

Accelerated Dual Degree BS in Neuroscience/MSPS

The Neuroscience Baccalaureate and Pharmaceutical Sciences Masters programs at Western New England University have collaborated to offer a program unique to western Massachusetts for those students interested in attaining a Bachelor of Science in Neuroscience (BSNS) and furthering their career with a thesis-based Master of Science in Pharmaceutical Sciences (MSPS). Accordingly, the BSNS-MSPS dual degree option is designed for the research-intensive Neuroscience program student.

This is a dual degree program, where students completing the requirements for each program will receive two separate degrees, requiring just one additional year of study beyond the normal 4-year bachelor's program. Accordingly, students can earn both the BSNS degree and the MSPS degree within five years of entry as an undergraduate. Students admitted by WNE Admissions as undergraduates are only admitted into the BS degree portion of the program. Transition into the MSPS program is not automatic, nor is acceptance into the MSPS program guaranteed, but requires application and acceptance into the MSPS program. The MSPS program admission requirements can be found in the "Master of Science in Pharmaceutical Sciences" program description in this catalogue.

Students in good standing in the Neuroscience major, whom are on track to complete the required courses of their major within three years (including general university requirements), are eligible to apply for admission to the MSPS degree program during their junior year after January 1. Candidates must successfully submit their application materials to be considered for enrollment in the MSPS portion of the dual degree option, as well as meet with the program coordinator, if requested of them.

There will be cross-credits between the two programs, i.e., courses for which credit will apply to the completion of both degrees. For the BS Neuroscience degree, up to 19 credits of first year MSPS courses will fulfill course requirements in the BS Neuroscience degree.

PHRSC 515 Principles of Pharmacology, PHRSC 527 Data Analysis and Biostatistics, PHRSC 529 Responsible conduct of Research and PHRSC 557 Mechanisms of Drug Action can fulfill the general or NSCI elective requirements. PHAR 513 Biochemistry can fulfill the general or NSCI elective requirements, only if the student did not already take a similarly titled course as part of their undergraduate degree program.

All students choosing this unique curricular path must consult closely with their faculty advisor to ensure all course requirements of their BS program are completed before their fourth year. Additionally, the MSPS program offers seven different areas in which a student can focus their program and research: Pharmacology; Medicinal Chemistry and Drug Development; Pharmaceutics and Drug Delivery; Pharmacogenomics; Biomedical Sciences; Pharmacoeconomics and Healthcare Data Analytics; and Biopharmaceutical Sciences and Technology. These focus areas are accomplished through different elective courses, the details of which can be found in the "Master of Science in Pharmaceutical Sciences" program description in this catalogue. All students in the dual degree program must consult with both their BS and MSPS faculty advisors to select the MSPS electives.

MSPS degree completion requirements: All courses passed (with a grade of "C" or better), with no more than two courses with a grade of "C" or "C+"; and attainment of an overall grade point average of 3.0 or higher.

Students in the Neuroscience major that either (a) do not meet the MSPS program admission requirements during their junior year, or (b) elect not to apply for admission to the MSPS program at that time, remain eligible to apply for admission as part of the general applicant pool following four years of university study and completion of a bachelor's degree.

Degree Requirements

The semester-by-semester BSNS-MSPS dual degree program courses are listed below:

BS-Neuroscience Curriculum Years – 120 Total Credit hours over the First 4 Years

Freshman Year BS Neuroscience - Fall Semester

BIO 107	General Biology I	3 cr.
BIO 117	General Biology Laboratory I	1 cr.
Blue 100	BLUE Course	1 cr.
MATH 109	Precalculus Mathematics	3 cr.
	OR	
MATH 123	Calculus I for Management, Life, and Social Sciences	3 cr.
GDB XXX	Golden Bear Discovery/GOLD	3 cr.
NSCI 212	Introduction to Behavioral Neuroscience	3 cr.

