Data Science Major with Psychology Cognate Requirements  
Catalog Year: 2014-15  
Degree: Bachelor of Science  
Credit Hours: 70+

“PR” indicates a pre-requisite. “CO” indicates a co-requisite.

Courses within this major may also satisfy general education requirements. Please consult http://registrar.cofc.edu/general-edu for more information.

Required Courses
- DATA 101 Introduction to Data Science (3) PR: None
- DATA 210 Dataset Organization and Management (3) PR: None
- DATA 495 Data Science Capstone (3) PR: DATA 210, CSCI 470, and MATH 441

Math Requirement
- MATH 120 Introductory Calculus (4) PR: Placement or C- or better in MATH 111
- MATH 203 Linear Algebra (3) PR: MATH 120 or instructor permission
- MATH 207 Discrete Structures I (3) PR: MATH 105, MATH 111, or MATH 120
- MATH 220 Calculus II (4) PR: MATH 120 or HONS 115
- MATH 250 Statistical Methods I (3) PR: MATH 111 or MATH 120 or instructor permission
- MATH 350 Statistical Methods II (3) PR: MATH 120, MATH 250
- MATH 440 Statistical Learning I (3) PR: MATH 203, MATH 220, MATH 350
- MATH 441 Statistical Learning II (3) PR: MATH 440

Computer Science Requirement
- CSCI 220 Computer Programming I (3) PR: CSCI 120 or CSCI 180 or CSCI 210 or MATH 111 CO: CSCI 220L
- CSCI 220L Computer Programming I Lab (1) CO: CSCI 220
- CSCI 221 Computer Programming II (3) PR: CSCI 220, CSCI 220L; CO or PR: MATH 207
- CSCI 230 Data Structures and Algorithms (3) PR: CSCI 221, MATH 207
- CSCI 310 Advanced Algorithms (3) PR: CSCI 230, MATH 207
- CSCI 334 Data Mining (3) PR: CSCI 221, MATH 207, MATH 250
- CSCI 470 Principles of Artificial Intelligence (3) PR: CSCI 230, MATH 307

Select a cognate from the following: Accounting, Biomechanics, Customer Relationship Management, e-Commerce, Economics, Exercise Physiology, Finance, Geoinformatics, Molecular Biology, Organismal Biology, Physics and Astronomy, Psychology, Sociology or Supply Chain Management.

Psychology Cognate Requirements (18+ credit hours)
- PSYC 103 Introduction to Psychological Science (3) PR: None

Select 15 credit hours from the following, with at least 6 credit hours at the 300-level or higher:
- PSYC 211** Psychological Statistics (3) PR: PSYC 103
- PSYC 213 Conditioning and Learning (3) PR: PSYC 103
PSYC 214 Behavioral Neuroscience (3) PR: PSYC 103
PSYC 215 Cognitive Psychology (3) PR: PSYC 103
PSYC 216 Sensation and Perception (formerly PSYC 313) (3) PR: PSYC 103
PSYC 220 Research Methods (3) PR: PSYC 103 and 211
PSYC 221 Abnormal Psychology (formerly PSYC 307) (3) PR: PSYC 103
PSYC 222 Psychology of Personality (formerly PSYC 308) (3) PR: PSYC 103
PSYC 223 Social Psychology (formerly PSYC 310) (3) PR: PSYC 103
PSYC 224 Lifespan Development (formerly PSYC 311) (3) PR: PSYC 103
PSYC 250* Psychological Statistics and Research Methods (6) PR: PSYC 103
PSYC 315 Special Topics in Psychology I (3) PR: PSYC 103
PSYC 318 Comparative Psychology (3) PR: PSYC 103
PSYC 321 Industrial Psychology (3) PR: PSYC 103
PSYC 329 Environmental Psychology (3) PR: PSYC 103
PSYC 333 Health Psychology (3) PR: PSYC 103
PSYC 334 Psychology of Stress (3) PR: PSYC 103
PSYC 335 Positive Psychology: Optimizing Psychological Well-being (3) PR: PSYC 103
PSYC 344 Psychology of Substance Abuse (formerly PSYC 388) (3) PR: PSYC 103 and 221 (formerly 307)
PSYC 349 Psychology of Entrepreneurship (3) PR: MATH 104, or PSYC 211 or DSCI 232 and junior standing or instructor permission. Note: This course is cross-listed with MGMT 377. If a student has received credit for MGMT 377, the student may not receive credit for PSYC 349.
PSYC 350 Psychology of Gender (3) PR: PSYC 103
PSYC 351 Principles of Neurobiology (3) PR: PSYC 103, BIOL 111, 112, and BIOL 211 or PSYC 214, or instructor permission. Note: This course is cross-listed with BIOL 351. If a student has received credit for BIOL 351, the student may not receive credit for PSYC 351.
PSYC 352 Neurobiology and Behavior (3) PR: BIOL/PSYC 351 or PSYC 214, or instructor permission. Note: This course is cross-listed with BIOL 352. If a student has received credit for BIOL 352, the student may not receive credit for PSYC 352.
PSYC 353 Hormones and Behavior (Cross-listed with BIOL 353) (3) PR: PSYC 103 and 214 or 216, or instructor permission. Note: This course is cross-listed with BIOL 353. If a student has received credit for BIOL 353, the student may not receive credit for PSYC 353.
PSYC 355 Sport Psychology (3) PR: PSYC 103, 211, 220 (or 250 in lieu of 211 and 220) or instructor permission. Note: This course is cross-listed with PEHD 355. If a student has received credit for PEHD 355, the student may not receive credit for PSYC 355.
PSYC 356 Behavioral Genetics (3) PR: PSYC 103 and BIOL 111, or instructor permission
PSYC 358 Nonverbal Communication (formerly PSYC 340) (3) PR: PSYC 103, 211, 220 (or 250 in lieu of 211 and 220) or instructor permission
PSYC 370 Tests and Measurements (3) PR: PSYC 103, 211, 220 (or 250 in lieu of 211 and 220)
PSYC 372 Applied Behavior Analysis (3) PR: PSYC 103, 211, 213, 220 (or 250 in lieu of 211 and 220)
PSYC 374 Sins of Memory (3) PR: PSYC 103, 215, or 250 in lieu of 211 and 220
PSYC 375 Topics in Child and Adolescent Development (3) PR: PSYC 103 and 224 (formerly 311), 211, 220 (or 250 in lieu of 211 and 220)
PSYC 376 Mass Media and Human Development (3) PR: PSYC 103 and 224 (formerly 311), 211, 220 (or 250 in lieu of 211 and 220)
PSYC 378  Psychology of Language (3) PR: PSYC 103 and 215, 211, 220 (or 250 in lieu of 211 and 220) or instructor permission

