Date Submitted: 09/28/21 8:05 am

Viewing: STANMS-BIOL : Statistics and Analytics: Biological Analytics Concentration

Last approved: 09/27/21 3:28 pm

Last edit: 09/30/21 2:31 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-BIOL

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. **ENGR Dean**
8. **ARSC Dean**
9. **WCOB Dean**
10. **AFLS Dean**
11. **EDUC Dean**
12. **GRAD 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 8:16 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 5:38 pm Alice Griffin (agriffin): Approved for Director of Curriculum Review and Program Assessment
4. 09/30/21 2:40 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. 10/04/21 10:37 am Kevin Hall (kdhall): Approved for ENGR Dean
8. 10/04/21 10:39 am Jeannie Hulen (jhulen): Approved for ARSC Dean
9. 10/04/21 1:45 pm Alan Ellstrand (aellstra): Approved for WCOB Dean
10. 10/04/21 2:09 pm Lona Robertson (ljrobert): Approved for AFLS Dean
11. 10/04/21 4:10 pm Matthew Ganio

(msganio): Approved for EDUC Dean
12. 10/04/21 4:11 pm Jim Gigantino (jgiganti): Approved for GRAD Dean
13. 10/04/21 4:28 pm Suzanne Kenner (skenner): Approved for Global Campus
14. 10/04/21 4:36 pm 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)
2. Sep 27, 2021 by Lisa Kulczak (lkulcza)

27.0501 - Statistics, General.

Program Title

Statistics and Analytics: Biological 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
College of Engineering (ENGR)
Fulbright College of Arts and Sciences (ARSC)
Walton College of Business (WCOB)

What are the total hours needed to complete the program? 30

Program Requirements and Description

Requirements

Requirements for Concentration in Biological Analytics

Undergraduate Deficiencies

MATH 2554 Calculus I (ACTS Equivalency = MATH 2405)

MATH 3083 Linear Algebra

Core

Requirements include one course from each of these areas as approved by the student's advisory committee: Statistical Methods, Regression Analysis, Multivariate Analysis, Experimental Design		12
Required Courses		
CSCE 5013	Advanced Special Topics in Computer Science or Computer Engineering (taken as introduction to cluster computing)	3
BIOL 5153	Practical Programming for Biologists	3
ISYS 5723	Advanced Multivariate Analysis	3
Choose from one of the following options:		9
9 additional 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 Demand for Program: 24

Scheduled Program Review Date: 2021

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 2:31 pm): Adjusted department to correctly reflect STAN program; workflow updated to include STAN Chair vs. GRSD Chair.

Key: 868