

Effective Fall 2025
120 Credits Total
Class of 2029

General Education Courses (40 cr.)

The B.S. program in interdisciplinary neuroscience will provide students with foundational knowledge of the nervous system including a broad array of areas such as development of the nervous system, brain structure and function, cellular and molecular biology, medicinal neuroscience, neuroethics, research methods, as well as knowledge of neurodegenerative disease and psychological/psychiatric disorders. The undergraduate program offers three major options (tracks): a B.S. degree with a major in Clinical Neuroscience from the College of Health Sciences, a B.S. degree with a major in Molecular Neuroscience from the College of Environment and Life Sciences, and a B.S. degree with a major in Medicinal Neuroscience from the College of Pharmacy. The option for different neuroscience majors is unique and makes this URI major truly distinct with regard to undergraduate education. Please note students may only earn a Neuroscience degree in one track due to the overlapping of preparation and core courses needed for the major.

General Education Credit Count				
At least 40 cr.,				
No more than 12 credits with the same course code.				
(Note: Not all boxes need to be filled to add to 40 credits)				
Course	Cr.		Course	Cr.
BIO101	3			
BIO103	1			
BIO102	3			
BIO104	1			
CHM101	3			
COM100	3			
MTH103 (N/A if placed in MTH131)	3 (or N/A)			
MTH 131	3			
WRT104 OR 106	3			
PHY111	3			
PHY185	1			
PSY113	3			
			Total Gen. Ed. Credits	≥ 40

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THE UNIVERSITY OF RHODE ISLAND**Interdisciplinary Neuroscience – BS****Effective Fall 2025****120 Credits Total****Class of 2029****Preparation Courses** (required for all Neuroscience tracks) **(40- 43 cr.)**

Preparation Courses (*these courses also fulfill 23-26 cr. of general education requirements)	Course	Grade	Cr.		Semester
General Biology *A1	BIO101		3		FR F
General Biology Lab *A1	BIO103		1		FR F
General Biology II *A1	BIO102		3		FR SP
General Biology II Lab *A1	BIO104		1		FR SP
Human Anatomy & Physiology I	BIO220		3		SOPH F
Human Anatomy & Physiology I Lab	BIO221		1		SOPH F
Human Anatomy & Physiology II	BIO222		3		SOPH SP
Human Anatomy & Physiology II Lab	BIO223		1		SOPH SP
General Chemistry I *A1	CHM101		3		FR F
General Chemistry I Lab	CHM102		1		FR F
General Chemistry II	CHM112		3		FR SP
General Chemistry II Lab	CHM114		1		FR SP
Organic Chemistry I or Intro to Organ Chemistry**	CHM227 OR 124**		3	Pre-Health students should take CHM227	SOPH F
Applied Precalculus I (if needed) and Applied Calculus I *A3	MTH103/131		3		FR F OR SP
General Psychology *A2	PSY113		3		SOPH F OR SP
Communication *B2, C1	COM100		3		FR F
Research Writing or Writing to Inform *B1, B4	WRT104 OR 106		3		FR SP
Introduction to URI	URI101		1		FR F
PREPARATION COURSES SUBTOTAL			40-43		

*Course approved for General Education

**As noted above, Pre-Med or Pre-Health students
should take CHM227. If students take CHM124
first, they can count CHM227 in their track
courses.

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Core Courses (required for all Neuroscience tracks) **(31-36 cr.)**

Core Courses (*these courses also fulfill 4 cr. of General Education requirements)	Course	Grade	Cr.		Suggested Semester
Foundations of Neuroscience	NEU101		3		FR SP
Neuroscience Seminar	NEU110		1		SOPH OR JR F
Neuroethics and Diversity	NEU210		3		SOPH SP
Neuroscience Research Methods	NEU262		4		SOPH OR JR SP
Neuroscience Professional Development	NEU230		1		SOPH OR JR F
Cellular & Molecular Neuroscience	NEU301		3		JR F
Developmental Neurobiology	NEU310		3		JR SP
Clinical Neuroscience	NEU320		3		JR F
Biostatistics OR Introductory Statistics	STA307 OR STA308		4		JR F OR SP
General Physics I *A1,B3	PHY111		3		SOPH F OR SP
General Physics I Lab *A1,B3	PHY185		1		SOPH F OR SP
Experiential Neuroscience	NEU410 OR ITR302 & 304		1-6		SR F OR JR SP
Neuroscience Journal Club	NEU 460		1		SR F
CORE COURSES SUBTOTAL			31-36		

- ITR 302 & 304 will total 6 credits and cannot be taken for fewer. ITR approval is required by INP Director and Academic Advisor.
- NEU 410 can be taken for 1-6+ credits – varies on the hours worked in the lab/office setting.
- Either NEU 410 or ITR 302/304 will need approval from INP Administration. Emails will be sent out to students regarding the requirements and approval process.
- To transfer out of University College for Academic Success and enter the student's selected degree granting college, students must complete a minimum of 56 credits of the following courses with a 2.0 GPA average: BIO 101/103, BIO 102/104, BIO 220/221, BIO 222/223, CHM 101/102, CHM 112/114, CHM 124 or 227, PHY 111/185, MTH 103/131, PSY 113, COM 100, WRT 104 or 106, URI 101, NEU 101, NEU 110, NEU 210, and NEU 230.

