

Behavioral and Social Data Science, Psychology (BSBSDS)

This program is designed for students interested in understanding, classifying, and predicting human behavior, emotions, and intentions. This major offers interdisciplinary training at the intersection of data analytics and human behavior. Students will think creatively and critically about the prediction of human behavior and how to work with a variety of data types, such as physiology, neuroimaging, language, and/or health-related outcomes. Students are also trained in experimental design and ethics, enabling them to evaluate new research findings and communicate their findings in written and oral presentations.

What distinguishes this major from related majors is that it provides significant training in the analysis and understanding of human behavior – at the level of the individual, social group and society. Students who successfully complete this program will develop a technical toolkit to tackle the most ambitious problems involving human behavior and help create the next-generation data science workforce. Training will be offered in the curation, visualization, analysis, and ethical treatment of real-world data using programming languages including R and python.

The program is designed to prepare graduates primarily for entry level data science careers in industry, although positions in other settings, such as government, nonprofit agencies, universities and other research settings, may also be appropriate.

Total Hours Required: 120

Plan of Study

The Plan of Study is a suggested four-year course sequence to support academic planning and serves as a helpful guide. Currently enrolled students should meet with their academic advisor to tailor their course selections and timelines to their individual goals and circumstances.

Course	Title	Hours
Year 1		
Semester 1		
First-Year Signature Course (090)		3
RHE 306	Rhetoric and Writing	3
PSY 301	Introduction to Psychology	3
SDS 302F	Foundations of Data Analysis	3
Natural Science and Technology, Part I (030)		3
Hours		15
Semester 2		
Natural Science and Technology, Part I (030)		3
Visual and Performing Arts (050)		3
PSY 317L	Introduction to Statistics for the Behavioral Sciences	3
Natural Science and Technology, Part II (093)		3
M 408K or M 408C	Differential Calculus or Differential and Integral Calculus	4
Hours		16
Year 2		
Semester 1		
Natural Science and Technology, Part II (093)		3
American and Texas Government (070)		3
PSY 371E	Psychological Data Science Foundations I	3
Foreign Language other than English, Intermediate Proficiency		6
Hours		15
Semester 2		
PSY 371F	Psychological Data Science Foundations II	3

Natural Science and Technology, Part II (093)	3
American and Texas Government (070)	3
Foreign Language other than English, Intermediate Proficiency	6
Hours	15
Year 3	
Semester 1	
PSY 420M Psychological Methods and Statistics	4
Hours chosen from: Upper-division	3
U.S. History (060)	3
Free Elective	3
Free Elective	3
Hours	16
Semester 2	
Multicultural/Diversity/Inclusion course	3
Hours chosen from: Upper-division	3
Hours chosen from: Additional Math or Science	3
U.S. History (060)	3
Free Elective	3
Hours	15
Year 4	
Semester 1	
Free Elective	3
Additional Social Science (may not also be counted toward Core Curriculum)	3
Hours chosen from: Upper-division	3
Humanities (040)	3
Free Elective	3
Hours	15
Semester 2	
Hours chosen from: Upper-division	3
Free Elective	3
Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)	3
Natural Science and Technology, Part I (030)	4
Hours	13
Total Hours	120

Requirements

All requirements are listed below, starting with the most specialized moving to the most general. Additional requirements may follow the table, so be sure to read the entire page. Some required courses listed below may also satisfy [General Education](#) requirements, including [Core Curriculum](#).

Code	Title	Hours
Concentration		
PSY 301	Introduction to Psychology (with a grade of at least C)	3
PSY 317L	Introduction to Statistics for the Behavioral Sciences (with a grade of at least C)	3
OR		
PSY 120R	R Programming for Behavioral Sciences	
PSY 371E	Psychological Data Science Foundations I	3
PSY 371F	Psychological Data Science Foundations II	3
PSY 420M	Psychological Methods and Statistics (with a grade of at least C; must be taken in residence)	4
<i>Multicultural/diversity/inclusion in the behavioral sciences</i>		
Hours chosen from:		3
PSY 332U	Diversity in Cognitive Aging	
PSY 364T	Multicultural Psychotherapy	
PSY 365D	Behavioral Science, Equity, and Inclusion	
Hours chosen from: Approved list		

