MASTER OF SCIENCE IN INFORMATICS

Web Site: https://twu.edu/math-computer-science/graduate-programs/

Degree Requirements

Total Semester Credit Hours Required

The degree program consists of a minimum of 36 semester credit hours (SCH) of graduate coursework comprised of 15 SCH of foundations in computer science, 15 SCH of discipline-specific coursework in one of the application areas below, and 3 SCH in software/statistical tools. The program is completed with an interprofessional, interdisciplinary capstone project.

Code	Title	SCHs
Computer Science Core		
Required Courses		
CSCI 5103	Fundamentals of Informatics	3
CSCI 5203	Database Systems	3
CSCI 5673	Big Data: Management, Access, and Use	3
Select two of the following		6
CSCI 5413	Data Communication Networks	
CSCI 5443	Human-Computer Interface	
CSCI 5513	Data and Information Visualization	
CSCI 5573	Foundations of Data Science	
CSCI 5803	Data Warehousing	
CSCI 5823	Modeling Machine Learning	
CSCI 5833	Data Mining and Analysis	
Software/Statistical Tools		**3**
Select one of the following (in consultation with advisor)		
CSCI 5663	Statistical Programming	
HS 5703	Applied Statistics in Health Promotion	
KINS 5033	Applied Statistical Principles	
LS 5213	Information Sources in Business	
MATH 5573	Statistical Methods I	
MATH 5583	Statistical Methods II	
MKT 5153	Research Methods in Business	
NURS 5024	Research and Quality Improvement in Nursing	
NURS 6933	Analysis of Nurse-Generated Data	
PSY 5304	Advanced Psychological Statistics I	
PT 6043	Statistical Methods I for the Health Care Professional	
Application Area (see options below)		**15**
Interprofessional Capstone		**3**
Select one of the following in consultation with advisor		
CSCI 5923	Capstone in Informatics	
HS 5923	Capstone in Informatics	
KINS 5753	Capstone in Informatics	
LS 5923	Capstone in Informatics	
NURS 5923	Capstone in Informatics	
Total SCHs		36

Application Area: Clinical Applications Option

Code	Title	SCHs
Select five of the following		**15**
MGT 5743	Project Management	
NURS 5123	Introduction to Applied Health Informatics	
NURS 5143	Application of Technology Enhanced Health Promotion	
NURS 5373	Advanced Applied Health Informatics	
NURS 5393	Application of Telehealth and Remote Monitoring	
NURS 5453	User Interface Design in Healthcare	
NURS 5593	Data Applications for Foundational Health Promotion	
Total SCHs		15

Application Area: Data Science/Data Analytics Option

Code	Title	SCHs
Select five of the following		**15**
CSCI 5413	Data Communication Networks	
CSCI 5443	Human-Computer Interface	
CSCI 5513	Data and Information Visualization	
CSCI 5573	Foundations of Data Science	
CSCI 5803	Data Warehousing	
CSCI 5823	Modeling Machine Learning	
CSCI 5833	Data Mining and Analysis	
MATH 5483	Theory of Probability and Statistics I	
MATH 5493	Theory of Probability and Statistics II	
MATH 5833	Computer-Aided Mathematical Modeling	
MATH 5583	Statistical Methods II	
MATH 5863	Applied Statistics and Convex Optimization	
MGT 5743	Project Management	
Total SCHs		15

Application Area: Health Studies Option

Code	Title	SCHs
Required Courses		
HS 5353	Epidemiology	3
HS 5453	Community-Based Health Informatics	3
HS 5773	Social and Organizational Issues in Health Informatics	3
Select two of the following		**6**
HS 5343	Risk Reduction	
HS 5363	Population Health	
HS 5413	Current Issues in Health Promotion	
HS 5613	Worksite Health Promotion	
HS 6423	Global Health	
HS 6443	Theoretical Foundations of Health Promotion	
MGT 5743	Project Management	
Total SCHs		15

Application Area: Community Informatics Option

Code	Title	SCHs
Required Courses		
LS 5083	Foundations of Library and Information Studies	3
LS 5173	Community-Based Project Design	3
Select three of the following		**9**
LS 5043	Information and Communication Technology	
LS 5053	Information Retrieval	
LS 5163	Assessment in Practice	
LS 5183	Grant Writing and Management	
Total SCHs		15

Application Area: Sports Informatics

Code	Title	SCHs
KINS 5293	Technical Skills Analysis	3
KINS 5303	Coaching Tactical Skills	3
KINS 5253	Organization and Administration for Effective Team Management	3
KINS 5203	Theory of Coaching	3
KINS 5243	Sport Injury Prevention and First Aid	3
Total SCHs		15

Application Area: Cybersecurity

Code	Title	SCHs
CSCI 5413	Data Communication Networks (Required elective from Computer Science Core)	0
CSCI 5123	Foundations of Information Systems Security	3
Select four of the following		**12**
CSCI 5133	Information Security Risk Management	
CSCI 5143	Human Aspects in Cybersecurity: Ethics, Legal Issues, and Leadership	
CSCI 5343	Computer Forensics	
CSCI 5423	Web Application Security	
CSCI 5453	Usable Privacy and Security	
CSCI 5683	Big Data Security	
Total SCHs		15

Cooperative Education

In order for coursework in Cooperative Education to be counted as degree credit, department and advisory committee approval must be received during the semester in which the course is taken. This approval is in addition to approval to enroll in Cooperative Education coursework. Only three semester credit hours of Cooperative Education may be counted toward the Master's degree.