

To: Faculty Senate Executive Committee

From: Jennifer Steele, Chair, Faculty Senate Curriculum Committee

Date: November 16, 2020

Re: New Courses Report

Title	College	Credits	Catalog Prerequisites	Catalog Description
DSCI 101: Introduction to Data Science	A&S	3		Introduction and overview of this interdisciplinary field and the skills needed to work as a data scientist. Provides students basic experience in acquiring data, performing very simple analyses, and gaining an elementary understanding of data science.
DSCI 221: Reproducible Data Science using R	A&S	4		Introduction to programming in R and to using RStudio, and using the tidyverse set of packages to learn the basics of a data science pipeline needed to import, clean, transform, visualize and model large amounts of data.
DSCI 222: Data Science Workflows using Python	A&S	3		Continuation of DSCI 221. Introduction to programming in Python, to the basics of building a data science pipeline. Students develop projects using data from various sources to develop and refine their Python skills. Also teaches the basics of terminal mode and use of bash.
DSCI 310: Statistical Machine Learning 1	A&S	3		Focuses on a conceptual understanding of the methods and their implementation using R and Python. Covers linear regression; classification methods (logistic regression, linear discriminant analysis and K-nearest neighbors); resampling methods (cross-validation and bootstrap); model choice methods (subset and stepwise selection, shrinkage methods); dimension reduction methods (principal components analysis).
DSCI 311: Statistical Machine Learning 2	A&S	3	DSCI 310 with a minimum grade of C-	Continuation of DSCI 310. Covers statistical machine learning methods that are not strictly linear, such as models based on splines, tree-structures, support vector machines and unsupervised methods. Emphasizes a conceptual understanding and application of the methods using R and Python.

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DSCI 410: Big Data in Practice: Cloud and Parallel Computing	A&S	3	DSCI 311 with a minimum grade of C-.	Extends the R “tidyverse” data manipulation and machine learning pipelines to relational database tables; big data; network data; streaming data. Students will develop their abilities from using RStudio locally on a laptop to using it on a server, with technologies such as Spark.
DSCI 450: Current Topics in Data Science	A&S	3	DSCI 311 with a minimum grade of C-.	Exploration of timely current topics where data science is used; exploration and discussion of biases and other aspects of decisions made as a result of data science tools.
DSCI 480: Capstone in Data Science	A&S	3	DSCI 410 and DSCI 450 with a minimum grade of C-.	Integration and application of the skills and methods acquired through the program to a real data set through group project (development of a data science pipeline).
ENGL 460: Appalachian Englishes	A&S	3	English 102 or English 103 with a C- or better	An introduction for methods and topics in the study of the linguistic, historical, and social patterns of English language varieties in Appalachia through the examination of modern research and the analysis of public perceptions.
HONR 102: Introduction to Honors	A&S	1	N/A	This 1 credit hour course is designed to assist first year Honors students in identifying the knowledge and skills they will need to meet their personal, social, academic, and professional goals as they transition into the Honors College at West Virginia University.
HONR 219: Future Campus Reads	A&S	1		Students in this course will read the five books chosen for the Campus Read Short List. Then, through analysis and discussion, students will make written recommendations to the Provost regarding the benefits and challenges of selecting each book for the Campus Read.
SOCA 632: Introduction to Qualitative Data Analysis Software	A&S	3		This courses examines the basic functions of computer assisted qualitative data analysis software and shows how it can be used to analyze a variety of types of qualitative data. Topics covered include how to open, import, and manage qualitative data, how to code/recode the data, summarize and report it, and perform a wide variety of procedures.

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SOCA 640: Quantitative Analysis Using Stata	A&S	3		Interpretation and application of social scientific quantitative data analysis concepts and techniques using Stata. Examination of the basic functions of Stata and shows how it can be used to analyze quantitative datasets. Topics covered include descriptive and inferential statistics, how to manage datasets in Stata, and how to perform a wide variety of statistical procedures using Stata.
FOR 111: Introduction to Land Reclamation	AG&FOR	1		This course is designed to introduce students to the broad knowledge areas associated with land reclamation throughout central Appalachian region. Each weekly learning module will be developed by the local expert for that topic area.
ART 375: Space Atacama Chile	CCA	4		Space Atacama Chile is an adventure art course featuring a 10-day trip to the high-altitude Atacama Desert in Chile and Bolivia. Students learn basic animation and video techniques while investigating themes of space and perception in relation to the Chilean landscape. Students also learn about the history, politics and culture of Chile and the Atacama region.
MUSC 211: Freelance Career Skills for Musicians	CCA	2		This course provides an introductory overview of many of the administrative and technical skills that most musicians will be required to employ throughout a career as a performer, teacher, or composer.
EXPH 777: Journal Club	MED	1	Consent of instructor.	An in-depth examination and discussion of recent publications, research ideas and research projects/data-encompassing topics and research relevant to Exercise Physiology or pathologies resulting from lack of exercise.
IMMB 422: Bioinformatics Resource for Epigenomic Data Analysis	MED	2		The course introduces basic concepts in epigenomic data analysis for several commonly used genome-wide profiling techniques, such as RNA-Seq, ChIP-seq, and DNase-seq/ATAC-seq, and offers hand-on experience for a set of frequently used standalone GUI tools, online databases, and web servers.
PALM 307: Introduction to Histotechniques	MED	1		An introduction to routine histologic techniques, principles, use of instrumentation, and safety practices in the histopathology laboratory.

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NSG 600: Financial Management in Healthcare Organizations	NSG	3	None	This course introduces concepts of economics and financial management for health care professionals. Course content includes principles of economics, fundamentals of managed care and health reform, budgets and budget preparation, financial analysis, preparation of business plans and health program grant proposals, and issues relevant to international settings and future trends.
NSG 700: Advanced Pharmacology Pediatric Focus	NSG	3	NSG 706 with grade of C or higher	Examination of the relationship between pharmacologic principles and the selection of pharmacologic agents in altered health states across the lifespan, with a focus on pediatrics. This course lays the foundation for subsequent courses in diagnosis, management, and therapeutic interventions.