



This course plan is a **recommended** sequence for this major, **not** a guarantee of availability. Courses designated as important (!) may have a deadline for completion and/or affect time to graduation.

Importance	Course	Units	Upper Division Units	Min. Grade	Prerequisites	Notes
1st Semester (14 Units)						
!	ENGL 101 - First Year Composition	3			101.0 - 101.9 Foundations Writing Evaluation score	
!	MATH 122A - Functions for Calculus	1		C	75+ Math Placement Exam score or MATH 120R with a grade of C or higher	
!	MATH 122B - First Semester Calculus	4			MATH 122A with grade of C or higher	MATH 125 equivalent.
!	UNIV 101 - Introduction to General Education	1				Entry course.
	NROS 195B - Engaging Topics in Neuroscience &	1				Freshman colloquium course for NSCS students.
!	CHEM 151 - Chemical Thinking I	4			60+ Math Placement Exam score or MATH 112	Honors section available - CHEM 161 & CHEM 163 . Credit is only allowed for one lecture & lab combination.
2nd Semester (15 Units)						
!	ENGL 102 - First Year Composition	3				
!	PSY 150A1 - The Structure of Mind & Behavior	4				<i>Gened Social Scientist</i>
!	MCB 181R and MCB 181L - Introductory Biology I	4			40+ Math Placement Exam score or MATH 112/120R/122B/125	
	Second Language Course (1st Semester Proficiency)	4			Second Language Placement Exam score	See advisor for course placement after Second Language Placement Exam has been taken. Second-semester proficiency is needed to fulfill NSCS major requirements.
3rd Semester (13 Units)						
	Cognitive Science Foundation Focus Course	3	3			See focus options on page 2.
	Second Language Course (2nd Semester Proficiency)	4		C	Second Language Placement Exam score	See advisor for course placement after Second Language Placement Exam has been taken. Second-semester proficiency is needed to fulfill NSCS major requirements.
	MATH 263 - Introduction to Statistics & Biostatistics (recommended for pre-med students) or PSY 230 - Psychological Measurement & Statistics	3			MATH 263: 60+ Math Placement Exam score or MATH 112/122B/125 PSY 230: MATH 112 & PSY 150A1 or PSY 101	Only complete one option.
	NSCS 200 - Fundamentals of Neuroscience & Cognitive Science	3		C	PSY 150A1 or PSY 101 and MCB 181R & MCB 181L or concurrent enrollment in one of the two prerequisites	<i>Prerequisite for all NSCS and NROS courses.</i>
4th Semester (16 Units)						
!	Cognitive Science Foundation Focus Course	3				See focus options on page 2.
!	PHYS 102 and PHYS 181 - Introductory Physics I or PHYS 141 - Introductory Mechanics	4			60+ Math Placement Exam score or MATH 112/120R/122B/125	Only complete one option.
	General Education Course 1*	3				<i>See Note*</i>
	General Education Course 2*	3				<i>See Note*</i>
	PHIL 241 - Consciousness & Cognition	3				
5th Semester (16 - 17 Units)						
!	NROS 307 - Cellular Neurophysiology	3-4 (<i>honors section available</i>)	3 to 4	C	NSCS 200, MCB 181R, and CHEM 151 or equivalent, enrl in NROS 308	Honors section is available for enrollment to students in the W.A. Franke Honors College
!	NROS 308 - Methods in Neuroscience	1	1	C	NSCS 200, enrl in NROS 307	
!	NROS 311 - Scientific Programming with MATLAB	3	3	C	NSCS 200, Stats recommended	
	CGSC 344 - Modeling the Mind: Computational Models of Cognition	3	3			
	Elective Course^	3				<i>See Note^</i>
	General Education Course 3*	3				<i>See Note*</i>
6th Semester (16 Units)						
	Cognitive Science Foundation Focus Course	3	3			See focus options on page 2.
!	CGSC 320 - Issues & Themes in Cognitive Science	3	3	C	NSCS 200	
!	CGSC 321 - Methods in Cognitive Science	1	1	C	NSCS 200	
	General Education Course 4*	3				<i>See Note*</i>
	General Education Course 5*	3				<i>See Note*</i>
	Elective Course^	3				<i>See Note^</i>
7th Semester (15 Units)						
	Cognitive Science Major Focus Course	3	3			Choose two (2) courses for Cognition Emphasis List
	Elective Course^	3				<i>See Note^</i>
	Emphasis Course 1**	3	3			<i>See Note**</i>
	Emphasis Course 2**	3	3			<i>See Note**</i>
	Elective Course^	3				<i>See Note^</i>

8th Semester (16 Units)

!	Cognitive Science Major Focus Course	3	3			Choose two (2) courses for Cognition Emphasis List
!	UNIV 301 - General Education Capstone	1	1		UNIV 101, General Education Foundations Writing <i>and</i> Math Courses, <i>and</i> five core General Education Courses	Exit course.
	Emphasis Course 3**	3	3			See Note**
	Emphasis Course 4**	3	3			See Note**
	Emphasis Course 5**	3	3			See Note**
	Elective Course^	3				See Note^
	Minimum Total Units	Min. Upper Division Units	Min. Units in Residence	Min. NSCS Major Units	Min. GPA Needed	Additional Degree Completion Notes
	120	42	30	35	2.00	Program Post-Test Needs to be Completed

Notes

*Any General Education - Exploring Perspectives (1 course in each category: Artist, Humanist) or Building Connections (3 courses needed) course. Gened Social Scientist is covered by PSY 150A1.
 ** 15 units needed in one of the emphasis topics listed: Cognition, Computation, Development & Aging, Language & Communication Science, Neurobiology, Philosophy of Mind, and Thematic. See advisor for more details.
 ^Elective course needed to reach 120 unit minimum for graduation

