TIFFIN UNIVERSITY

ACADEMIC PATHWAY

BACHELOR OF SCIENCE IN NEUROSCIENCE

What is Neuroscience?

Neuroscience is the scientific study of the nervous system, encompassing its structure, function, development, genetics, biochemistry, physiology and pathology. It seeks to understand how the brain and the rest of the nervous system give rise to perception, thought, emotion, behavior and consciousness. Neuroscientists investigate how neurons and neural networks process information, how the brain interacts with the body and how dysfunctions in these systems can lead to neurological and psychiatric disorders.

Neuroscience is an interdisciplinary field that integrates principles from biology, psychology and chemistry to explore the complexities of the brain and nervous system. It encompasses various sub-disciplines, including:

- **Molecular and Cellular Neuroscience:** The study of the molecular and cellular mechanisms that govern the function of neurons, including neurotransmission, signal transduction and gene expression in the nervous system.
- **Systems Neuroscience:** The study of how networks of neurons and brain regions work together to produce sensory perception, motor control and coordinated behavior.
- **Cognitive Neuroscience:** The study of how brain processes support mental functions such as attention, memory, language, decision-making and emotion.
- **Developmental Neuroscience:** The study of how the nervous system develops from early embryonic stages through adulthood, including processes such as neurogenesis, differentiation and synaptic pruning.
- **Behavioral Neuroscience:** The study of the biological bases of behavior, examining how brain activity influences actions, emotions and mental health.
- **Computational Neuroscience:** The use of mathematical models and computer simulations to understand how neural circuits process information and give rise to complex behaviors.
- **Neurophysiology:** The study of the electrical and biochemical properties of neurons and neural networks, including how they communicate and generate patterns of activity.
- **Clinical and Translational Neuroscience:** The study of brain disorders such as Alzheimer's disease, Parkinson's disease, epilepsy and depression, with the goal of developing treatments and improving patient outcomes.

Why study Neuroscience?

This area of science focuses on higher brain functions and mechanisms underlying human body and mind. By studying how the nervous system operates under normal conditions, researchers can identify what goes wrong in various disorders and develop effective treatments, as well as how to prevent and treat disorders and diseases to help maintain the overall health and well-being of people. Neuroscience is crucial to understanding many conditions related to human health such as: behavioral disorders, attention deficit/hyperactivity disorder and autism; learning disabilities; mental health problems such as schizophrenia, obsessive-compulsive disorder and addiction; degenerative diseases, such as Alzheimer's disease, Parkinson's disease; structural defects, such as neural tube defects; injuries, including traumatic brain and spinal cord injury as well as how the body processes pain.

SCHOOL OF SCIENCE TECHNOLOGY AND HEALTH

Why at Tiffin University:

- **Personalized Attention:** At Tiffin University, you'll benefit from small class sizes and personalized attention from dedicated faculty members who are committed to your success. This close-knit learning environment fosters meaningful mentorship opportunities and allows for individualized support as you pursue your academic goals in Neuroscience.

- **Hands-On Learning:** The courses for the Neuroscience program taken at Tiffin University emphasizes experiential learning through laboratory experiences, fieldwork and research opportunities. You'll have access to state-of-the-art facilities and equipment, allowing you to gain practical skills and hands-on experience in the Tiffin University classrooms and laboratories that are essential for success in the field of Neuroscience.

- **Engaging Curriculum:** The curriculum is designed to provide a comprehensive foundation in areas related to Neurosciences while also offering flexibility to pursue specialized areas of interest. Whether you're interested in genetics, microbiology, biotechnology or medicine, Tiffin University offers a diverse range of courses to cater to your academic interests and career goals.

- **Interdisciplinary Approach:** Tiffin University encourages interdisciplinary collaboration, allowing you to explore connections between Neuroscience and other fields such as chemistry and psychology. This interdisciplinary approach equips you with a well-rounded skill set and prepares you for diverse career opportunities in the rapidly evolving field of Neuroscience.

- **Problem-Solving Skills:** Studying Neuroscience at Tiffin University will hone your analytical and critical thinking skills as you grapple with complex neurological concepts and phenomena. These problem-solving skills are highly transferable and applicable in various professional settings.

- **Personal Development:** Engaging with Neuroscience fosters intellectual curiosity and a deeper appreciation for human health and well-being. It encourages a mindset of lifelong learning and instills values such as healthy living and ethical responsibility towards the mental and physical well-being of people.

