Master of Science in Applied Data Science (Psychology)

About This Program

The Master of Science in Applied Data Science with and emphasis on Psychology offers a unique interdisciplinary approach, equipping students with advanced data science skills specifically tailored for psychological research and applications. Students will delve into the quantitative methods necessary to analyze complex human and animal behavioral data, including survey responses, experimental results, physiological measures, and digital interactions. The curriculum emphasizes the ethical considerations inherent in handling sensitive personal data, alongside developing expertise in areas such as predictive modeling of human and animal behavior, psychometric analysis, sentiment analysis, and the application of machine learning to understand cognitive processes and mental health outcomes. This track prepares graduates for roles in academia, market research, user experience (UX) design, public health, and other fields requiring sophisticated data-driven insights into human and animal psychology.

Competencies

1. Upon completion, students will be able to apply statistical methodologies to real-world data from diverse applications.
2. Upon completion, students will be able to understand computational aspects of big data analytics.
3. Students will learn to apply psychological theories to interpret data, design and evaluate experiments, and handle sensitive behavioral information ethically. They will formulate research questions suited for data science methods, choose appropriate analytical techniques for diverse psychological datasets, and identify and mitigate sources of bias. Students will also interpret and communicate behavioral insights effectively to varied audiences and understand the unique structures of psychological data—including longitudinal, categorical, textual, and physiological—to adapt preprocessing and modeling strategies appropriately.

Admissions Criteria

All applicants for the Applied Data Science MS must meet UT Arlington's graduate admission requirements (https://catalog.uta.edu/academicregulations/admissions/graduate/). The program does not consider GRE scores in evaluating candidates for admission.

To be considered for admission, applicants must demonstrate undergraduate preparation equivalent to a baccalaureate degree in natural, physical, or social sciences, technology, engineering, mathematics, business, or related fields.

To apply for a specific track, applicants must demonstrate sufficient background in that concentration with a relevant bachelor's degree.

Applicants must submit two letters of recommendation from evaluators who can assess the candidate's potential for academic success.

UNCONDITIONAL ADMISSION

Applicants who demonstrate a GPA of 3.0 and strong support from references will be considered for unconditional admission. Applicants with a GPA of 2.7 or higher (but less than 3.0) who demonstrate relevant work experience and/or certification may be offered unconditional admission upon review.

All admitted students must complete the program's self-paced, non-credit online review, "Math Foundation of Machine Learning," prior to enrolling in classes.

Curriculum

Foundations		
ASDS 5301	STATISTICAL THEORY AND APPLICATIONS	3
ASDS 5302	PRINCIPLE OF DATA SCIENCE	3
ASDS 5303	STATISTICAL AND SCIENTIFIC COMPUTING I	3
ASDS 6306	INTERNSHIP/CAPSTONE RESEARCH PROJECT	3
Psychology Specialization		
Select one of the following:		3
PSYC 5307	RESEARCH METHODS	
PSYC 5324	APPLIED RESEARCH DESIGN	
Select three from the following:		9
PSYC 5309	HEALTH PSYCHOLOGY	
PSYC 5310	DATA SCIENCE IN PSYCHOLOGY	
PSYC 5313	COGNITIVE PSYCHOLOGY	
PSYC 5321	PERSONALITY PSYCHOLOGY	

PSYC 5322	SOCIAL PSYCHOLOGY	
PSYC 5323	GROUP PROCESSES	
PSYC 5325	ORGANIZATIONAL BEHAVIOR	
PSYC 5326	EMPLOYEE SELECTION	
PSYC 5329	PERFORMANCE MANAGEMENT SYSTEMS	
PSYC 5330	ADVANCE EMPLOYEE TRAINING AND DEVELOPMENT	
PSYC 5333	BEHAVIORAL NEUROSCIENCE	
PSYC 5334	HUMAN PHYSIOLOGY	
PSYC 5341	DECISION MAKING	
PSYC 5342	LEADERSHIP IN ORGANIZATIONS	
PSYC 5345	HUMAN LEARNING AND MEMORY	
PSYC 5346	CYBERPSYCHOLOGY BASIC CONCEPTS	
PSYC 5347	CYBERPSYCHOLOGY APPLICATIONS	
PSYC 5405	ADVANCED STATISTICS I	
PSYC 5407	MULTIVARIATE DATA ANALYSIS	
PSYC 6300	SEMINAR IN PSYCHOLOGY	
PSYC 6318	SOCIAL AND PERSONALITY DEVELOPMENT	
PSYC 6320	NEUROPHARMACOLOGY	
PSYC 6336	COMPARATIVE PSYCHOLOGY	
PSYC 6349	PSYCHOMETRIC THEORY	
Data Science Electives		
Select 6 hours from the following:		6
ASDS 5305	DEEP LEARNING AND ARTIFICIAL NEURAL NETWORKS	
ASDS 6300	SPECIAL TOPICS	
ASDS 6301	ADVANCE REGRESSION ANALYSIS	
ASDS 6302	MACHINE LEARNING WITH APPLICATIONS	
ASDS 6303	DATA MINING WITH INFORMATION VISUALIZATION	
ASDS 6304	OPTIMIZATION AND BIG DATA ANALYTICS	
ASDS 6305	STATISTICAL AND SCIENTIFIC COMPUTING II	
ASDS 5100	INDEPENDENT STUDY	
Total Hours		**30**

Advising Resources

UNDERGRADUATE AND GRADUATE ADVISING

Location:

Life Science Building Room 206A and 206B

Email:

data.advising@uta.edu

Phone:

817-272-1512

Web:

Speak to an advisor in the Division of Data Science or schedule an appointment. (https://www.uta.edu/academics/schools-colleges/science/departments/division-data-science/advising/)