MOLECULAR NEUROSCIENCE MAJOR TRACK REQUIREMENTS**Preparation and Core classes required**

Molecular Neuroscience Major Course List: Choose 15 credits from the following list.				
Course Code	Course Name	Credits	Semester	Grade
CSC/DSP 310	Programming for Data Science	4		
CMB 311	Biochemistry	3		
CMB/BIO 352	Genetics	4		
CMB/BIO 341	Cell Biology	3		
BIO/CMB 437	Fundamentals of Molecular Biology	3		
CMB 460	Experimental Approaches in Molecular and Cell Biology	3		
CHM 227*	Organic Chemistry I	3	*Required for pre-health. Can only be counted if student takes CHM 124 first. Otherwise, it will count for the Prep coursework.	
CHM 228 & 226	Organic Chemistry II & Lab	5	Required for pre-health.	
PHY 112	Physics II Lecture & Lab	4	Required for pre-health.	
Track Subtotal		15		
Molecular Neuroscience Major Electives List: Choose a minimum of 3 credits from the following list.				
CMB 333	Immunology and Serology	3		
CMB 312 or 412	Advanced Biochemistry Lab	2		
CMB 320	Computational Biology	3		
CMB 353	Genetics Laboratory	1		
CMB 435	Introduction to the Biology and Genetics of Cancer	3		
CMB 482	Proteins and Enzymes: Mechanisms of Disease	3		
Track Subtotal		3+		

CLINICAL NEUROSCIENCE MAJOR TRACK REQUIREMENTS**Preparation and Core classes required**

Clinical Neuroscience Major Course List: Choose 15 credits from the following list.				
Course Code	Course Name	Credits	Semester	Grade
BPS 321	Introduction to the Principles of Pharmacology	3		
PSY 232	Developmental Psychology	3		
PSY 254	Behavior Problems and Personality Disorders	3		
PSY 301	Research Methods and Design in the Behavioral Sciences	4		
PSY 381	Physiological Psychology	3		
PSY 385	Perception	3		
PSY 434	Psychological Testing	3		
HDF 357	Family and Community Health	3		
KIN 300	Physiology of Exercise	3		
MUS 438	Music, Mind, and Body	3		
CHM 227*	Organic Chemistry I	3	*Required for pre-health. Can only be counted if student takes CHM 124 first. Otherwise, it will count for the Prep coursework.	
CHM 228 & 226	Organic Chemistry II & Lab	5	Required for pre-health.	
PHY 112 & 186	Physics II Lecture & Lab	4	Required for pre-health.	
Track Subtotal		15		
Clinical Neuroscience Major Electives List: Choose a minimum of 3 credits from the following list.				
CMB 210	Biochemical Aspects of Nutrition and Physiology	3		
CMD 494	Autism and Pervasive Developmental Disorders	3		
CMD 492	Interprofessional Clinical Research of Neurological Disorders	3		
CMD 495	Snapshots of Experimental Methods in Neuroscience	3		
BPS 313	Principles of Medicinal Chemistry	2		
BPS 401	Pharmaceutical Pharmacology I	3		
PSY 276G	"High Society": The Use of Psychoactive Drugs	3		
PSY 460	The Substance Troubled Person	3		
PHP 336G	Exploring Interdisciplinary Healthcare Solutions for Opioid Use Disorder	3		
PHP 405	Epidemiology in Health Care	4		
PHP 555	Advanced Neuropsychiatric Pharmacotherapy	3		
Track Subtotal		3+		

MEDICINAL NEUROSCIENCE MAJOR TRACK REQUIREMENTS**Preparation and Core classes required**

