

# MOLECULAR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS (MPET) – EMPLOYEE-PROFESSIONAL MASTERS

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## Employee Master's Degree

The requirements for the Employee Master's Degree in Molecular Pharmacology and Experimental Therapeutics conform to the general requirements of MCGSBS.

## Application

Candidates must complete an Employee Master's Degree Application form. This form is available on the MCGSBS Master's Programs intranet site. Supporting documents include transcripts from previous colleges and three letters of recommendation - one preferred from your direct supervisor/manager.

## Eligibility

Applicants must have a current Mayo Clinic appointment. Although more common for allied health staff, it is open to all employees. Enrollment is restricted to permanent Mayo employees and is available at all three sites: Arizona, Florida, and Rochester. Temporary roles are not eligible if you were hired with an appointment end date, e.g. visiting clinicians and research trainees are not eligible.

Applicants must have received a bachelor's degree from an accredited college or university, must have taken appropriate undergraduate science courses to adequately prepare for the Master's program, must have a minimum undergraduate grade point average that demonstrates a record of academic excellence. The employee's supervisor must endorse in writing the application of the employee and commit to allowing time to attend scheduled coursework.

## Time Requirement

Time to completion can vary by student, but all requirements for the Master's degree must be completed within five years. The five-year period begins on the start date of the term the student is appointed to. Permanent Mayo employees whose Mayo employment terminates are required to notify MCGSBS; their MCGSBS appointments will also end.

## Registration Requirement

At least 75% of the coursework for the Master's degree must be completed in MCGSBS.

## Minimum Credit Requirements

Students must complete a minimum of 45 credits, including MGS 6000 Responsible Conduct of Research. Six of the credits in the track must be didactic credits. The selection of the courses to be used to meet these

requirements will be determined by the student and the track program director.

## Transfer Credits

A total of 9 didactic credits may be transferred into the Employee Master's Program. For more details, see the Credit Transfer Policy on the MCGSBS Policies and Procedures intranet site.

## Course Requirements

A total of **45 credits** with maintenance of at least a 3.0 GPA are required for graduation.

| Code  | Title  | Hours     |
|---|--|-----------|
| <b>MGS Courses</b>  |  | <b>14</b> |
| MGS 6000  | Responsible Conduct of Research                                  |           |
| MGS 6400  | Master's Scholarly Review Article (Final Project)                |           |
| <b>Track Requirements</b>   |  | <b>7</b>  |
| BMB 5100  | Chemical Principles of Biopolymer Systems                        |           |
| BMB 5150  |  |           |
| MPET 5900   | Molecular Pharmacology and Receptor Signaling                    |           |
| MPET 5808   | Introduction to Molecular Pharmacology                           |           |
| MPET 6800   | Research Seminars in Pharmacology                                |           |
| MPET 6805   | Drug Metabolism and Pharmacogenomics                             |           |
| <b>Track Tutorials</b>  |  | <b>5</b>  |
| Select 5 credits or 3 tutorials of the following:   |  |           |
| MPET 6400   | Introduction to Principles of Pharmacokinetics                   |           |
| MPET 6450   | Applied Data Science and Artificial Intelligence in Pharmacology |           |
| MPET 6655   | Mechanisms of Cell Growth and Death                              |           |
| MPET 6700   | Cell Death Journal Club  |           |
| MPET 6813   | Tutorial in Systems Pharm.                                       |           |
| MPET 6814   | Cellular Pharmacology of Agents that Target Cancer               |           |
| MPET 6815   | Neurobehavioral Pharmacology                                     |           |
| <b>Advanced Coursework</b>  |  | <b>19</b> |
| Any courses approved for graduate credit; select in consultation with your project mentor |  |           |

Program milestones are included in the Academic Progress and Graduation Requirements for Masters Programs Policy. See below for MPET-specific program highlights and instruction.

## Written Qualifying Examination

The Master's candidate must pass the MPET Written Qualifying Exam to complete the degree requirements.

## Employee Master's Advisory Committee

Each student must have an advisory committee consisting of the student's faculty mentor and three additional members with graduate faculty privileges. This committee will be responsible for evaluating the scope and content of the Master's scholarly review article (final project). Selection of members of this committee should be discussed with the mentor and the program director and arranged prior to beginning the Master's scholarly review article (final project).

Master's Project Review

Master's degree candidates must complete a written scholarly review article (final project) under the direction of a faculty mentor with graduate faculty privileges. The topic for review should be selected by the candidate in consultation with the mentor. The final project should provide an independent scholarly review of an important topic in pharmacology, propose an important question related to the topic, and outline an experimental strategy to address the question.

