Endocrinology-Reproductive Physiology, M.S.

Administrative Unit: Basic Research, Biotechnology, and Graduate Studies
College/School: College of Agricultural and Life Sciences, School of Medicine and Public Health
Admitting Plans: M.S., Ph.D.
Degrees Offered: M.S., Ph.D.
Minors and Certificates: Doctoral Minor

The Endocrinology and Reproductive Physiology (ERP) Program is a multidisciplinary degree-granting program designed to promote research in both endocrinology and reproductive biology, to provide training and experience for pre- and post-doctoral students interested in these fields, and to provide training in problems of endocrine physiology and reproductive physiology in animals and humans. The program trains master’s and Ph.D. candidates for teaching and research careers in all aspects of the interrelated fields of endocrinology and reproductive physiology—basic, clinical, and translational. Students have access to a full range of research facilities throughout campus. A joint M.D./Ph.D. degree is also offered by the School of Medicine and Public Health and student trainees are eligible to train for the Ph.D. in the ERP program.

Postdoctoral Fellows are encouraged to join the program as associate members and participate in the program’s diverse activities. While postdoctoral positions are arranged directly with individual faculty members, ERP also seeks NIH support in this area. The program supports and mentors the training of both Ph.D. and M.D. fellows in translational studies.

The multidisciplinary research and the diverse interests of the faculty make possible many approaches to the study of both endocrinology and reproduction, providing the individual student with a wide selection of research training experiences. Research opportunities are available, but not limited to: endocrine molecular signaling, endocrine physiology in body function and dysfunction, stem-cell programming, gamete and embryo biology, pregnancy, lactation, neuroendocrinology and placenta development. Research models range from molecular and cellular all the way to whole animal including nonhuman primates and humans.

All students complete a core set of courses during the first two years of enrollment in the program including participation in the weekly seminar program. After fulfilling core course requirements, students have the ability to design a curriculum that meets individual research and career interests. Students also have multiple opportunities to present research work in courses, seminars and symposia, and at regional, national and international scientific meetings. The preliminary exam for Ph.D. candidates is based on the research project and is structured in the form of a competitive grant proposal. Part one of the exam is development of the written proposal and submission to the thesis committee for review. Part two is focused on the rebuttal and oral review of the comments. Students should aim to complete the preliminary exam by the start of the third year of study and defend the thesis in the fifth year.

All students are required to form a thesis committee during the first year of study and have an annual meeting with the members. A written progress report must be submitted annually to the program administrator.

Funding

More than 95 percent of the program’s enrolled students are supported by a research assistantship or fellowship. Incoming applicants are considered for competitive fellowships during the admissions process; no additional application is required. Additional fellowship support for minority and educationally disadvantaged students is also available (prospective students should contact the program administrator at the time of application). Teaching assistantships are discouraged until the student has passed the preliminary exam. Training-grant support may be considered in the third through fifth years of study for Ph.D. students, assuming the student meets citizenship criteria, satisfactory academic progress, has a project that is relevant to the mission of NICHD, and continued funding by the National Institutes of Health. Financial support generally includes tuition remission, monthly stipend check, and participation in the State of Wisconsin health insurance program. Benefit costs change on an annual basis; contact the program administrator for current rates. Support for international students varies by faculty advisor. International students offered admission will be required to submit a notarized financial statement prior to visa documents being issued.

Requirements

Minimum Degree Requirements and Satisfactory Progress

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

Master's Degrees

M.S. with available terminal, and MFM fellows tracks

Minimum Graduate Degree Credit Requirement

30 credits

Minimum Graduate Residence Credit Requirement

16 credits

Minimum Graduate Coursework (50%) Requirement

At least half (16 credits of the required 30) must be completed in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

Prior Coursework Requirements: Graduate Work From Other Institutions

Courses taken that fulfill equivalent program requirements may be considered to exempt a class. Exemptions must be discussed with the program director. One course may be substituted for another due to background and interest. Statistics courses may be considered by the student’s advisory committee for exemption; however, students are still

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strongly encouraged to have this refresher. Decisions of the director are final.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 30 credits for their degree.

**PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE**

Courses taken that fulfill equivalent program requirements may be considered to exempt a class. Exemptions must be discussed with the program director. One course may be substituted for another due to background, interest, or program-related career relevance. Statistics courses may be considered by the student’s advisory committee for exemption; however, students are still strongly encouraged to have this refresher or choose one with different emphasis (e.g., clinical). Decisions of the director are final.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 30 credits for the degree.

**PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL**

Courses taken that fulfill equivalent program requirements may be considered to exempt a class. Exemptions must be discussed with the program director. One course may be substituted for another due to background, interest, or program-related career relevance. Statistics courses may be considered by the student’s advisory committee for exemption; however, students are still strongly encouraged to have this refresher or choose one with different emphasis (e.g., clinical). Decisions of the director are final.