PSYC 386  Behavioral Pharmacology (3) PR: PSYC 103; PSYC 214 or BIOL/PSYC 351; PSYC 211 and 220 (or 250 in lieu of 211 and 220) or BIOL 211 and MATH 250; or instructor permission

PSYC 387  Neuropsychology (3) PR: PSYC 103; PSYC 214 or BIOL/PSYC 351; PSYC 211 and 220 (or 250 in lieu of 211 and 220) or BIOL 211 and MATH 250; or instructor permission

PSYC 389  Child Psychopathology (3) PR: PSYC103, 221, 211, 220 (or 250 in lieu of 211 and 220)

PSYC 390  Research Design and Interpretation PR: PSYC 103, 211, 220 (or 250 in lieu of 211 and 220)

PSYC 392  Scientific Foundations of Clinical Psychology (3) PR: PSYC 103, 221 (formerly 307), 211, 220 (or 250 in lieu of 211 and 220)

PSYC 394  History and Systems of Psychology (3) PR: PSYC 103, 211, 220 (or 250 in lieu of 211 and 220) and at least 12 additional credit hours in psychology

PSYC 397  Internship Experience (3) PR: This class is open to junior or senior psychology majors with an overall and major minimum GPA of 3.00. Students must have successfully completed the following courses before they are eligible to apply: PSYC 103, 213, 214, 215, 211 and 220 (or 250 in lieu of 211 and 220)

PSYC 404  Teaching Mentorship (3) PR: 103, 211, 220 (or 250 in lieu of 211 and 220) and open only to junior and senior PSYC majors with a minimum PSYC GPA of 3.00 or instructor permission

PSYC 410***  Special Topics II (1-4) PR: PSYC 103; PSYC 211 and 220 (or 250 in lieu of 211 and 220); declared psychology major or instructor permission for non-majors. (No more than 6 credit hours in special topics may be applied to meet the requirements for the major.)

PSYC 446  Special Topics in Neuroscience (3) PR: Junior or senior standing and instructor permission

PSYC 447  Seminar in Neuroscience (3) PR: BIOL/PSYC 351/352; CO: BIOL/PSYC 448 or instructor permission. Students engaged in independent research or a bachelor's essay will be given priority for enrollment.

PSYC 448  Bachelor's Essay in Neuroscience (6) PR: BIOL/PSYC 351 and 352 and permission of both the student's major department and the neuroscience program director

PSYC 460  Advanced Conditioning and Learning with Lab (3) PR: PSYC 103, 213, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 461  Advanced Personality Psychology with Lab (3) PR: PSYC 103, 211, 222, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 462  Advanced Social Psychology with Lab (3) PR: PSYC 103, 223, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 464  Advanced Behavioral Neuroscience with Lab (3) PR: PSYC 103, 214, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 466  Advanced Sensation and Perception with Lab (3) PR: PSYC 103, 216, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 468  Advanced Cognitive Psychology with Lab (3) PR: PSYC 103, 215, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 469  Advanced Developmental Psychology with Lab (3) PR: PSYC 103, 224, 211, 220 (or 250 in lieu of 211 and 220) and junior or senior status

PSYC 497  Tutorial (formerly PSYC 399) (3) PR: PSYC 103, 211 and 220 (or 250 in lieu of 211 and 220); junior or senior standing; tutor permission; and department chair permission

PSYC 498***  Independent Study (formerly PSYC 400) (1-3) PR: PSYC 103, 211 and 220 (or 250 in lieu of 211 and 220); Open to junior and senior psychology majors with the permission of a faculty member as supervisor and of the department chair. Formal written application stating the nature of the project and presenting evidence of sufficient background knowledge for the enterprise must be submitted prior to registration. Open only to students having a GPA of at least 3.00 in psychology courses. (No more than 6 credit hours in independent study may be applied toward the major.)
PSYC 499 Bachelor's Essay (6) PR: PSYC 103, 211 and 220 (or 250 in lieu of 211 and 220); Open to psychology majors with an overall GPA of at least 3.40; senior standing, tutor permission and department chair approval. Formal written application stating the nature of the project and presenting evidence of sufficient background knowledge for the enterprise must be submitted prior to registration.

Note: *This course can be taken in lieu of PSYC 211 and 220. **It is recommended that students take one or more mathematics courses prior to enrollment in PSYC 211. ***Independent Study/Special Topic limitations: A maximum of 6 credit hours of PSYC 498 may apply to the major requirements; a maximum of 6 credit hours of PSYC 410 may apply to major requirements.