Cognitive Science Major

Foundation Requirement in Cognitive Science (185:201; 4cr)

Logical and Statistical Reasoning (One Course from Each Column)

Computational/Logical Reasoning	Statistical Reasoning
• Introduction to Logic (730:201; 3cr) • Introduction to Logic (730:202; 4cr) • Computing for Math and the Sciences (198:107; 3cr) • Introduction to Discrete Structures I (198:205; 4cr) • Introduction to Mathematical Reasoning (640:300; 3cr) • Mathematical Logic (640:461; 3cr)	• Research Methods in Cognitive Science (185:320; 3cr) • Introduction to Discrete Structures II (198: 206; 4cr) • Calculus I (640:135; 4cr) • Calculus II (640:136; 4cr) • Calculus I for Mathematical and Physical (640:151; 4cr) • Calculus II for Mathematical and Physical (640:152; 4cr) • Honors Calculus I (640:191; 4cr) • Honors Calculus II (640:192; 4cr) • Quantitative Methods in Psychology (830:200; 4cr) • Advanced Statistical Methods in Psychology (830:400;3cr) • Basic Statistics for Economics (960:201; 4cr) • Statistics I (960:211; 3cr) • Introductory Statistics for Business (960:285; 3cr) • Basic Statistics for Research (960:401; 3cr)

Distributional requirements (One Course from Three Columns)

Cognitive Neuroscience	Decision Making	Language	Minds, Machines, & Computation	Perception
• Brain, Mind & Behavior (119:195; 3cr) • Fundamentals of Neurobiology (146:245; 3cr; for CBN majors) • Essentials of Cell Biology and Neuroscience (146:295; 3cr) • Data Structures (198:112, 4cr) • Neuropsychology (830:310; 3cr) • Physiological Psychology (830:313; 3cr)	• Cognition & Decision Making (185:301; 4cr) • Intermediate Microeconomics Analysis (220:320; 3cr) • Psychology and Politics (790:348; 3cr) • Motivation and Emotion (830:364; 3cr)	• Meaning & Numbering (185:330; 3cr) • Language & Cognition (185: 340 (previously 185:410); 3cr) • Introduction to Linguistic Theory (615:201; 3cr) • Philosophy of Language (730:210; 3cr) • Psychology of Language (830:351; 3cr)	• The Concept of 'Concepts' in Cognitive Science (185:310; 3cr) • Introduction to Computer Science (198:111; 4cr) • Introduction to Artificial Intelligence (198:440; 4cr) • Mathematical Theory of Probability (640:477; 3cr) • Minds, Machines and Persons (730:329; 3cr) • Philosophical Aspects of Cognitive Science (730:360; 3cr)	• Design and Analysis of Computer Algorithms (198:344; 4cr) • Sensation & Perception (830:301; 3cr)

Capstone Course (One Course from the Following)

Undergraduate Seminar in Cognitive Science (185:411; 4cr)	Research in Cognitive Science (185:395; 3cr)	Honors Research (185:495; 3cr)

For more information go to: http://ruccs.rutgers.edu or email: undergrad@ruccs.rutgers.edu   12/2/21

Select ONE track AND complete at least 3 courses from that track listed below

Additional Requirements (All)

- **Major MUST consist of a minimum of 36-credits** <mark>**</mark>
- **Complete a minimum of 4-Cognitive Science Courses (185 Curriculum)**
- Grades of C or better must be earned in all courses counted towards the major
- Two-thirds of the 36-credits must be 300 level or above
- Two-thirds of the 36-credits must be from School of Arts and Sciences
- No more than 4-courses from Philosophy **AND** no more than 4-courses from Computer Science may count toward major
- No more than 3-courses from any other department
- **Note: Courses used to satisfy the distribution requirement cannot also be used to satisfy the track elective requirements.**

<mark>**Once all required section courses are completed, 36-credits may not have been reached. The remaining credits can be from any category on either side of this sheet as long as the additional requirements noted above have been met.</mark>

Students may declare the major by using My Major (http://mymajor.sas.rutgers.edu) after taking Intro to Cog Sci (185:201), one Computational / Logical course, AND one Statistical Reasoning course.

Cognitive Neuroscience

- Advanced Neurobiology I (146:445; 3cr)
- Advanced Neurobiology II (146:447; 3cr)
- Research Methods in Cognitive Science (185:320; 3cr)
- Neural Structure of Language (185:335; 3cr)
- Fundamentals of Cognitive Neuroscience (185:350; 3cr)
- Advanced Topics in Cog Sci II (185:412; 3cr)
- Advanced Topics in Cog Sci: Cog Neuro (185:413; 3cr)
- Cognitive Neuroscience Through Case Studies (185:430; 4cr)
- Modeling & Simulation of Continuous Systems (198:424; 4cr)
- Introduction to Artificial Intelligence (198:440; 4cr)
- Behavioral and Neural Genetics (447:484; 3cr)
- Mathematical Models in the Social Sciences (640:339; 3cr)
- Minds, Machines and Persons (730:329; 3cr)
- Philosophical Aspects of Cognitive Science (730:360; 3cr)
- Philosophy of Mind (730:418; 3cr)
- Cognition (830:305; 3cr)
- Neuropsychology (830:310; 3cr)
- Developmental Psychobiology (830:361; 3cr)
- Programming for Brain Science (830:403; 3cr)
- Advanced Topics in Psychobiology (830:410 or 411; 3cr)
- Neuropsychopharmacology (830:412; 3cr)
- History of Brain Science (830:415; 3cr)
- Behavioral Pharmacology (830:463; 3cr)

