 2:41 pm

Changes proposed by: jgiganti

Catalog Pages Using
this Program

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

Submitter: User ID: **jgiganti** ~~lkulcza~~ Phone:
7332 7456

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-CPAN

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. ENGR Dean
9. AFLS Dean
10. EDUC 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 9:43 am
Jim Gigantino
(jgiganti): Approved for GRAD Dean Initial
2. 09/28/21 9:44 am
Jim Gigantino
(jgiganti): Approved

- for GRAD Dean
Initial
3. 09/29/21 5:37 pm
Alice Griffin
(agriffin): Approved
for Director of
Curriculum Review
and Program
Assessment
 4. 09/30/21 2:42 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. 10/04/21 10:37 am
Kevin Hall (kdhall):
Approved for ENGR
Dean
 9. 10/04/21 10:39 am
Lona Robertson
(ljrobert): Approved
for AFLS Dean
 10. 10/04/21 4:11 pm
Matthew Ganio
(msganio):
Approved for EDUC
Dean

11. 10/04/21 4:11 pm
Jim Gigantino
(jgiganti): Approved
for GRAD Dean
12. 10/04/21 7:03 pm
Alan Ellstrand
(aellstra): Approved
for WCOB Dean
13. 10/05/21 10:21 am
Suzanne Kenner
(skenner): Approved
for Global Campus
14. 10/05/21 11:40 am
Ketevan
Mamiseishvili
(kmamisei):
Approved for
Provost Review
15. 10/25/21 3:54 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. Sep 27, 2021 by Lisa
Kulczak (lkulcza)

27.0501 - Statistics, General.

Program Title

Statistics and Analytics: Computational Analytics 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)
College of Education and Health Professions (EDUC)
College of Engineering (ENGR)
Fulbright College of Arts and Sciences (ARSC)
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)
College of Engineering (ENGR)

What are the total
hours needed to
complete the
program?

30

Program Requirements and Description

Requirements

Requirements for a Concentration in Computational Analytics

Undergraduate Deficiencies

[MATH 2554](#)

Calculus I (ACTS Equivalency = MATH 2405)

[MATH 3083](#)

Linear Algebra

[CSCE 4133](#)

Algorithms

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

~~CSCE 4523~~ Database Management Systems 3

CSCE 5523 Database Management Systems 3

Two of the following: 6

~~CSCE 4613~~ Artificial Intelligence

~~CSCE 5063~~ Machine Learning

~~CSCE 5073~~ Data Mining

CSCE 5613 Artificial Intelligence

Choose one of the following options: 9

9 hours of electives

3 hours of electives, 6 hours of thesis credit and submission of an acceptable thesis

Written comprehensive exam (non-thesis) or defense of the 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
1) Replacing old 4000-level dual credit numbers with new 5000-level numbers. Same courses. 2) Eliminating online delivery	1) Dual credit courses no longer allowed--CSCE replaced with 4000/5000 pairs 2) 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

Alice Griffin (agriffin) (09/29/21 5:37 pm): This minor request will require campus approval due to the changes to CSCE.

Lisa Kulczak (lkulcza) (09/30/21 2:41 pm): Adjusted department to correctly reflect STAN program; workflow updated to include STAN Chair vs. GRSD Chair.

Key: 870