What can I do with a Neuroscience degree?

Neuroscience majors can pursue careers across a broad range of fields, including:

- Medical and Health Professions – working as clinical or research technicians in hospitals, medical centers or pharmaceutical companies.
- Neuropsychology and Mental Health – assisting in psychological testing, behavioral therapy or clinical research related to brain and mental health.
- Government and Public Research – contributing to research at agencies such as the NIH, CDC or FDA, focusing on brain health, neurodegenerative diseases or public health policy.
- Biotechnology and Pharmaceutical Industries – developing and testing drugs, medical devices or neurotechnologies.
- Academic and Higher Education – working as research assistants, educators or laboratory managers in university or private research settings.

Neuroscience majors can continue into a wide variety of graduate and professional programs depending on their career goals, including:

- Medicine and Health Professions (M.D., D.O., D.D.S., P.A., or O.T./P.T.)
- Neuroscience or Psychology Research (M.S., Ph.D.)
- Pharmacy or Pharmacology (Pharm.D., Ph.D.)
- Cognitive Science or Biomedical Engineering (M.S., Ph.D.)
- Public Health or Health Policy (M.P.H., M.P.P.)

How much will I earn with a Neuroscience degree?

**denotes graduate degree required*

Occupation	Total Employment	Mean Annual Wage
Neurologist	9,350	$271,470
Psychologist	204,300	$94,310
Psychiatrist	24,830	$256,930
Medical Scientists	108,550	$104,050
Physicians*	641,380	$252,480
Surgeons*	58,280	$294,520
Clinical Laboratory Technicians	318,780	$56,910

What is your pathway to graduation?

YEAR 1	
FALL - 16 credit hours	**SPRING - 16 credit hours**
BIO 120+L: General Biology 1	BIO 121+L: General Biology 2
DEC 100: Engage	DLT 101: Digital Literacy and Technology Readiness
ENG 141: Rhetoric & Research Writing	ENG 142: Rhetoric & Academic Writing
MAT 181: College Algebra	MAT 273: Applied Statistics
COM 130: Intro to Speech Communication	NAT 130: Foundations of Healthy Living

YEAR 2	
FALL - 17 credit hours	**SPRING - 17 credit hours**
BIO 211+L: Anatomy and Physiology 1	BIO 222+L: Anatomy and Physiology 2
CHM 131+L: General Chemistry 1	CHM 132+L: General Chemistry 2
PSY 101 Introduction to Psychology	PSY 362: Abnormal Behavior
DEC 200: Explore	Transferable Core 3
Open elective 1	Open elective 2

YEAR 3	
FALL - 17 credit hours	**SPRING - 15 credit hours**
NSC 315: Neuroscience 1: Neuroscience Foundations	NSC 325 Neuroscience II: Biological Basis of Perception and Movement
CHM 331+L: Organic Chemistry 1	CHM 332+L: Organic Chemistry 2
BIO 333+L: Genetics	CHM 411+L: Biochemistry
NAT 291: Drugs in the Body	DEC 300: Connect
Open elective 3	NAT 112 First Aid/CPR/AED

YEAR 4	
FALL - 17 credit hours	**SPRING - 17 credit hours**
NSC 325: Neuroscience III: Cognitive Neuroscience	NSC 415: Neuroscience IV: Clinical Neuropathology
BIO 373+L: Microbiology	BIO 445+L Cellular and Molecular Biology
PHY211+L: Physics 1	PHY212+L: Physics 2
DEC 400: Impact	SAS 470: Internship
SCS 300: Research Design	Open elective 4

What if I want to be a doctor/psychiatrist (MD/DO)?

YEAR 2	
FALL - 16 credit hours	**SPRING - 17 credit hours**
BIO 211+L: Anatomy and Physiology 1	BIO 222+L: Anatomy and Physiology 2
CHM 131+L: General Chemistry 1	CHM 132+L: General Chemistry 2
PSY 101 Introduction to Psychology	PSY 362: Abnormal Behavior
Open elective 1: MAT 281 Calculus I	DEC 200: Explore
	Open elective 2: SOC 101: Principles ofSociology

YEAR 3	
FALL - 17 credit hours	**SPRING - 15 credit hours**
NSC 315: Neuroscience 1: Neuroscience Foundations	NSC 325 Neuroscience II: Biological Basis of Perception and Movement
CHM 331+L: Organic Chemistry 1	CHM 332+L: Organic Chemistry 2
BIO 333+L: Genetics	CHM 411+L: Biochemistry
NAT 291: Drugs in the Body	DEC 300: Connect
Transferable Core 3	NAT 112 First Aid/CPR/AED

