

# Curriculum Requirements

## Medicinal Chemistry Concentration

### YEAR 1

During the first year, students in the Medicinal Chemistry concentration must take four (4) core courses and at least two (2) elective courses from the lists below. Elective courses not on the below list must be approved by the Graduate Advisor. All of the courses must be completed by the end of your first year.

#### Required Core Courses (complete all)

PHRMSCI 270 – Molecular Pharmacology or PHARM 254 – Introduction to Pharmacology  
PHRMSCI 223 – Biological Macromolecules  
PHRMSCI 250A/B/C – Current Topics in Pharmaceutical Sciences\*  
PHRMSCI 277 – Medicinal Chemistry

#### Elective Courses (Select at least two)

##### *Chemistry Department*

CHEM 201 – Organic Reaction Mechanisms  
CHEM 202 – Organic Reaction Mechanisms II  
CHEM 203 – Organic Spectroscopy  
CHEM 204 – Organic Synthesis I  
CHEM 205 – Organic Synthesis II  
CHEM 218 – Metallochemistry  
CHEM 219 – Chemical Biology  
CHEM 221A – Fundamentals of Molecular Biophysics

##### *Molecular Biology & Biochemistry Department*

MOLBIO 203 – Nucleic Acid Structure & Function  
MOLBIO 204 – Protein Structure & Function  
MOLBIO 206 – Regulation of Gene Expression  
MOLBIO 211 – Biomolecular Structure Methods  
BIOCHEM 212 – Signal Transduction & Growth Control

##### *Pharmaceutical Sciences Department*

PHRMSCI 274 – Nanomedicine  
PHRMSCI 263 – Pharmacogenomics and Epigenetics  
PHRMSCI 275 – Discovery Computing Techniques  
PHRMSCI 279 – Emerging Technologies in Pharmaceutical Sciences & Medicine

PHARM 252 – Neurotransmitter and Drug Receptors  
PHARM 255 – Chemical Transmission

# Curriculum Requirements Cont.

## **Additional Courses**

PHARM 257 – Ethics in Research or equivalent (Responsible Conduct of Research training – [UC Learning Center](#) online modules – once completed, send the SAO the certificate of completion)

PHRMSCI 298 – Research Seminar (all Med Chem students must enroll in this course every quarter)

PHRMSCI 299 – Graduate Research (all Med Chem students must enroll in enough research units to bring their quarterly total to 12-16 units each quarter)

PHRMSCI 399 – University Teaching (or equivalent in the respective department for which you are TAing) – You must enroll in the course every quarter you are employed as a TA.

## **Comprehensive Exam**

\* Successful completion of this course series, including the final paper, fulfills your comprehensive exam requirement.