

MASTER OF SCIENCE IN DATA SCIENCE

Program of Study

Total: 36 units

Bridging Courses in Mathematics

In the event where the student has insufficient preparation in mathematics, the Department may prescribe up to 6 units of mathematics as bridging courses (at the undergraduate or graduate level) to fulfill the mathematics requirement. This bridging component must be taken before the Applied Statistics course.

Foundation Courses: 15 units

CSCI 205	Programming with Databases	3 units
CSCI 217	Data Visualization	3 units
CSCI 271	Data Mining	3 units
CSCI 273	Big Data Processing	3 units
MATH 271.1	Statistical Methods	3 units

Methods and Domains Courses: 15 units

Methods and Domains courses tackle the various techniques and application domains that have emerged in the data science field. These include machine learning, pattern recognition, natural language processing, computer vision, social computing, and cloud computing. Students are expected to take 15 units from this grouping.

CSCI 214	Pattern Recognition	3 units
CSCI 215	Computer Simulations	3 units
CSCI 243	Affective Computing	3 units
CSCI 261.03	Introduction to Social Computing	3 units
CSCI 272	Machine Learning	3 units
CSCI 275	Computational Science	3 units
CSCI 282.06	Natural Language Processing	3 units

Or other graduate elective courses offered by the program that cover methods or domains in data science.

The Department offers seven tracks:

- Affective Computing/Computer Science and Education
- Computer Algorithms and Applications
- Computational Sound and Music
- Computer Vision
- Networks Research
- Social Computing
- Blockchain Technologies

Comprehensive Exams

CSCI 296	Comprehensive Examinations
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At the tail-end of the program, students are required to take and pass their comprehensive examinations, and accomplish a thesis under their chosen topic among the tracks offered by the program.

Thesis and Oral Defense: 6 units

CSCI 299.1	Thesis I
CSCI 299.2	Thesis II

Publication Requirement

Students of the program are required to have a publication in a refereed journal/peer-reviewed proceedings regarding the student's research work as aligned with their thesis.

Tabulated below is the program of study by year and semester for full-time students.

Year 1					
Interession		First Semester		Second Semester	
Course Cat	Units	Course Cat	Units	Course Cat	Units
CSCI 205	3	CSCI 271	3	ELECTIVE	3
CSCI 217	3	CSCI 273	3	ELECTIVE	3
		MATH 271.1	3	ELECTIVE	3
		ELECTIVE	3	ELECTIVE	3
Total Units	6	Total Units	12	Total Units	12

Year 2					
Interession		First Semester		Second Semester	
Course Cat	Units	Course Cat	Units	Course Cat	Units
CSCI 296	0	CSCI 299.1	3	CSCI 299.2	3
Total Units	0	Total Units	3	Total Units	3