CogSci Foundation Focus Course Listings

Choose three (3) courses from at least two (2) categories:

Cognitive Psychology
 LING 440 - The Bilingual Mind
 PSY 333 - Judgement and Decision-Making
 PSY 340 - Intro to Cognitive Development
 PSY 426 - Advanced Human Memory
 PSY 429 - Advanced Perception

Linguistics
 LING 201 - Introduction to Linguistics
 LING 341 - Language Development
 LING 432 - Psychology of Language
 LING 449A - Biolinguistics

Philosophy
 PHIL 202 - Introduction to Symbolic Logic
 PHIL 346 - Minds, Brains and Computers
 PHIL 442 - Knowledge and Cognition
 PHIL 450 - Philosophy of Mind

Emphasis Course Listings (15 Units)

Cognition
 ECOL 346 – Bioinformatics
 ISTA 457 – Neural Networks
 LING 432 – Psychology of Language
 LING 440 – The Bilingual Mind
 NROS 344 – Modeling the Mind: Comp Models of Cognition
 NROS 412 – Molecular Mechanisms of Learning and Memory
 NROS 415 – Electrophysiology Lab
 PHIL 346 – Minds, Brains & Computers
 PHIL 439 – Decision Theory
 PSY 300 – Cognitive Neuroscience
 PSY 313 – Drugs and the Brain
 or PSY 413 – Drugs, Brain, and Behavior

 PSY 321 – Brain Rehabilitation
 PSY 326 – Human Memory
 PSY 340 – Introduction to Cognitive Development
 PSY 405 – Developmental Cognitive Neuroscience
 PSY 412 – Animal Learning
 PSY 422 – Introduction to Brain Connectivity
 PSY 433 – Decisions and the Brain

Computation
Quantitative Foundation - Choose One Course
 ECE 220 – Basic Circuits
 ISTA 311 – Foundations of Information & Inference
 MATH 129 – Calculus II
 MATH 254 – Introduction to Ordinary Differential Equations
 MATH 355 – Analysis of Ord. Differential Equations
 PHYS 141– Introductory Mechanics & PHYS 241 – Introductory Electricity and Magnetism
Emphasis - Complete Twelve (12) Units
 BME 417 – Meas. & Data Analysis in Biomed. Engineering
 BME 477 – Introduction to Biomedical Informatics
 ECOL 346 – Bioinformatics
 ISTA 410 - Bayesian Modeling and Inference
 ISTA 421 - Introduction to Machine Learning
 MATH 485 - Mathematical Modeling
 ISTA 450 - Artificial Intelligence
 ISTA 457 – Neural Network
 MATH 475A - Math Prin. of Numerical Analysis
 MATH 485 - Mathematical Modeling
 NROS 344 – Modeling the Mind: Computational Models of Cognition
 NROS 415 – Electrophysiology Lab
 PHIL 455 - Philosophy and Artificial Intelligence

Language and Communication Science
 LING 300 – Introduction to Syntax
 LING 315 – Introduction to Phonology
 LING 322 – The Structure & Meaning of Words
 LING 341 – Language Development
 LING 364 – Introduction to Formal Semantics
 LING 388 – Language & Computers
 LING 432 – Psychology of Language
 LING 440 – The Bilingual Mind
 LING 449A – Biolinguistics
 PSYS 407 – Language and Thought: A Cognitive Psychology/Neuroscience Perspective
 SLHS 340 – Language Science
 SLHS 362 – Neurobiology of Communication
 SLHS 380 – Hearing Science
 SLHS 441 – Language Acquisition
 SLHS 473 – Communication Disorders II

Notes:
 Students may choose to complete a Thematic Emphasis with courses of their choosing in a given theme. Thematic Emphases must be approved by the student's advisor, and the NSCS Director.

 Students may use up to six (6) units of Upper Division Thesis, Independent Study, Directed Research, Internship, or Preceptorship (max three [3] units) towards their emphasis.

Development and Aging
 FCM 496D - Disability Perspectives in Research, Policy, and Practice
 FSHD 413 – Issues in Aging
 NROS 440 – How to Build a Brain: Mech. Of Neural Development
 PSY 340 – Introduction to Cognitive Development
 PSY 405 – Developmental Cognitive Neuroscience
 PSY 405 – Developmental Cognitive Neuroscience
 PSY 424 – Gerontology: A Multidisc. Perspective
 PSY 459 – Adult Development and Aging
 PSY 478 – Sleep and Sleep Disorders
 SLHS 340 – Language Science

Neurobiology
 ECOL 346 – Bioinformatics
 or ISTA 457 – Neural Networks
 or NROS 344 – Modeling the Mind: Comp. Models of Cognition
 ECOL 487R/L – Animal Behavior w/lab
 or NROS 381 – Animal Brains, Signals, Sex, and Social Behaviors
 NROS 330 - Principles of Neuroanatomy: Cells to Systems
 NROS 412 – Molecular Mechanisms of Learning and Memory
 NROS 415 – Electrophysiology Lab
 NROS 420 – Sensing and Action in Predator/Prey Encounters
 NROS 430 – Neurogenetics
 NROS 440 – How to Build a Brain: Mech. of Neural Development
 PSY 321 – Brain Rehabilitation
 PSY 313 – Drugs and the Brain
 or PSY 413 – Drugs, Brain, and Behavior

Philosophy of Mind
 PHIL 305 – Intro to Philosophy of Science
 PHIL 345 – Philosophy and Psychiatry
 PHIL 346 – Minds, Brains & Computers
 PHIL 347 – Neuroethics
 PHIL 376 – Intro to the Philosophy of Language
 PHIL 437 – Moral and Social Evolution
 PHIL 439 – Decision Theory