Hours chosen from: Upper-division PSY with PSY 420M as a prerequisite	12	Hours chosen from: Upper-division mathematics	3
<i>Mathematics and Natural Science</i>		<i>Subtotal</i>	55
M 408C Differential and Integral Calculus	4	Degree (see details below)	57
or M 408K Differential Calculus		Free electives: Additional coursework to reach total hours required.	
Hours chosen from:	1	<i>Subtotal</i>	57
PSY 317L Introduction to Statistics for the Behavioral Sciences		General Education	
PSY 120R R Programming for Behavioral Sciences		<i>Remaining Core Curriculum (42 hours total)</i>	8
<i>Choose a sequence below: (choose two sequences)</i>	16	<i>Subtotal</i>	8
Sequence 1: Biology		<i>College Requirements - Liberal Arts</i>	
BIO 311C Introductory Biology I		<i>General University Requirements</i>	
BIO 311D Introductory Biology II		Total Hours	120
BIO 206L Introductory Laboratory Experiments in Biology			
Sequence 2: Chemistry			
CH 301 Principles of Chemistry I			
CH 302 Principles of Chemistry II			
CH 204 Introduction to Chemical Practice			
Sequence 3: Physics			
PHY 317K General Physics I			
PHY 117M Laboratory for Physics 317K			
PHY 317L General Physics II			
PHY 117N Laboratory for Physics 317L			
Sequence 4: Physics			
PHY 301 Mechanics			
PHY 101L Laboratory for Physics 301			
PHY 316 Electricity and Magnetism			
PHY 116L Laboratory for Physics 316			
Sequence 5: Physics			
PHY 303K Engineering Physics I			
PHY 103M Laboratory for Physics 303K			
PHY 303L Engineering Physics II			
PHY 103N Laboratory for Physics 303L			
Sequence 6: Physics			
PHY 302K General Physics Technical Course: Mechanics, Heat, and Sound			
PHY 102M Laboratory for Physics 302K			
PHY 302L General Physics Technical Course: Electricity and Magnetism, Light, Atomic and Nuclear Physics			
PHY 102N Laboratory for Physics 302L			
Sequence 7: Computer Science			
C S 303E Elements of Computers and Programming			
C S 313E Elements of Software Design			
AND			
Hours chosen from:			
C S 329E Advanced Topics in Elements of Computing (any topic)			
C S 323E Elements of Scientific Computing			
or C S 324E Elements of Graphics and Visualization			
or C S 326E Elements of Networking			
or C S 327E Elements of Databases			
Sequence 8: Math			
M 408D Sequences, Series, and Multivariable Calculus			
M 340L Matrices and Matrix Calculations			
M 346 Applied Linear Algebra			
or M 362K Probability I			

Code	Title	Hours
Degree		
BHD 301	Introduction to Humanities Data Science	3
Hours chosen from: Statistics		3
PSY 317L	Introduction to Statistics for the Behavioral Sciences	
PSY 317L	Introduction to Statistics for the Behavioral Sciences	
BME 335	Engineering Probability and Statistics	
ECO 329	Economic Statistics	
ECE 351K	Probability and Random Processes	
M 358K	Applied Statistics	
M 378K	Introduction to Mathematical Statistics	
M E 335	Engineering Statistics	
SDS 320E	Elements of Statistics	
Hours chosen from: Approved list		
Hours chosen from: Programming		3
PSY 371E	Psychological Data Science Foundations I	
SDS 313	Introduction to Data Science	
RHE 314	Computer Programming for the Humanities	
Hours chosen from: Approved list		
Hours chosen from: Research design and methods		3
PSY 420M	Psychological Methods and Statistics	
SOC 320T	Qualitative Methods for Social Research	
URB 315	Urban Studies Research Methods	
WGS 356	Introduction to Feminist Research Methods	
Hours chosen from: Approved list		
Hours chosen from: Data science fundamentals		6
ECO 342M	Applied Econometrics and Data Analysis	
LIN 350.12	Analyzing Text Data: A Statistics Toolkit for Linguists	
PSY 371F	Psychological Data Science Foundations II	
Hours chosen from: Approved list		
C S 303E	Elements of Computers and Programming	3
C S 313E	Elements of Software Design	3
Hours chosen from:		3
C S 323E	Elements of Scientific Computing	
C S 324E	Elements of Graphics and Visualization	
C S 326E	Elements of Networking	
C S 327E	Elements of Databases	

C S 329E	Advanced Topics in Elements of Computing (any topic)	
Hours chosen from: Approved list		
Hours chosen from: Research Project Management/Research Data Management/Legal Aspects		3
BHD 350	Project Management for Humanities Data Science	
PSY 341K	Selected Topics in Psychology (any topic)	
PSY 371Q	Ethics in Behavioral Data Science	
<i>Subtotal</i>		<i>30</i>
<i>Literature and Writing</i>		
RHE 306	Rhetoric and Writing	3
Hours chosen from: <u>Writing intensive coursework-see course list</u> (may also be counted toward Core Curriculum; Plan II honors requires a minimum grade of C-)		3
Hours chosen from: Upper-division <u>Writing intensive coursework-see course list</u> (may also be counted toward Core Curriculum; Plan II honors requires a minimum grade of C-)		6
E 316L	British Literature	3
or E 316M	American Literature	
or E 316N	World Literature	
or E 316P	Masterworks of Literature	
Foreign Language other than English, Intermediate Proficiency		6
<u>Additional Social Science (may not also be counted toward Core Curriculum)</u>		3
<u>Cultural Expression, Human Experience, and Thought (may not also be counted toward Core Curriculum)</u>		3
Total Hours		57

Additional Requirements and Policy

At least:

- 39 upper-division hours are required.
- 36 lower- or upper-division hours must be completed in residence
- 24 upper-division hours must be completed in residence.

Students in this program may pursue any Bachelor of Arts honors program in the college except for Plan II Honors.

Hours may be counted toward more than one requirement only in the following cases:

1. Hours that fulfill Core Curriculum may also be counted toward specific degree requirements unless otherwise stated.
2. Up to 3 hours counted toward the degree or Core Curriculum may also be counted toward a minor or certificate. Completion of a transcript-recognized minor or certificate is not a requirement of the degree, but may be earned.