

## Master of Science in Medical Sciences

### *Overview*

A 30 credit MS in Medical Sciences degree (“MSMS” program) is being offered by the Department of Pharmaceutical and Administrative Sciences in the College of Pharmacy and Health Sciences. This program can be completed in as few as two full-time semesters (fall, spring). The program is offered on campus and as a distance learning program. With an MSMS program from WNE University, a graduate will be ready to make the most of emerging opportunities in various medical/health care fields through a well-rounded program that aligns with one’s personal career goals. The MSMS is designed to assist students who would like to enhance their academic credentials for entry into medical, dental, veterinarian, pharmacy, nursing or other professional healthcare programs, and could open opportunities in clinical work, research positions, public health, or administrative careers. Students have the ability to customize their MS degree through their selection of the available elective courses.

### *Program Outcomes*

Students will be expected to fulfill the following primary goals and objectives prior to graduation, which will demonstrate competency in core knowledge areas and relevant skill sets:

1. Demonstrate knowledge of core principles that are critical to health care fields.
2. Apply concepts in the medical sciences toward the mechanisms of action of drugs.
3. Apply advanced biostatistical and analytical techniques to experimental design and data interpretation.
4. Demonstrate knowledge of responsible conduct of research.
5. Demonstrate knowledge of the major classes of drug therapy, including their mechanisms and side effects.
6. Demonstrate knowledge of novel areas of drug development and treatment approaches.

Total Credit Hours: 30-32

### *Degree Requirements*

A total of 30 credits is required for graduation.

Core Course Requirements - 12 credits

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- Data Analysis & Biostatistics (3 credits)
- Responsible Conduct of Research (3 credits)
- Mechanisms of Drug Action (3cr)
- Advanced Therapeutic Medicinal Products (3cr)

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**Subtotal: 12**

Electives – 18-20 credits

- Electives selected based on personal goals and in consultation with the faculty advisor.

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**Subtotal: 18-20**

## Course Sequence

### First Year - Fall Semester

PHRSC 527	Data Analysis & Biostatistics	3 cr.	
PHRSC 529	Responsible Conduct of Research	3 cr.	
PHRSC XXX	Electives	9-10 cr.	
			<b>Subtotal: 15-16</b>

### First Year - Spring Semester

PHRSC 557	Mechanisms of Drug Action	3 cr.	
PHRSC 572	Advanced Therapeutic Medicinal Products	3 cr.	
PHRSC XXX	Electives	9-10 cr.	
			<b>Subtotal: 15-16</b>

Subtotal: 30-32

Total Credit Hours: 30-32

### Degree completion requirements:

- 1) All courses passed ("C" or better), with no more than two courses with a grade of "C" or "C+" and
- 2) Attain an overall grade point average of 3.0 or higher.

### Elective Course Possibilities

#### **Potential Fall Semester Electives include, but are not limited to:**

PHRSC 511 – Drug Information and Informatics	2 cr.
PHRSC 512 – Immunology	3 cr.
PHRSC 513 – Biochemistry	3 cr.
PHRSC 517 – Health Care Policy & Delivery	2 cr.
PHRSC 609 – Principles of Pharmacokinetics	4 cr.
PHRSC 612 – Principles of Medicinal Chemistry	3 cr.
PHRSC 510 – Seminar and Journal Club 1	1 cr.
PHRSC 515 – Principles of Pharmacology	3 cr.
PHRSC 551 – Intro Genetics & Genetic Counseling	3 cr.
PHRSC 556 – Pharmacokinetic Sciences	2 cr.
PHRSC 630 – Scientific Communications	3 cr.

#### **Potential Spring Semester Electives include, but are not limited to:**

PHRSC 519 – Health Care Communications	3 cr.
PHRSC 522 – Pathophysiology	3 cr.
PHRSC 523 – Medical Genetics and Pharmacogenomics	2 cr.
PHRSC 530 – Pharmacy Outcomes	2 cr.
PHRSC 531 – Self Care Therapeutics	3 cr.

PHRSC 658 - Introduction to Public Health	3 cr.
PHRSC 520 – Seminar and Journal Club 2	1 cr.
PHRSC 552 – Applied Genetics, Pharmacokinetics, and PGx	2 cr.
PHRSC 560 – Genetic Research & Bioinformatics	3 cr.
PHRSC 582 – cGXP and Regulatory Affairs	3 cr.