

ENDOCRINOLOGY- REPRODUCTIVE PHYSIOLOGY, PH.D.

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.

ADMISSIONS

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet** the minimum requirements (<https://grad.wisc.edu/apply/requirements/>) **of the Graduate School as well as the program(s)**. Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/apply/>).

Requirements	Detail
Fall Deadline	December 1
Spring Deadline	October 1
Summer Deadline	May 1
GRE (Graduate Record Examinations)	Not required.
English Proficiency Test	Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (https://grad.wisc.edu/apply/requirements/#english-proficiency).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	3

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 or other relevant field, a minimum undergraduate GPA of 3.0/4.0, and appropriate preparatory courses in physiology, chemistry, biochemistry, biology, physics, calculus, statistics, organic chemistry, and/or 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, unofficial transcripts, and a current curriculum vitae. Applicants are strongly encouraged to use the online reference feature in the Graduate School application system.

Completed applications for fall entry are reviewed by a panel of faculty. Applicants who pass this first step will be invited to a campus visit to interview with faculty and learn more about the program. Applications for spring or summer term are rare but possible, but only with the approval of the admissions committee – please contact the program coordinator in advance of submitting an off-cycle application.

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding/>) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

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 GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirements Detail

Minimum Credit Requirement	51 credits
----------------------------------	------------

Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	Half of degree coursework (26 credits out of 51 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide.
Overall Graduate GPA Requirement	3.00 GPA required.
Other Grade Requirements	The Graduate School requires that students maintain a graduate grade-point average (GPA) of 3.00 (on a 4.00 scale) for all graduate courses (excluding research) to receive a degree. Grades of Incomplete are considered to be unsatisfactory if they are not removed during the next enrolled semester.
Assessments and Examinations	Doctoral students are required to take a comprehensive preliminary/oral examination after they have cleared their record of all Incomplete and Progress grades (other than research and thesis). Deposit of the doctoral dissertation in the Graduate School is required.
Language Requirements	Contact the program for information on any language requirements.
Doctoral Minor/ Breadth Requirements	Doctoral students are not required to complete a doctoral minor.

REQUIRED COURSES

Code	Title	Credits
Required Core		
OBS&GYN 710	Reproductive Endocrine Physiology	3
STAT/F&W ECOL/ HORT 571	Statistical Methods for Bioscience I	4
or STAT/ B M I 541	Introduction to Biostatistics	
BIOCHEM 501	Introduction to Biochemistry	3
BIOCHEM/PHMCOL- M/ZOOLOGY 630	Cellular Signal Transduction Mechanisms	3
or NTP/ NEURODPT 610	Cellular and Molecular Neuroscience	
or ZOOLOGY 570	Cell Biology	
or BIOCHEM/ GENETICS/ MD GENET 620	Eukaryotic Molecular Biology	
OBS&GYN 955	Responsible Conduct of Research for Biomedical Graduate Students	2
OBS&GYN 956	Advanced Responsible Conduct of Research for Biomedical Students	1
OBS&GYN/AN SCI/ ZOOLOGY 954	Seminar in Endocrinology- Reproductive Physiology	1

Electives—additional statistics, biochemistry, and advanced topics courses as determined by the thesis committee

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy/>) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR-SPECIFIC POLICIES

PRIOR COURSEWORK

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 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 51 credits for their degree.

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 51 credits for the degree.

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.

These exemptions do not waive a student from any credits, merely from taking the courses. The student will still need to accumulate 51 credits for the degree.

PROBATION

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. An advisor is a faculty member, or sometimes a committee, from the major department responsible for providing advice regarding graduate studies. 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.

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.

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

CREDITS PER TERM ALLOWED

15 credits

TIME CONSTRAINTS

Doctoral degree students who have been absent for ten 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.

A candidate for a doctoral degree who fails to take the final oral examination and deposit the dissertation within 5 years after passing the preliminary examination may be required to take another preliminary examination and to be admitted to candidacy a second time.