YEAR 4	
FALL - 17 credit hours	**SPRING - 17 credit hours**
NSC 325: Neuroscience III: Cognitive Neuroscience	NSC 415: Neuroscience IV: Clinical Neuropathology
BIO 373+L: Microbiology	BIO 445+L Cellular and Molecular Biology
PHY211+L: Physics 1	PHY212+L: Physics 2
DEC 400: Impact	SAS 470: Internship
SCS 300: Research Design	Open elective 3: PIL215 or BIO 250

What if I want to do scientific research/psychology (MS/PhD/PsyD pathway)?

YEAR 2	
FALL - 16 credit hours	**SPRING - 17 credit hours**
BIO 211+L: Anatomy and Physiology 1	BIO 222+L: Anatomy and Physiology 2
CHM 131+L: General Chemistry 1	CHM 132+L: General Chemistry 2
PSY 101 Introduction to Psychology	PSY 362: Abnormal Behavior
Open elective 1: MAT 281 Calculus I	DEC 200: Explore
	Open elective 2: PSY 263 Theories of Personality

YEAR 3	
FALL - 17 credit hours	**SPRING - 15 credit hours**
NSC 315: Neuroscience 1: Neuroscience Foundations	NSC 325 Neuroscience II: Biological Basis of Perception and Movement
CHM 331+L: Organic Chemistry 1	CHM 332+L: Organic Chemistry 2
BIO 333+L: Genetics	CHM 411+L: Biochemistry
NAT 291: Drugs in the Body	DEC 300: Connect
Transferable Core 3	NAT 112 First Aid/CPR/AED

YEAR 4	
FALL - 17 credit hours	**SPRING - 17 credit hours**
NSC 325: Neuroscience III: Cognitive Neuroscience	NSC 415: Neuroscience IV: Clinical Neuropathology
BIO 373+L: Microbiology	BIO 445+L Cellular and Molecular Biology
PHY211+L: Physics 1	PHY212+L: Physics 2
Open elective 3: PSY 265 Lifespan Development	SAS 470: Internship
SCS 300: Research Design	DEC 400: Impact

Can I choose a minor?

MINOR OPTIONS			
CHEMISTRY		**PSYCHOLOGY**	
COURSE NAME	**CREDITS**	**COURSE NAME**	**CREDITS**
CHM281+L: Analytical Chemistry	4	PSY 201: Introduction to Professional Practices	3
Two of the Following:		**One of the Following:**	
CHM435+L: Inorganic Chemistry	4	PSY 250: Social Psychology	3
CHM450+L: Physical Chemistry	4	PSY 265: Lifespan Development	3
CHM481+L: Instrumental Analysis	4	**Three PSY electives 300-400 level**	9
		PSY elective	3

Enhance your degree with a designation

DESIGNATION OPTIONS			
SMALL BUSINESS ADMINISTRATION		**STATISTICAL ANALYSIS**	
COURSE NAME	**CREDITS**	**COURSE NAME**	**CREDITS**
ACC 210: Financial Accounting	3	MAT 281: Calculus 1	5
MKT 151: Introduction to Marketing	3	MAT 285: Calculus 2	5
MGT 201: Management of Organizations	3	MAT 385: Calculus 3	3
MGT 359: Small Business Management	3	MAT 373: Applied Statistics 2	3
		MAT 387: Differential Equations	3

Stay on track!

YEAR 1

- Consider job shadowing or meet with a biology or chemistry professor about undergraduate research opportunities. Explore student organizations on campus. If interested in medical school, explore possible medical programs and learn about admissions requirements.

YEAR 2

- Explore graduate/medical programs further, look for relevant internships, get involved with undergraduate research, develop your CV and prepare for graduate admissions exams (GRE, MCAT ect.).

YEAR 3

- Continue to prepare for graduate admissions exams (GRE, MCAT, ect.). Visit career services to discuss internships and continue shadowing and researching.

YEAR 4

- Take your graduate admissions exam. Apply to graduate/medical school or begin your job search and apply for graduation.

TIFFIN UNIVERSITY

155 Miami Street,
Tiffin, Ohio 44883
800.968.6446
TIFFIN.EDU

UPDATED FOR AY 2025-2026