

Bachelor of Science Degree in Mathematics with an Option in **Data Science**

(Suggested Program)



MATH 4322: Prerequisites: MATH 3339

Course Description: Course will deal with theory and applications for such statistical learning techniques as linear and logistic regression, classification and regression trees, random forests, neural networks. Other topics might include: fit quality assessment, model validation, resampling methods. R Statistical programming will be used throughout the course.

MATH 4323: Prerequisites: MATH 3339

Course Description: Course will deal with theory and applications for such statistical learning techniques as maximal marginal classifiers, support vector machines, K-means and hierarchical clustering. Other topics might include: algorithm performance evaluation, cluster validation, data scaling, resampling methods. R Statistical programming will be used throughout the course.

First Year

Fall Total:	17 hrs
MATH 1431	(4)
ENGL 1303	(3)
HIST 1377	(3)
POLS 1336	(3)
*NSM Nat. Sci.& lab	(4)

Spring Total:	17 hrs
MATH 1432	(4)
ENGL 1304	(3)
HIST 1378	(3)
POLS 1337	(3)
*NSM Nat. Sci.& lab	(4)

Second Year

Fall Total:	14 hrs
MATH 2433	(4)
MATH 2331	(3)
MATH 2131	(1)
COSC 1306	(3)
*NSM Nat. Sci.	(3)

Spring Total:	15 hrs
MATH 3331	(3)
MATH 3325	(3)
COSC 2306	(3)
**Social Sci. Core	(3)
*NSM Nat. Sci.	(3)

Third Year

Fall Total:	15 hrs
MATH 3333	(3)
MATH 3338	(3)
***LPC Core	(3)
Creative Arts Core	(3)
Electives	(3)

Spring Total:	15 hrs
MATH (33xx-43xx)	(3)
MATH 3339	(3)
NSM Capstone or COSC 3337	(3)
Electives	(6)

Fourth Year

Fall Total:	15 hrs
MATH 4322	(3)
MATH 43XX	(3)
****W.I.D.	(3)
NSM Capstone or COSC 4337	(3)
Electives	(3)

Spring Total:	12 hrs
MATH 4323	(3)
MATH 4389	(3)
Electives	(6)

*Natural Science Core; **Social Science Core; ***Language Philosophy, and Culture, ****Writing in the Disciplines