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (<https://doso.students.wisc.edu/bias-or-hate-reporting/>)
- Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/#grievance-procedure>)
- Hostile and Intimidating Behavior Policies and Procedures (<https://hr.wisc.edu/hib/>)
 - Office of the Provost for Faculty and Staff Affairs (<https://facstaff.provost.wisc.edu/>)
- Dean of Students Office (<https://doso.students.wisc.edu/>) (for all students to seek grievance assistance and support)
- Employee Assistance (<http://www.eao.wisc.edu/>) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (<https://employeedisabilities.wisc.edu/>) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (<https://grad.wisc.edu/>) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (<https://compliance.wisc.edu/>) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office of Student Conduct and Community Standards (<https://conduct.students.wisc.edu/>) (for conflicts involving students)

- Ombuds Office for Faculty and Staff (<http://www.ombuds.wisc.edu/>) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (<https://compliance.wisc.edu/titleix/>) (for concerns about discrimination)

Grievance Policy for Graduate Programs in the School of Medicine and Public Health

Any student in a School of Medicine and Public Health graduate program who feels that they have been treated unfairly in regards to educational decisions and/or outcomes or issues specific to the graduate program, including academic standing, progress to degree, professional activities, appropriate advising, and a program's community standards by a faculty member, staff member, postdoc, or student has the right to complain about the treatment and to receive a prompt hearing of the grievance following these grievance procedures. Any student who discusses, inquires about, or participates in the grievance procedure may do so openly and shall not be subject to intimidation, discipline, or retaliation because of such activity. Each program's grievance advisor is listed on the "Research" tab of the SMPH intranet (<https://intranet.med.wisc.edu/>).

Exclusions

This policy does not apply to employment-related issues for Graduate Assistants in TA, PA and/or RA appointments. Graduate Assistants will utilize the Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/>) (GAPP) grievance process to resolve employment-related issues.

This policy does not apply to instances when a graduate student wishes to report research misconduct. For such reports refer to the UW-Madison Policy for Reporting Research Misconduct for Graduate Students and Postdoctoral Research Associates (<https://research.wisc.edu/kb-article/?id=84924>).

Requirements for Programs

The School of Medicine and Public Health Office of Basic Research, Biotechnology and Graduate Studies requires that each graduate program designate a grievance advisor, who should be a tenured faculty member, and will request the name of the grievance advisor annually. The program director will serve as the alternate grievance advisor in the event that the grievance advisor is named in the grievance. The program must notify students of the grievance advisor, including posting the grievance advisor's name on the program's Guide page and handbook.

The grievance advisor or program director may be approached for possible grievances of all types. They will spearhead the grievance response process described below for issues specific to the graduate program, including but not limited to academic standing, progress to degree, professional activities, appropriate advising, and a program's community standards. They will ensure students are advised on reporting procedures for other types of possible grievances and are supported throughout the reporting process. Resources (<https://grad.wisc.edu/current-students/#reporting-incidents>) on identifying and reporting other issues have been compiled by the Graduate School.

Procedures

1. The student is advised to initiate a written record containing dates, times, persons, and description of activities, and to update this record while completing the procedures described below.