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**CREDITS PER TERM ALLOWED**

12 credits

**PROGRAM–SPECIFIC COURSES REQUIRED**

Contact the program for information on any additional required courses.

**OVERALL GRADUATE GPA REQUIREMENT**

3.00

**OTHER GRADE REQUIREMENTS**

The Graduate School requires an average grade of B or better in all coursework (300 or above, not including research credits) taken as a graduate student unless conditions for probationary status require higher grades. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.

**PROBATION POLICY**

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

**ADVISOR / COMMITTEE**

Every graduate student is required to have an advisor. To ensure that students are making satisfactory progress toward a degree, the Graduate School expects them to meet with their advisor on a regular basis.

An advisor generally serves as the thesis advisor. In many cases, an advisor is assigned to incoming students. Students can be suspended from the Graduate School if they do not have an advisor. An advisor is a faculty member, or sometimes a committee, from the major department responsible for providing advice regarding graduate studies.

A committee often accomplishes advising for the students in the early stages of their studies.

**ASSESSMENT AND EXAMINATIONS**

Contact the program for information on required assessments and examinations.

**TIME CONSTRAINTS**

Master’s degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

**LANGUAGE REQUIREMENTS**

Contact the program for information on any language requirements.

**ADMISSIONS**

Admission to the program is competitive; applications are due December 1 of each year for fall semester. Potential applicants will have a major in the biological sciences, a minimum undergraduate GPA of 3.3/4.0, and appropriate preparatory courses in physiology, chemistry, biochemistry, biology, physics, calculus, statistics, organic chemistry, and genetics. Prior laboratory research experience is strongly recommended.

The application process includes the completion and submission of the online Graduate School application, payment of the application fee, submission of a personal statement for graduate study, receipt of GRE scores and TOEFL or International English Language Testing System (IELTS) scores (TOEFL and IELTS are for international applicants) by Educational Testing Service, receipt of three letters of recommendation, and a current curriculum vitae. Applicants are strongly encouraged to use the online reference feature in the Graduate School application system. Transcripts from all colleges and universities attended should be sent directly to the program administrator.

Completed applications for fall entry are reviewed by a panel of faculty. Applicants who pass this first step will be contacted and have materials distributed to all faculty in the program for further consideration. Otherwise applications for spring or summer term are possible, but only with the approval of the admissions committee.

**LEARNING OUTCOMES**

**KNOWLEDGE AND SKILLS**

- Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry in the field of study.
• Identifies sources and assembles evidence pertaining to questions or challenges in the field of study.
• Demonstrates understanding of the primary field of study in a historical, social, or global context.
• Selects and/or utilizes the most appropriate methodologies and practices.
• Evaluates or synthesizes information pertaining to questions or challenges in the field of study.
• Communicates clearly in ways appropriate to the field of study.

PROFESSIONAL CONDUCT
• Recognizes and applies principles of ethical and professional conduct.

PEOPLE

Faculty: Professors Bird (director) (Obstetrics and Gynecology), Abbott (Obstetrics and Gynecology), Alarid (Oncology), Bosu (Medical Sciences/Veterinary Medicine), Downs (Cell and Regenerative Biology), Drezner (Medicine), Golos (Comparative Biosciences), Jefcoate (Cell and Regenerative Biology), Khatib (Dairy Sciences), Kling (Pediatrics), Levine (Neuroscience), Magness (Obstetrics and Gynecology), Martin (Biochemistry), Ntambi (Biochemistry/Nutritional Sciences), Odorico (Surgery), Parrish (Animal Sciences), Pelegri (Genetics), Peterson (Pharmacy), Schuler (Comparative Biosciences/Veterinary Medicine), Shah (Obstetrics and Gynecology), Terasawa (Pediatrics), Thomson (Cell and Regenerative Biology), Wiltbank (Dairy Science), Xu (Oncology), and Zheng (Obstetrics and Gynecology); Associate Professors Atwood (Medicine), Audhya (Biomolecular Chemistry), Duello (Obstetrics and Gynecology), Jorgensen (Comparative Biosciences), Liu (Surgery), Patankar (Obstetrics and Gynecology), Payseur (Genetics), Vezina (Comparative Biosciences/Veterinary Medicine), and Watters (Comparative Biosciences/Veterinary Medicine); Assistant Professors Alisch (Psychiatry), Arendt (Comparative Biosciences), Blum (Cell and Regenerative Biology), Davis (Medicine), Hernandez (Dairy Science), Kimble (Medicine), Kreeger (Biomedical Engineering), Merrins (Medicine), and Salih (Obstetrics and Gynecology)