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| For Academic Affairs and Research Use Only | |
| CIP Code: |  |
| Degree Code: |  |

**New Course Proposal Form**

**[v] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| **[v] New Course or [ ]Experimental Course (1-time offering) (Check one box)** |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Email completed proposals to [curriculum@astate.edu](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

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| Department Curriculum Committee Chair | COPE Chair (if applicable) |
| Suzanne Melescue 12/13/2018  Department Chair | Enter date…  Head of Unit (If applicable) |
| Amanda Lambertus 12/13/2018  College Curriculum Committee Chair | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  Undergraduate Curriculum Council Chair |
| David F Gilmore 1/23/2019  College Dean | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  Graduate Curriculum Committee Chair |
| |  |  | | --- | --- | | Anne Grippo | 1/23/2019 |   General Education Committee Chair (If applicable) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  Vice Chancellor for Academic Affairs |

Contact Person (Name, Email Address, Phone Number)

Amanda Lambertus, [alambertus@astate.edu](mailto:alambertus@astate.edu) , 870-972-3090

Latia Carraway, [lcarraway@astate.edu](mailto:lcarraway@astate.edu) , 870-680-8530

2. Proposed Starting Term and Bulletin Year

Fall 2019

3. Proposed Course Prefix and Number

STAT 3033

4. Course Title

Statistics for the Health Professions

Short Title: Stats for the Health Professions

5. Brief course description (40 words or fewer) as it should appear in the bulletin.

Introduction to data manipulation, analysis, and interpretation for health care professionals. Topics include Evidenced-Based Practice, variables, scales of measurement, descriptive statistics, regression, statistical and clinical significance, confidence intervals, hypothesis testing, and inferential statistics including ANOVA.

6. Prerequisites and major restrictions. (Indicate all prerequisites. If this course is restricted to a specific major, which major? If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. Yes Are there any prerequisites?
   1. If yes, which ones?

MATH 1023, College Algebra

* 1. Why or why not?

The student should possess the requisite math skills gained through college algebra in order to grasp data analysis

1. Yes Is this course restricted to a specific major?
   1. If yes, which major?

Restricted to College of Nursing and Health Professions majors including Communication Disorders, Clinical Laboratory Science, Medical Imaging and Radiation Sciences, Nursing, Physical Therapy, Social Work, Athletic Training, Disaster Preparedness and Emergency Management, and Coordinated Program in Dietetics

7. Course frequency (e.g. Fall, Spring, Summer)

Fall, Spring and Summer

8. Will this course be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Lecture and Lab

9. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

Standard letter

10. Yes / No Is this course dual listed (undergraduate/graduate)?

No

11. Yes / No Is this course cross listed?

No

11.1 – If yes, please list the prefix and course number of cross listed course.

None

11.2 – Yes / No Are these courses offered for equivalent credit?

No

12. Yes / No Is this course in support of a new program?

No

13. Yes / No Does this course replace a course being deleted?

No

14. Yes / No Will this course be equivalent to a deleted course?

No

15. Yes / No Has it been confirmed that this course number is available for use?

Yes

16. Yes / No Does this course affect another program? If yes, provide confirmation of acceptance/approval of changes from the Dean, Department Head, and/or Program Director whose area this affects.

Yes. As noted in the in Sections 6 above this course may affect most undergraduate degree plans within the College of Nursing and Health Professions if programs choose to adopt the course in their curriculum.

Course Details

17. Outline (The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

1. Learning Module 1, Background

Week #1 (Chapter 1)

* Research Process
* Variables
* Levels of Measurement

Week #2

* Evidence-based practice
* Parametric versus Non-parametric data analysis
* Descriptive data analysis (Chapter 3)

Week #3

* + Measures of central tendencies
  + Measures of variation
* Graphical Displays

1. Learning Module 2, Computer-assisted data analysis.(this will also occur throughout the course)

Week #4 (Chapter 2)

* + Introduction to SPSS
  + Descriptive Statistics, Graphs

1. Learning Module 3, The basis of data analysis (testing)

Week #5 (Chapter 4)

* Samples and populations
* Probability

Week #6

* Normal Distribution
* Standard Normal Distribution
* Independent/ Dependent

Week #7

* Probability
* Significance

Week #8

* Confidence
* Validity
* Reliability

1. Learning Module 5, Statistical data analysis performance and interpretation

Week #9 (Chapter 11)

* Regression
* Introduction, scatterplot
* Assumptions
* Correlation, prediction

Week #10 (Chapter 14)

* Interventions and Analysis of Change: Sign test
* Categorical variables (Chapter 9)
* contingency table analysis

Week #11

* Chi Square tests (Chapter 9)
* Goodness of Fit Test

Week #12

* + - * t-test (Chapter 7)
      * Paired t-Test

Week #13

* Independent t-test
* Mann-Whitney test
* Wilcoxon test

Week #14

* One-way ANOVA (Chapter 8)
* Kruskal-Wallis test

Week #15

* Review and Final

18. Special features (e.g. labs, exhibits, site visitations, etc.)

The course will be taught in a CSM computer lab with each station equipped with SPSS or an equivalent software package (such as R). Actual demonstrations will be provided as part of classroom lecture time providing students with hands on experience of performing statistical calculations and interpreting results. In addition, students will be encouraged to secure student versions of SPSS in order for them to work and learn during off hours.