Medicinal Neuroscience Major Course List: Choose 15 credits from the following list.				
Course Code	Course Name	Credits	Semester	Grade
BPS 313	Principles of Medicinal Chemistry	2		
BPS 321	Introduction to the Principles of Pharmacology	3		
BPS 345	Introduction to Pharmaceutical Research	3		
BPS 401	Pharmaceutical Pharmacology I	3		
BPS 432	CNS Drug Pharmacology and Medicinal Chemistry	3		
BPS/CMB 450	Practical Tools for Molecular Sequence Analysis	3		
CMB 311	Biochemistry	3		
BIO/CMB 437	Fundamentals of Molecular Biology	3		
CMB 460	Experimental Approaches in Molecular and Cell Biology	3		
CHM 227*	Organic Chemistry I	3	*Required for pre-health. Can only be counted if student takes CHM 124 first. Otherwise, it will count for the Prep coursework.	
CHM 228 & 226	Organic Chemistry II & Lab	5	Required for pre-health.	
PHY 112 & 186	Physics II Lecture & Lab	4	Required for pre-health.	
Track Subtotal		15		
Medicinal Neuroscience Major Electives List: Choose a minimum of 3 credits from the following list.				
BIO 482G	Evolutionary Medicine of Human Health and Disease	3		
BME 281	Biomedical Engineering Seminar II	1		
BME 307	Bioelectricity	3		
BME 360	Biomeasurement	3		
BPS/PSY 205G	The Challenged Brain	3		
BPS 206	Foundations of Cannabis Studies	3		
BPS 312	Cannabis Chemistry and Pharmacognosy	3		
BPS 314	Cannabis Therapeutics	3		
BPS 316	Cannabis Product Development	3		
BPS 402	Pharmaceutical Pharmacology II	3		
BPS/PSY 436	Psychotropic Drugs and Therapy	3		
CMB 426	Structural Biochemistry	3		
CMB 464	Biochemistry of Metabolic Disease	3		
CMB 482	Proteins and Enzymes	3		
CMD 280G	The Real Reason for Brains	3		
NEU 502	Introduction to Neurobiology	4		
NEU 503	Introduction to the Neurosciences	3		
PSY/NEU 381	Physiological Psychology	3		
PHP 207G	Introduction to Safety and Quality in Health Care	3		
PHP 336G	Exploring Interdisciplinary Healthcare Solutions for Opioid Use Disorder	3		

PHP 405	Epidemiology in Health Care	4		
PHP 555	Advanced Neuropsychiatric Pharmacotherapy	3		
Track Subtotal		3+		

**Interdisciplinary Neuroscience – BS
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GENERAL CURRICULUM MAP*

*See previous pages for 'Track' courses. Always consult the INP Academic Advisor for long-term planning and course choices.

Interdisciplinary Neuroscience Major

<u>First-Year Fall</u>	<u>Credits</u>	<u>First-Year Spring</u>	<u>Credits</u>
URI 101*	1	BIO 102/104	4
BIO 101/103	4	CHM 112/114	4
CHM 101/102	4	MTH 131 (if needed)	3
MTH 103 or 131	3	NEU 101 (Foundations)	3
COM 100	3	WRT 104 or 106	3
Total	15	Total	17
<u>Sophomore Fall</u>	<u>Credits</u>	<u>Sophomore Spring</u>	<u>Credits</u>
PSY 113	3	BIO 222/223	4
CHM 124 or 227**	3	NEU 210 Neuroethics	3
BIO 220/221	4	NEU 262 Research Methods	4
PHY 111/185	4	Gen Ed/Track/PHY 111/185	3-4
NEU 110 Seminar	1	Gen Ed/Track	3
NEU 230 Pro Dev	1	Choose Track	
Total	16	Total	15-18
<u>Junior Fall</u>	<u>Credits</u>	<u>Junior Spring</u>	<u>Credits</u>
NEU 301 Cellular	3	NEU 310 Neuro Dev	3
NEU 320 Clinical	3	STA 307 or 308 or Gen Ed	3-4
STA 308 or Gen Ed	3-4	or NEU 262 Research Methods	4
Gen Ed/Track	3	Gen Ed/Track	3
Gen Ed/Track	3	Gen Ed/Track	3
Total	15-16	Total	16-18
<u>Senior Fall</u>	<u>Credits</u>	<u>Senior Spring</u>	<u>Credits</u>
NEU 410 or ITR 302/304	1-6	Gen Ed/Track	3
NEU 460 or Gen Ed/Track	1-3	Gen Ed/Track	3
Track/Elective	3	Track/Elective	3
Track/Elective	3	Track/Elective	3
Track/Elective	3	NEU 410 or ITR 302/304	1-6
Total	13-18	Total	13-18

*Will be taught by INP Director or Academic Advisor.

**Pre-health students should take CHM 227. If students take CHM 124 first, they can count CHM 227 in their track courses.

Exactly which electives students take in a track will depend on their career goals.

ITR 302/304 will total 6 credits. NEU 410 credit hours are determined by hours worked in lab.