

Report of the Committee on Educational Policy and the Curriculum

**To be presented at the February 22, 2019 meeting of the Faculty of Arts & Sciences
(Information is from the January 31, 2019 CEPC meeting)**

Recommendations for approval to the Faculty of Arts and Sciences

The full text of syllabi, program descriptions, Undergraduate Record, as well as other documentation for these recommendations, are available prior to the FAS meeting in the office of the College Registrar, 106 Monroe Hall. Changes approved by the FAS will appear and become effective in the Fall 2019-2020 Undergraduate Record, unless otherwise noted.

The Committee recommends adoption of the following new courses.

NEW COURSE PROPOSALS

BIOLOGY DEPARTMENT

To add to the Undergraduate Record

BIOL 4265 Developmental Neurobiology

PSYCHOLOGY DEPARTMENT (approved by electronic vote 02/06/2019)

To add to the Undergraduate Record

PSYC 4265 Developmental Neurobiology

INTERDISCIPLINARY – NEUROSCIENCE PROGRAM (approved by electronic vote 02/06/2019)

To add to the Undergraduate Record

NESC 4265 Developmental Neurobiology

MEDIA STUDIES DEPARTMENT

To add to the Undergraduate Record

**MDST 3751 Value, Values, Valuation
MDST 3103 Long-form Journalism**

INTERDISCIPLINARY – STATISTICS PROGRAM

To add to the Undergraduate Record

**STAT 3280 Data Visualization and Management
PROGRAM CHANGE PROPOSALS**

COLLEGE OF ARTS & SCIENCES

To create a new subject code XHOS (Xhosa)

Beginning summer 2019 conversational Xhosa will be offered as a 1-credit course through a direct credit, UVA study abroad program

INTERDISCIPLINARY-STATISTICS PROGRAM

To propose a minor in Statistics

To propose a minor in Data Analytics

To eliminate the existing minor in Statistical Analysis of Social Behavior

Proposal: Minor in Statistics

Summarized below are the proposed prerequisites and requirements for a Minor in Statistics to be administered by the Department of Statistics. The target audience for this minor are students with some prior experience with statistics and computing who would like a deeper understanding of data and statistics. This minor assumes prior experience with statistics and computing before declaring, allows more student flexibility for a combination of theory and analytics, and includes only STAT courses. We expect mostly students majoring in STEM subjects, but it is open to all.

Prerequisites:

- 1. *Calculus 1* – MATH 1210, MATH 1310, or APMA 1090**
- 2. *Introduction to data analysis and computing:*
STAT 1601: Introduction to Data Science with R OR
STAT 1602: Introduction to Data Science with Python OR
(One of STAT 1100, STAT 1120, STAT 2020, STAT 2120, ANTH 4840, PLAD 2222, PSYC 2005, SOC 3130 AND One of CS 1110, CS 1111, CS 1112, CS 1113, PHYS 2660)**

Required Courses:

- *Statistical linear modeling:*
STAT 3220: Introduction to Regression Analysis**
- *Statistical Computing:*
STAT 3080: From Data to Knowledge OR
STAT 3250: Data Analysis with Python**
- *Three Approved Electives:***

Electives are selected from the Computational Electives list and the Data Analysis list, with at least one course from each list.

Computational Electives (other courses will be added as appropriate)

- **STAT 3080: From Data to Knowledge**
- **STAT 3240: Programming in Matlab/Mathematica**
- **STAT 3250: Data Analysis with Python**
- **STAT 3280: Data Visualization and Management**
- **STAT 3430: Statistical Computing SAS/R**
- **STAT 4210: Big Data Tools**
- **STAT 4260: Databases**
- **STAT 4310: Data Visualization and Presentation**

Data Analysis Electives (other courses will be added as appropriate)

- **STAT 3120: Mathematical Statistics**
- **STAT 3130: Sample Surveys**
- **STAT 3480: Nonparametric and Rank-Based Statistics**
- **STAT 4160: Experimental Design**
- **STAT 4170: Financial Times Series and Forecasting**
- **STAT 4220: Applied Analytics for Business**
- **STAT 4630: Statistical Machine Learning**
- **STAT 4996: Capstone**

Proposal: Minor in Data Analytics

Summarized below are the proposed requirements for a Minor in Data Analytics to be administered by the Department of Statistics. The target audience for this minor are students who are interested in learning from data but may have little or no data analysis background. It requires no prior experience with statistics, computing, or data analysis. Students completing this minor will gain significant experience with working with data to prepare for analysis, drawing conclusions from data, and communicating conclusions.

Note: This minor has no prerequisites, is analytically focused, has fairly specific requirements, and allows electives from a range of departments. The elective list is expected to grow as more suitable courses are developed in the College.

Prerequisites: None

Required Courses:

- ***Introduction to data analysis and computing:***
STAT 1601: Introduction to Data Science with R OR
STAT 1602: Introduction to Data Science with Python
- ***Statistical linear models:***
STAT 3220: Introduction to Regression Analysis OR

ECON 3720: Introduction to Econometrics

- ***Data visualization and management:***
STAT 3280: Data Visualization and Management OR
(STAT 4260 AND STAT 4310)
- ***Data Analytics:***
STAT 4220: Applied Analytics for Business OR
STAT 4630: Statistical Machine Learning
- ***One Approved Elective:***
See next page for Approved Electives list.

Approved Electives (other courses will be added as appropriate)

- **STAT 3080: From Data to Knowledge**
- **STAT 3120: Mathematical Statistics**
- **STAT 3130: Sample Surveys**
- **STAT 3240: Programming in Matlab/Mathematica**
- **STAT 3250: Data Analysis with Python**
- **STAT 3430: Statistical Computing with SAS/R**
- **STAT 3480: Nonparametric and Rank-Based Statistics**
- **STAT 4160: Experimental Design**
- **STAT 4170: Financial Times Series and Forecasting**
- **STAT 4210: Big Data Tools**
- **STAT 4220: Applied Analytics for Business**
- **STAT 4260: Databases**
- **STAT 4310: Data Visualization and Presentation**
- **STAT 4630: Statistical Machine Learning**
- **STAT 4996: Capstone**
- **ASTR 4140: Research Methods in Astrophysics**
- **BIOL 4230: Bioinformatics and Functional Genomics**
- **ECON 4710: Economic Forecasting**
- **ECON 4720: Econometric Methods**

Submitted by,
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