STATISTICS - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF SCIENCE IN STATISTICAL DATA SCIENCE

Well-trained statisticians are in high demand in various application areas including health and medicine, business, engineering, physical sciences, environmental studies, and government. The combined degree program enables ambitious and academically talented statistics majors at Texas A&M University to earn both a bachelor's degree and a master's degree within a period of five years after entering Texas A&M as a freshman. Depending on the electives selected, a student completing the combined program will be prepared to enter:

- Employment as a statistical analyst or as a data scientist;
- The professional job marketplace for quantitatively trained professionals;
- A career in secondary education;
- A doctoral program in statistics, biostatistics, or in a related discipline, at Texas A&M or another university.

Program Requirements

The following is a suggested schedule that includes the required courses for the combined BS in Statistics /MS in Statistical Data Science. It is recognized that many students will change the sequence and number of courses taken in any semester. Deviations from the prescribed course sequence, however, should be made with care to ensure that prerequisites for all courses are met.

First Year

Fall		**Semester Credit Hours**
ENGL 104	Composition and Rhetoric	3
MATH 171	Calculus I [1]	4
STAT 182	Foundations of Statistics	1
Select one of the following:		4
ASTR 111	Overview of Modern Astronomy	
BIOL 111	Introductory Biology I	
BIOL 112	Introductory Biology II	
CHEM 119	Fundamentals of Chemistry I	
CHEM 120	Fundamentals of Chemistry II	
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	**15**

Spring		
MATH 172	Calculus II [1]	4
Select one of the following:		3-4
CSCE 110	Programming I	
CSCE 111	Introduction to Computer Science Concepts and Programming	
CSCE 120 or CSCE 121	Program Design and Concepts or Introduction to Program Design and Concepts	
CSCE 206	Structured Programming in C	
Select one of the following		4
ASTR 111	Overview of Modern Astronomy	
BIOL 111	Introductory Biology I	
BIOL 112	Introductory Biology II	
CHEM 119	Fundamentals of Chemistry I	
CHEM 120	Fundamentals of Chemistry II	
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	**15**

Second Year

Fall		
MATH 221	Several Variable Calculus [1]	4
POLS 206	American National Government	3
STAT 211	Principles of Statistics I [1]	3
Select one of the following:		3
COMM 203	Public Speaking	
COMM 205	Communication for Technical Professions	
COMM 243	Argumentation and Debate	
Life and physical sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#life-physical-sciences)		3
	Semester Credit Hours	**16**

Spring		
MATH 304 or MATH 323	Linear Algebra [1] or Linear Algebra	3
POLS 207	State and Local Government	3
STAT 212	Principles of Statistics II [1]	3
Select one of the following:		3-4
CSCE 110	Programming I	
CSCE 111	Introduction to Computer Science Concepts and Programming	
CSCE 120 or CSCE 121	Program Design and Concepts or Introduction to Program Design and Concepts	
CSCE 206	Structured Programming in C	

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
	Semester Credit Hours	**16**
Third Year		
Fall		
STAT 404	Statistical Computing	3
STAT 414	Mathematical Statistics I	3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
Mathematics elective [2]		3
Outside specialization elective [3]		3
	Semester Credit Hours	**15**
Spring		
STAT 408	Introduction to Linear Models	3
STAT 415	Mathematical Statistics II	3
Outside specialization elective [3]		3
General elective		6
	Semester Credit Hours	**15**
Fourth Year		
Fall		
STAT 406	Design and Analysis of Experiments	3
STAT 641	The Methods of Statistics I [4]	3
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3
Mathematics or Statistics elective [5]		3
Outside specialization elective [3]		3
	Semester Credit Hours	**15**
Spring		
STAT 482 or STAT 483	Statistics Capstone or Interdisciplinary Data Analytics Practicum	3
STAT 642	The Methods of Statistics II [4]	3
Outside specialization elective [3]		3
General elective		4-5
	Semester Credit Hours	**13**
Fifth Year		
Fall		
Graduate coursework [6]		15
	Semester Credit Hours	**15**
Spring		
Graduate coursework [6]		15
	Semester Credit Hours	**15**
	Total Semester Credit Hours	**150**

[1] Must make a grade of C or better.

[2] Select from ISEN 320, ISEN 340, ISEN 350, ISEN 355; MATH 300, MATH 302, MATH 308, MATH 409, MATH 410, MATH 417 or MATH 437, MATH 442, MATH 446, MATH 447, MATH 469, MATH 470.

[3] Students must take 12 hours in an outside specialization area upon approval by a departmental advisor. At least 6 hours must be upper-level hours.

[4] Courses to be used towards both the BS in Statistics and MS degree in Statistical Data Science.

[5] Select from ISEN 320, ISEN 340, ISEN 355; MATH 300, MATH 302, MATH 308, MATH 409, MATH 410, MATH 417 or MATH 437, MATH 442, MATH 446, MATH 447, MATH 469, MATH 470; STAT 315, STAT 335/CSCE 320, STAT 407, STAT 421, STAT 424/MATH 424, STAT 426, STAT 436, STAT 438, STAT 445, STAT 446, STAT 459, STAT 484, STAT 485, STAT 489, STAT 491.

[6] 36 hours for a non-thesis option or 32 hours for a thesis option (up to six of which are STAT 691). Graduate hours must be taken from 600 level STAT courses not including STAT 601, STAT 651, or STAT 652. Students are required to take one semester hour of STAT 681 and two semester hours of STAT 684. For additional information concerning this and other requirements of the Master's program including the Master's diagnostic examination, reference the Master of Science in Statistical Data Science (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/statistics/statistical-data-science-ms/) graduate catalog page.

Graduation requirements include a requirement for 3 hours of International and Cultural Diversity courses and 3 hours of Cultural Discourse courses. A course satisfying a Core category, a college/department requirement, or a general elective can be used to satisfy this requirement.

Students will not be permitted to receive credit for both the 400- and 600-level versions of certain courses because the content and learning outcomes are too similar (e.g.STAT 404/STAT 604, STAT 408/STAT 608, STAT 407/STAT 607, STAT 426/STAT 626, STAT 436/STAT 636, STAT 438/STAT 638, STAT 445/STAT 645, STAT 446/STAT 646, STAT 459/STAT 659).

The program includes a total of 156 hours which up to 6 hours may be applied toward both the Bachelor of Science in Statistics and the non-thesis option Master of Science in Statistical Data Science.