Decision Making

- Human Nature and Human Diversity (185:253; 4cr)
- Cognition and Decision Making (185:301; 4cr)
- Research Methods in Cognitive Science (185:320; 3cr)
- Person Perception and Social Cognition (185:345; 3cr)
- Advanced Topics in Cog Sci II (185:412; 3cr)
- Advanced Topics in Cog Sci: Decision Making (185:414; 3cr)
- Intermediate Microeconomic Analysis (220:320; 3cr)
- Behavioral and Experimental Economics (220:480; 3cr)
- Game Theory and Economics (220:482; 3cr)
- Advanced Topics in Economic Theory (220:489; 3cr)
- Mathematical Models in Social Sciences (640:339; 3cr)
- Philosophy of Psychology (730:328; 3cr)
- The Logic of Decision (730:424; 3cr)
- Topics in Philosophy of Psychology (730:428; 3cr)
- Public Policy Formation (790:305; 3cr)
- Psychology and Politics (790:348; 3cr)
- Small Groups (830:326; 3cr)
- Abnormal Psychology (830:340; 3cr)
- Research Methods in Psychology (830:355; 3cr)
- Motivation and Emotion (830:364; 3cr)
- Health Psychology (830:377; 3cr)
- Reasoning, Problem Solving and Decision Making (830:408 or 830:409; 3cr)

Language

- *At Least One from this list of courses:*
  - Syntax (615:305; 3cr)
  - Phonology (615:315; 3cr)
  - Semantics (615:325; 3cr)
  - Pragmatics (615:350; 3cr)
- *At Least One from this list of courses:*
  - Meaning and Numbering (185:330; 3cr)
  - Advanced Topics in Cognitive Science II (185:412; 3cr)
  - Advanced Topics in Cog Sci: Language (185:415; 3cr)
  - Language Development (615:440 previously 615:433; 3cr)
  - Philosophy of Language (730:420; 3cr)
  - Semantics of Language (730:421; 3cr)
  - Psychology of Language (830:351 or 615:371; 3cr)
  - Language Acquisition (830:484; 3cr)
- *Other Additional electives:*
  - Research Methods in Cognitive Science (185:320; 3cr)
  - Neural Structure of Language (185:335; 3cr)
  - Language and Cognition (185:340 previously 185:410; 3cr)
  - Advance Topics in Cognitive Science: Language (185:415; 3cr)
  - Introduction to French Syntax (420:333; 3cr)
  - Historical Linguistics (615:330; 3cr)
  - Morphology (615:411; 3cr)
  - Evolution of the Human Language Capacity (615:415; 3cr)
  - Language Typology (615:421; 3cr)
  - Experimental Methodologies in Language Acquisition (615:435; 3cr)
  - Linguistics and Cognitive Science (615:441; 3cr)
  - Phonetics (615:451; 3cr)
  - Computational Linguistics (615:455; 3cr)
  - Introduction to Prosody (615:465; 3cr)
  - Selected Topics in Linguistics (615:471; 3cr)
  - Spanish Phonetics & Phonology (940:362; 3cr)
  - Bilingualism in the Spanish-Speaking World (940:363; 3cr)
  - Current Issues in Second Language Acquisition (940:420; 3cr)
  - Spanish Syntax (940:421; 3cr)
  - Spanish Semantics (940:422; 3cr)

Minds, Machines, & Computations

- Brain, Mind, and Behavior (119:195; 3cr; Honors)
- The Concept of 'Concepts' in Cognitive Science (185:310; 3cr)
- Research Methods in Cognitive Science (185:320; 3cr)
- Advanced Topics in Cog Sci II (185:412; 3cr)
- Advanced Topics in Cog Sci: MM&C (185:416; 3cr)
- Introduction to Discrete Structures I (198:205; 4cr)
- Introduction to Discrete Structures II (198:206; 4cr)
- Design and Analysis of Computer Algorithms (198:344; 4cr)
- Introduction to Artificial Intelligence (198:440; 4cr)
- Formal Languages and Automata (198:452; 3cr)
- Mathematical Theory of Probability (640:477; 3cr)
- Minds, Machines and Persons (730:329; 3cr)
- Philosophical Aspects of Cognitive Science (730:360; 3cr)
- Philosophy of Mind (730:418; 3cr)
- Philosophy of Perception (730:419; 3cr)
- Topics in Philosophy of Psychology (730:428; 3cr)
- Cognition (830:305; 3cr)
- Programming for Brain Science (830:403; 3cr)
- History of Brain Science (830:415; 3cr)

Perception

- Research Methods in Cognitive Science (185:320; 3cr)
- Person Perception and Social Cognition (185:345; 3cr)
- Visual Intelligence (185:401; 3cr)
- Advanced Topics in Cog Sci II (185:412; 3cr)
- Advanced Topics in Cog Sci: Perception (185:417; 3cr)
- Introduction to Imaging and Multimedia (198:334; 4cr)
- Design and Analysis of Computer Algorithms (198:344; 4cr) 335
- Introduction to Computer Graphics (198:428; 4cr)
- Introduction to Artificial Intelligence (198:440; 4cr)
- Philosophy of Psychology (730:328; 3cr)
- Philosophical Aspects of Cognitive Science (730:360; 3cr)
- Philosophy of Perception (730:419; 3cr)
- Topics in Philosophy of Psychology (730:428; 3cr)
- Sensation and Perception (830:301; 3cr)
- Physiological Psychology (830:313; 3cr)
- Advanced Topics in Visual Perception (830:481; 3cr)

- *One of the following:*
  - Graph Theory (640:428; 3cr)
  - Mathematical Logic (640:461; 3cr)
  - Mathematical Theory of Probability (640:477; 3cr)