Date Submitted: 10/11/20 2:27 pm

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

Last approved: 10/07/20 11:41 pm

Last edit: 10/12/20 4:05 pm

Changes proposed by: pkoski

Submitter: 7456	User ID:	lkulcza	Phone:	

Program Status   Active

Academic Level   Graduate

Type of proposal   Concentration

Select a reason for this modification

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

Effective Catalog Year   Fall 2021

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

Department Code
     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 Program Assessment and Review**
4. **Registrar Initial**
5. **Institutional Research**
6. **GRSD 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 Committee
17. Faculty Senate
18. Provost Final
19. Provost's Office-- Notification of Approval
20. Registrar Final
21. Catalog Editor Final

Approval Path

1. 10/11/20 2:28 pm Pat Koski (pkoski): Approved for GRAD Dean Initial
2. 10/11/20 2:29 pm

Pat Koski (pkoski):
Approved for GRAD
Dean Initial

3. 10/12/20 3:18 pm
Alice Griffin
(agriffin): Approved
for Director of
Program
Assessment and
Review

4. 10/12/20 3:25 pm
Lisa Kulczak
(lkulcza): Approved
for Registrar Initial

5. 10/12/20 4:08 pm
Gary Gunderman
(ggunderm):
Approved for
Institutional
Research

6. 10/12/20 4:12 pm
Pat Koski (pkoski):
Approved for GRSD
Chair

7. 10/12/20 5:31 pm
Jeannie Hulen
(jhulen): Approved
for ARSC Dean

8. 10/13/20 10:12 am
Lona Robertson
(ljrobert): Approved
for AFLS Dean

9. 10/13/20 11:26 am
Ketevan
Mamiseishvili
(kmamisei):
Approved for EDUC
Dean

10. 10/13/20 2:35 pm
Norman Dennis
(ndennis): Approved

for ENGR Dean
11. 10/13/20 2:49 pm
Pat Koski (pkoski):
Approved for GRAD
Dean
12. 10/13/20 6:21 pm
Karen Boston
(kboston): Approved
for WCOB Dean
13. 10/14/20 8:28 am
Suzanne Kenner
(skenner): Approved
for Global Campus
14. 10/14/20 1:48 pm
Terry Martin
(tmartin): Approved
for Provost Review

History

1. Oct 7, 2020 by Lisa
Kulczak (lkulcza)

27.0501 - **Statistics, General.** 27.0501

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)

College/School Name
Graduate School (GRAD)
Walton College of Business (WCOB)

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

Yes ~~No~~

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

On-line/Web-based Information

Reason for offering
Web-based Program

Each concentration will have 6-12 graduates per year (enrollment of 12-24 students per concentration) until our resources grow to allow greater enrollment. These programs have a natural appeal for professionals currently working in industry that need the flexibility of online programs; they can't come to the campus consistently. The demand for these programs is expected to come from different areas across the state of Arkansas as well as the nation. The reputation of the University of Arkansas has also the potential to attract students from other countries that could get access online to the programs from their home countries.

Maximum Class Size   50
for Web-based
Courses

Course delivery mode

Method(s)
Online

Class interaction mode

Method(s):
Electronic Bulletin Boards

Percent Online

100% with No Required Campus Component

Provide a List of
Services Supplied by
Consortia Partners or
Outsourced
Organization

    All services are provided through the University of Arkansas. We have more than 30 online programs
(including graduate, undergraduate as well as certificates) and have developed a strong infrastructure to
support all services needed to deliver high quality online degree programs. Online proctoring is provided
through Proctor U (which verifies identity and monitors students live while they take exams online –using
web-cam and questionnaire to verify identity and live stream through webcam to monitor the exam as well
as everything the student's computer is displaying). As described above, the Learning Management System
used is Blackboard (which supports our online and on campus courses)

| Estimate Costs of the Program over the First 3 Years | The costs of developing each of the courses is estimated to be around $5,000 for faculty compensation. No other additional cost is expected as the Global Campus infrastructure (already funded) provides instructional design, academic technology support, media support and training for faculty. The estimated maximum number courses that would need to be developed is 37. The total estimated cost of developing all remaining courses stands at $185,000. The expenses for delivery are expected |

to materialize in the next three years. Currently the Global Campus dedicates $250,000 a year for course development. Dedicating a fourth of these funds for the development of the courses outlined above is something that is already planned for in the budgeting of the Global Campus for the next three fiscal years.

List Courses Taught by Adjunct Faculty

Upload Memorandum of Understanding Forms (if required)

Program Requirements and Description

Requirements

Requirements for Concentration in Statistics

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

STAT 5103	Introduction to Probability Theory	3
STAT 5113	Statistical Inference	3
STAT 5333	Analysis of Categorical Responses	3
~~STAT 639V~~	~~Topics in Statistics~~	~~3~~
STAT 5443	**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 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
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

Learning Outcomes
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
Remove STAT 639V Topics in Statistics as a required course and replace with STAT 5443 Computational Statistics	STAT 639V was a placeholder class for computational statistics at the time the degree was created. A specific computational statistics course (STAT 5443) now exists.

Upload attachments

Reviewer Comments

Key: 797