BSNS Subtotal: 14

Freshman Year BS Neuroscience - Spring Semester

PSY 101	Introduction to Psychology	3 cr.
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ENG 132	English Composition I	3 cr.
BIO 108	General Biology II	3 cr.
BIO 118	General Biology Laboratory II	1 cr.
MATH 120	Intro Statistics for the Arts & Sciences	3 cr.
	OR	
MATH 124	Calculus II for Management, Life, and Social Sciences	3 cr.
NSCI 224	Sensation and Perception	3 cr.
BSNS Subtotal: 16		
Sophomore Year BS Neuroscience - Fall Semester		
ENGL 133	English Composition II	3 cr.
NSCI 267	Neurobiology	4 cr.
CHEM 105	General Chemistry I	4 cr.
GBD XXX	Golden Bear Discovery	3 cr.
BSNS Subtotal: 14		
Sophomore Year BS Neuroscience - Spring Semester		
NSCI 232	Research Methods in Neuroscience	3 cr.
CHEM 106	General Chemistry II	4 cr.
NSCI 2XX-4XX	Neuroscience Elective	3 cr.
GBD XXX	Golden Bear Discovery	3 cr.
GBD XXX	Golden Bear Discovery	3 cr.
BSNS Subtotal: 16		
Junior Year BS Neuroscience - Fall Semester		
NSCI 312	Cognitive Neuroscience	3 cr.
NSCI 405	Seminar in Neuroscience	3 cr.
NSCI 2XX-4XX	Neuroscience Elective	3 cr.
NSCI 3XX/4XX	Neuroscience Elective	3 cr.
PSY 207	Statistics for the Behavioral Sciences	3 cr.
BSNS Subtotal: 15		
Junior Year BS Neuroscience - Spring Semester		
NSCI 385	Neurodevelopment	3 cr.
NSCI 2XX-4XX	Neuroscience Elective	3 cr.
NSCI 3XX/4XX	Neuroscience Elective	3 cr.
GEN XXX	General Elective	3 cr.
GEN XXX	General Elective	3 cr.
BSNS Subtotal: 15		
MSPS Curriculum Years - 38 TOTAL MS CREDIT HOURS OVER THE LAST 2 YEARS		
Senior Year (First Year MSPS) - Fall Semester		
NSCI 450	Senior Neuroscience Thesis I	4 cr.

PHRSC 510	Seminar & Journal Club 1	1 cr.
PHRSC 526	Analytical Techniques Lab	1 cr.
PHRSC 527	Data Analysis & Biostatistics	3 cr.
PHRSC 529	Responsible Conduct of Research	3 cr.
PHRSC 582	cGXP and Regulatory Affairs	3 cr.
PHAR-PHRSC xxx	MSPS Elective(s)	2-4 cr.
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		BSNS Subtotal: 17-19
		MSPS Subtotal: 13-15

Senior Year (First Year MSPS) - Spring Semester

NSCI 451	Senior Neuroscience Thesis II	4 cr.
PHRSC 520	Seminar & Journal Club 2	1 cr.
PHRSC 557	Mechanisms of Drug Action	3 cr.
PHRSC 572	Advanced Therapeutic Medicinal Products	3 cr.
PHAR-PHRSC xxx	MSPS Elective(s)	2-4 cr.
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		BSNS Subtotal: 13-15
		MSPS Subtotal: 9-11

First Year MSPS - Summer

PHRSC 528	Thesis Research 1	2 cr.
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		MSPS Subtotal: 2

Second Year MSPS - Fall Semester

PHRSC 618	Thesis Research 2	3 cr.
PHRSC 630	Scientific Communications	3 cr.
PHRSC-PHAR xxx	MSPS Elective(s)	3-4 cr.
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		MSPS Subtotal: 9-10

Second Year MSPS - Spring Semester

PHRSC 628	Thesis Research 3	3 cr.
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		MSPS Subtotal: 3

BSNS Subtotal: 120 credits

MSPS Subtotal: 38 credits

Total Dual Degree Credit Hours: 138-142