#### Master's Scholarly Review Article (Final Project)

The committee will evaluate the scope and content of the Master's scholarly review article (final project) during an oral defense of the project. Three of the four members must vote to pass the student for a successful defense.

## Final Project Corrections

Significant deficits in the scholarly review article will require the student to revise and resubmit the document to the committee within 30 days of the presentation date.

*This is a suggested sequence based on a summer term start. Individual course plans may vary depending on true start date, program, employment/ personal commitments, and research interests. Be sure to confirm you have met your requirements using your degree planning tool. Course offerings may vary slightly. Current course offerings are posted in the course catalog.*

| Code                            | Title                           | Hours |
|---------------------------------|---------------------------------|-------|
| <b>First Year - Summer Term</b> |                                 |       |
| MGS 6000                        | Responsible Conduct of Research | 1     |

| Code                          | Title                                     | Hours |
|-------------------------------|---|-------|
| <b>First Year - Fall Term</b> |   |       |
| BMB 5100                      | Chemical Principles of Biopolymer Systems | 2     |
| MPET 5808                     | Introduction to Molecular Pharmacology    | 4     |
| MPET 6800                     | Research Seminars in Pharmacology         | 1     |

| Code                            | Title                                | Hours |
|---------------------------------|--------------------------------------|-------|
| <b>First Year - Winter Term</b> |                                      |       |
| BMB 5150                        |                                      |       |
| MPET 6805                       | Drug Metabolism and Pharmacogenomics | 2     |

| Code                            | Title   | Hours |
|---------------------------------|---|-------|
| <b>First Year - Spring Term</b> |   |       |
| MPET 5900                       | Molecular Pharmacology and Receptor Signaling | 3     |
| Electives                       |   |       |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Second Year - Summer Term</b> |       |       |
| Electives                        |       |       |

| Code                           | Title  | Hours |
|--------------------------------|--|-------|
| <b>Second Year - Fall Term</b> |  |       |
| MPET 6450                      | Applied Data Science and Artificial Intelligence in Pharmacology | 2     |
| MPET 6800                      | Research Seminars in Pharmacology                                | 1     |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Second Year - Winter Term</b> |       |       |
| Electives                        |       |       |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Second Year - Spring Term</b> |       |       |
| Electives                        |       |       |

| Code                            | Title | Hours |
|---------------------------------|-------|-------|
| <b>Third Year - Summer Term</b> |       |       |
| Electives                       |       |       |

| Code                          | Title                             | Hours |
|-------------------------------|-----------------------------------|-------|
| <b>Third Year - Fall Term</b> |                                   |       |
| MPET 6800                     | Research Seminars in Pharmacology | 1     |
| Electives                     |                                   |       |

| Code                            | Title | Hours |
|---------------------------------|-------|-------|
| <b>Third Year - Winter Term</b> |       |       |
| Electives                       |       |       |

| Code                            | Title | Hours |
|---------------------------------|-------|-------|
| <b>Third Year - Spring Term</b> |       |       |
| Electives                       |       |       |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Fourth Year - Summer Term</b> |       |       |
| Electives                        |       |       |

| Code                           | Title                             | Hours |
|--------------------------------|-----------------------------------|-------|
| <b>Fourth Year - Fall Term</b> |                                   |       |
| MPET 6800                      | Research Seminars in Pharmacology | 1     |
| Electives                      |                                   |       |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Fourth Year - Winter Term</b> |       |       |
| Electives                        |       |       |

| Code                             | Title | Hours |
|----------------------------------|-------|-------|
| <b>Fourth Year - Spring Term</b> |       |       |
| Electives                        |       |       |

| Code                            | Title | Hours |
|---------------------------------|-------|-------|
| <b>Fifth Year - Summer Term</b> |       |       |
| Electives                       |       |       |

| Code                          | Title | Hours |
|-------------------------------|-------|-------|
| <b>Fifth Year - Fall Term</b> |       |       |
| Electives                     |       |       |

| Code                            | Title | Hours |
|---------------------------------|-------|-------|
| <b>Fifth Year - Winter Term</b> |       |       |
| Electives                       |       |       |

| Code                            | Title   | Hours |
|---------------------------------|---|-------|
| <b>Fifth Year - Spring Term</b> |   |       |
| MGS 6400                        | Master's Scholarly Review Article (Final Project) | 6     |
| Electives                       |   |       |