

# BS MATHEMATICS-DATA ANALYSIS CONCENTRATION

## Degree Requirements

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

Code	Title	Hours
<b>Major Requirements</b>		
General Education Requirements ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		42
<b>Mathematics Core Courses:</b>		
MATH 2413	Calculus I <sup>1,2</sup>	4
MATH 2414	Calculus II	4
MATH 2415	Calculus III	4
MATH 2305	Discrete Mathematics	3
MATH 2318	Linear Algebra	3
MATH 2320	Differential Equations	3
MATH 357	Probability and Statistics using R	3
MATH 415	Applied Numerical Analysis	3
MATH 430	Mathematical Modeling	3
MATH 450	Combinatorics and Graph Theory	3
MATH 493	Capstone in Mathematics (EL)	3
<b>Data Analysis Concentration:</b>		
MATH 1342	Elementary Statistical Methods <sup>2</sup>	3
MATH 358	Regression Analysis	3
MATH 432	Discrete and Continuous Modeling	3
COSC 1315	Introduction to Computer Science	3
CS 310	Analysis of Algorithms	3
CS 332	C++ Programming	3
CS 355	Python Programming	3
CS 361	Database Systems and Design	3
<b>Upper Division Electives (300-400 level)</b>		<b>21</b>
<b>Electives (as needed to meet minimum degree requirements including 54 semester credits of upper division)</b>		
<b>Minimum Hours for Degree</b>		<b>120</b>

<sup>1</sup> Calculus 1 prerequisites (if any) will be determined by the College of CBET using established readiness indicators.

<sup>2</sup> Satisfies Core Curriculum

Note: A minimum of 54 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in three areas for graduation: Overall GPA, Institutional GPA, and Major GPA.

## Four Year Plan

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

### First Year

Code	Title	Hours
<b>Fall</b>		
PSCI 2305	U.S. Government and Politics	3
ENGL 1301	Composition I <sup>minimum grade of 'C' required</sup>	3
MATH 2413	Calculus I	4
Life and Physical Sciences Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
IS 1100	University Foundations <sup>mandatory for FTIC students</sup>	1
<b>Fall total semester credit hours</b>		<b>14</b>

<b>Spring</b>		
PSCI 2306	State and Local Government	3
ENGL 1302	Composition II	3
MATH 2414	Calculus II	4
MATH 1342	Elementary Statistical Methods	3
Life and Physical Sciences Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
<b>Spring total semester credit hours</b>		<b>16</b>
<b>First Year Total Semester Credit Hours</b>		<b>30</b>

## Second Year

Code	Title	Hours
<b>Fall</b>		
MATH 2415	Calculus III	4
MATH 2318	Linear Algebra	3
HIST 1301	United States History I	3
Creative Arts Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
Language, Philosophy and Culture Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
<b>Fall total semester credit hours</b>		<b>16</b>
<b>Spring</b>		
MATH 2305	Discrete Mathematics	3
COSC 1315	Introduction to Computer Science	3
MATH 2320	Differential Equations	3
HIST 1302	United States History II	3
CS 332	C++ Programming	3
<b>Spring total semester credit hours</b>		<b>15</b>
<b>Second year Total Semester Credit Hours</b>		<b>31</b>

## Third Year

Code	Title	Hours
<b>Fall</b>		
MATH 431	Internship in Mathematics	3
MATH 450	Combinatorics and Graph Theory	3
SPCH 1315	Public Speaking	3
or COMM 1307	Introduction to Mass Communication	
or COMM 1311	Introduction to Communication Studies	
Social and Behavioral Science Core Curriculum Requirement ( <a href="http://catalog.tamut.edu/academic-information/university-core-curriculum/">http://catalog.tamut.edu/academic-information/university-core-curriculum/</a> )		3
Upper Division Elective (300-400 level)		3
Elective - Upper or Lower Division as needed to meet upper division and overall requirement		
<b>Fall Total Semester Credit Hours</b>		<b>15</b>
<b>Spring</b>		
MATH 357	Probability and Statistics using R	3
CS 310	Analysis of Algorithms	3
CS 361	Database Systems and Design	3
Upper Division Elective (300-400 level)		3
Upper Division Elective (300-400 level)		3
<b>Spring total semester credit hours</b>		<b>15</b>
<b>Third Year Total Semester Credit Hours</b>		<b>30</b>

## Fourth Year

Code	Title	Hours
<b>Fall</b>		
MATH 430	Mathematical Modeling	3
CS 355	Python Programming	3
Upper Division Elective (300-400 level)		3
Upper Division Elective (300-400 level)		3
Elective - Upper or Lower Division as needed to meet upper division and overall requirement		2
<b>Fall total semester credit hours</b>		<b>14</b>
<b>Spring</b>		
MATH 358	Regression Analysis	3
MATH 415	Applied Numerical Analysis	3
MATH 493	Capstone in Mathematics (EL)	3
Upper Division Elective (300-400 level)		3
Upper Division Elective (300-400 level)		3
<b>Spring total semester credit hours</b>		<b>15</b>
<b>Fourth Year Total Semester Credit Hours</b>		<b>29</b>
<b>Minimum Hours for Degree</b>		<b>120</b>

Note: A minimum of 54 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in three areas for graduation: Overall GPA, Institutional GPA, and Major GPA.