Division of Medicinal Chemistry and Pharmacognosy College of Pharmacy, The Ohio State University

Biochemical Track Graduate Course Requirements

Biochemistry

PHR 8320 – Biomedicinal Chemistry for Graduate Students (5 credits)

Medicinal Chemistry

PHR 7350 - Drug Discovery and Design (2 credits)

One of the following:
PHR 7891 - Chromatographic Methods (2 credits)
PHR 7893 - Phytochemical Analysis of Natural Products (2 credits)

Two Medicinal Chemistry electives from the following:

PHR 7891 - Chromatographic Methods (2 credits)
PHR 7893 - Phytochemical Analysis of Natural Products (2 credits)
PHR 8350 - Advanced Medicinal Chemistry I (2 credits)
PHR 8360 - Advanced Medicinal Chemistry II (2 credits)
PHR 8370 - Chemotherapy of Infectious Diseases (2 credits)
PHR 8510 - Advanced Pharmacognosy (2 credits)

Four Chemistry/Biochemistry/Molecular Biology electives (6000 level or above)

CHEM 6410 - Basic Organic Reaction Mechanisms (1.5 credits)
CHEM 6420 - Stereochemistry and Conformational Analysis (1.5 credits)
Other course # to be determined by advisor

Note: The courses listed above are in addition to the course requirements common to all graduate students in the Division of Medicinal Chemistry and Pharmacognosy, namely PHR 8520 (Research Ethics) and PHR 8881 (College and Division Seminars). One enrollment in 8881 is required per semester while on campus (with three 8881.01 or 8881.02 enrollments prior to graduation).
Division of Medicinal Chemistry and Pharmacognosy College of Pharmacy, The Ohio State University

**Synthetic Med. Chem. Track Graduate Course Requirements**

**Biochemistry:**

- PHR 8320 – Biomedical Chemistry for Graduate Students (5 credits)

**Organic Chemistry:**

- CHEM 5420 - Spectroscopy of Organic Compounds (1.5 credits)
- CHEM 6410 - Basic Organic Reaction Mechanisms (1.5 credits)

**Medicinal Chemistry:**

- PHR 7350 - Drug Discovery and Drug Design (2 credits)
- PHR 7370 - Advanced Pharmaceutical Analysis (2 credits)

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- PHR 7891 - Chromatographic Methods (2 credits) or one of the following: PHR 8350 Advanced Medicinal Chemistry I (2 credits), PHR 8360 - Advanced Medicinal Chemistry II (2 credits), PHR 8370 - Chemotherapy of Infectious Diseases (2 credits)

**Two Organic Chemistry electives from the following:**

- CHEM 6420 - Stereochemistry and Conformational Analysis (1.5 credits)
- CHEM 6430 - Introduction to Organic Synthesis (1.5 credits)
- CHEM 6440 - Introduction to Physical Organic Chemistry (1.5 credits)
- CHEM 7430 - Advanced Organic Synthesis (1.5 Credits)
- CHEM 7450 - Metals in Organic Synthesis (1.5 Credits)
- CHEM 7460 - Advanced Organic Reaction Mechanisms (1.5 credits)
- CHEM 7480 - Advanced Organic Synthesis Laboratory (3 credits)

**One Medicinal Chemistry elective from the following:**

- PHR 7891 - Chromatographic Methods (2 credits)
- PHR 7893 - Phytochemical Analysis of Natural Products (2 credits)
- PHR 8350 - Advanced Medicinal Chemistry I (2 credits)
- PHR 8360 - Advanced Medicinal Chemistry II (2 credits)
- PHR 8370 - Chemotherapy of Infectious Diseases (2 credits)
- PHR 8390 - Recent Advances in Pharmacognosy (2 credits)
- PHR 8510 - Advanced Pharmacognosy (2 credits)

**Note:** The courses listed above are in addition to the course requirements common to all graduate students in the Division of Medicinal Chemistry and Pharmacognosy, namely PHR 8520 (Research Ethics) and PHR 8880/8881 (College and Division Seminars). One enrollment in 8880 or 8881 is required per semester while on campus (with three 8880.01 or 8881.01 enrollments prior to graduation).
Division of Medicinal Chemistry and Pharmacognosy College of Pharmacy, The Ohio State University

Natural Products Track Graduate Course Requirements

Biochemistry

PHR 8320 – Biomedicinal Chemistry for Graduate Students (5 credits)

Organic Chemistry

CHEM 5420 - Spectroscopy of Organic Compounds (1.5 credits)
CHEM 6420 - Stereochemistry and Conformational Analysis (1.5 credits)

Medicinal Chemistry

PHR 7893 - Phytochemical Analysis of Natural Products (2 credits)
PHR 7350 - Drug Discovery and Drug Design (2 credits)
PHR 8510 - Advanced Pharmacognosy (2 credits)
PHR 8390 - Recent Advances in Pharmacognosy (2 credits)

Two electives from the following:

- PHR 7370 - Advanced Pharmaceutical Analysis (NMR spectroscopy) (2 credits)
- PHR 7891 - Chromatographic Methods (2 credits)
- PHR 8350 - Advanced Medicinal Chemistry I (2 credits)
- PHR 8360 - Advanced Medicinal Chemistry II (2 credits)
- PHR 8370 - Chemotherapy of Infectious Diseases (2 credits)
- CHEM 8499 - Advanced Topics in Organic Chemistry (credits 1.5-3 credits)
- Biochem/Molecular Biology/Grant Writing/other suggested by faculty advisor (outside COP)

Note: The courses listed above are in addition to the course requirements common to all graduate students in the Division of Medicinal Chemistry and Pharmacognosy, namely PHR 8520 (Research Ethics) and PHR 8880/8881 (College and Division Seminars). One enrollment in 8880 or 8881 is required per semester while on campus (with three 8880.01 or 8881.01 enrollments prior to graduation).