19. Department staffing and classroom/lab resources

a. Will this course require additional staffing?

No.

1. Will this require additional faculty, supplies, etc.?

No

20. Yes / No Does this course require course fees?

No

Course Justification

21. Justification for course being included in program. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Allied health service delivery places a premium on evidence-based practice which is grounded in empirical research. For future health care professionals it is imperative that they have a background in data analysis in order to make sound clinical decisions. Additionally, for those students moving on to graduate studies the knowledge and skills acquired from this course will provide them a transition to graduate studies involving research.

b. How does the course fit with the mission established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

The mission of the College of Nursing and Health Professions is to provide quality education to students, graduates and health care providers in a variety of health disciplines.  Recognizing its unique position in the lower Mississippi Delta region, the College provides educational programs that are designed to promote lifelong learning based on the expressed needs of its varied constituencies.  The College assesses the attainment of this mission in terms of the contributions its graduates make to health care in the Delta region and beyond. Clearly, the proposed course will resonate with the college mission as well as the mission of all the college’s schools, departments and programs.

1. Student population served.

Juniors and seniors (upper)

1. Rationale for the level of the course (lower, upper, or graduate).

Traditionally, students in allied health spend their first two years of college training meeting the general education requirements. As juniors they begin to transition into the portions of the curriculum where they gain knowledge and skills necessary to meet future credentialing. This course fits that model. This course has been requested by the College of Nursing and Health Professions.

Assessment

Relationship with Current Program-Level Assessment Process

22. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

This a service course designed and intended to meet the needs of several undergraduate health science degree plans within the College of Nursing and Health Professions.

23. Considering the indicated program-level learning outcome/s (from question #23), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

As per verbal and written instructions from the ASU Assessment Office this question is being skipped.

Course-Level Outcomes

24. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| Outcome 1 | Students will navigate and analyze data using a software (i.e. SPSS). |
| Which learning activities are responsible for this outcome? | Assigned readings from the text,  Lectures,  Discussions,  Examples,  Demonstrations,  Lab assignments and activities with presented data sets,  Assignments with data they have compiled, |
| Assessment Measure | The assessment measures will be graded assignments, exams and class presentations over the material. |

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| Outcome 2 | Students will (1) create a variety of descriptive statistics from data for various levels of measurement, (2) graphically represent the data, (3) analyze the data, and (4) interpret the results. |
| Which learning activities are responsible for this outcome? | Assigned readings from the text,  Lectures,  Discussions,  Examples,  Demonstrations,  Lab assignments and activities |
| Assessment Measure | The assessment measures will be graded assignments and exams over the material. |

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| Outcome 3 | Students will demonstrate their comprehension of statistical concepts and topics including, but not limited to samples and populations, designs including within, between and among, variables including independent and dependent, probability, significance, confidence level, validity, and reliability. |
| Which learning activities are responsible for this outcome? | Assigned readings from the text,  Lectures,  Demonstrations,  Examples,  Lab assignments |
| Assessment Measure | The assessment measures will be graded assignments and exams over the material. |

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| Outcome 4 | Students will demonstrate their comprehension of statistical tests by selecting the appropriate test, assembling the data, performing the test and interpreting the results for both parametric and non-parametric data. |
| Which learning activities are responsible for this outcome? | Assigned readings from the text,  Lectures,  Demonstrations,  Examples,  Lab assignments |
| Assessment Measure | The assessment measure will be exams and graded lab projects over the topic. |

**Bulletin Changes**

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| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Follow the following guidelines for indicating necessary changes.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)  - New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font).  - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)  *You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.*  *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

**Statistics (STAT)**

***STAT 3033.* Statistics for the Health Professions. *Introduction to data manipulation, analysis, and interpretation for health care professionals. Topics include Evidenced Based Practice, variables, scales of measurement, descriptive statistics, regression, statistical and clinical significance, confidence intervals, hypothesis testing, and inferential statistics including ANOVA. Restricted to College of Nursing and Health Professions majors. Prerequisite, MATH 1023 or equivalent. Fall, Spring, Summer***

**STAT 3233. Applied Statistics I** For students in a variety of disciplines including the sciences, allied health fields, and education. Descriptive statistics for quantitative and qualitative data, normal distributions, correlation, linear regression, sample surveys, randomized comparative experiments, sampling distributions, estimation and hypothesis testing for means and proportions. Prerequisite, MATH 1023 or equivalent. Fall, Spring, Summer.

**STAT 4453. Probability and Statistics I** Set theory, random variables, probability laws and distributions, independence, conditioning, moment generating functions and the Central Limit Theorem. Prerequisite, MATH 3254. Fall.

**STAT 4463. Probability and Statistics II** Point and interval estimation, hypothesis testing, ANOVA, correlation, regression, and nonparametric methods. Prerequisite, STAT 4453. Spring.

**STAT 4473. Applied Statistics II** A second course in applied statistics covering topics in statisti­cal inference for comparing population means and proportions, power, and sample size analyses, analysis of variance, ANOVA, and multiple comparisons procedures, nonparametric statistical pro­cedures, chi square analyses, and inference for regression. Prerequisite, STAT 3233 or equivalent. Spring.