2. If the student is comfortable doing so, efforts should be made to resolve complaints informally between individuals before pursuing a formal grievance.
3. Should a satisfactory resolution not be achieved, the student should contact the program's grievance advisor or program director to discuss the complaint. The student may approach the grievance advisor or program director alone or with a UW-Madison faculty or staff member. The grievance advisor or program director should keep a record of contacts with regards to possible grievances. The first attempt is to help the student informally address the complaint prior to pursuing a formal grievance. The student is also encouraged to talk with their faculty advisor regarding concerns or difficulties.
4. If the issue is not resolved to the student's satisfaction, the student may submit a formal grievance to the grievance advisor or program director in writing, within 60 calendar days from the date the grievant first became aware of, or should have become aware of with the exercise of reasonable diligence, the cause of the grievance. To the fullest extent possible, a grievance shall contain a clear and concise statement of the grievance and indicate the issue(s) involved, the relief sought, the date(s) the incident or violation took place, and any specific policy involved.
5. On receipt of a written grievance, the following steps will occur. The final step must be completed within 30 business days from the date the grievance was received. The program must store documentation of the grievance for seven years. Significant grievances that set a precedent may be stored indefinitely.
 - a. The grievance advisor or program director will convene a faculty committee composed of at least three members to manage the grievance. Any faculty member involved in the grievance or who feels that they cannot be impartial may not participate in the committee. Committee composition should reflect diverse viewpoints within the program.
 - b. The faculty committee, through the grievance advisor or program director, will obtain a written response from the person or persons toward whom the grievance is directed. The grievance advisor or program director will inform this person that their response will be shared with the student filing the grievance.
 - c. The grievance advisor or program director will share the response with the student filing the grievance.
 - d. The faculty committee will make a decision regarding the grievance. The committee's review shall be fair, impartial, and timely. The grievance advisor or program director will report on the action taken by the committee in writing to both the student and the person toward whom the grievance was directed.
6. If either party (the student or the person or persons toward whom the grievance is directed) is unsatisfied with the decision of the program's faculty committee, the party may file a written appeal to the SMPH senior associate dean for basic research, biotechnology and graduate studies within 10 business days from the date of notification of the program's faculty committee. The following steps will occur.
 - a. The grievant will be notified in writing, within 5 business days of the written appeal, acknowledging receipt of the formal appeal and establishing a timeline for the review to be completed.

- b. The senior associate dean or their designee may request additional materials and/or arrange meetings with the grievant and/or others. If meetings occur, the senior associate dean or their designee will meet with both the grievant and the person or persons toward whom the grievance is directed.
 - c. The senior associate dean or their designee will assemble an ad hoc committee of faculty from outside of the student's graduate program and ask them to prepare a written recommendation on whether to uphold or reverse the decision of the program on the student's initial grievance. The committee may request additional materials and/or arrange meetings with the grievant and/or others. If meetings occur, the committee will meet with both the grievant and the person or persons toward whom the grievance is directed.
 - d. The senior associate dean or their designee will make a final decision within 20 business days of receipt of the committee's recommendation.
 - e. The SMPH Office of Basic Research, Biotechnology, and Graduate Studies must store documentation of the grievance for seven years. Grievances that set a precedent may be stored indefinitely.
7. The student may file an appeal of the School of Medicine and Public Health decision with the Graduate School. See the Grievances and Appeals section of the Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/documents/grievances-and-appeals/>).
3. Assess and synthesize cutting-edge research and development in one's area of concentration.
 4. Assess and leverage discoveries in parallel areas of research to advance research in one's own area of concentration.
 5. Articulate research problems, potentials, and limits with respect to knowledge and practice within the fields of endocrinology and reproduction and beyond where relevant.
 6. Create study designs and employ established and new analytical tools appropriate to the identified research goal.
 7. Formulate ideas, concepts, designs, and/or techniques beyond the current boundaries of knowledge within the fields of endocrinology and reproduction.
 8. Communicate complex ideas in a clear and understandable manner.
 9. Recognize and apply principles of ethical and professional conduct.
 10. Foster ethical and professional conduct.
 11. Identify incentives and structures that may encourage unethical research practices and behaviors.
 12. Identify resources to help manage or report potential ethical misconduct.

PEOPLE

Faculty:

Professors Ian Bird -director- (Obstetrics and Gynecology), David Abbott (Obstetrics and Gynecology), Elaine Alarid (Oncology), William Bosu (Medical Sciences/Veterinary Medicine), Ted Golos (Comparative Biosciences), Colin Jefcoate (Cell and Regenerative Biology), Hasan Khatib (Dairy Sciences), Pam Kling (Pediatrics), Jon Levine (Neuroscience), Bo Liu (Surgery), Thomas Martin (Biochemistry), James Ntambi (Biochemistry/Nutritional Sciences), Jon Odorico (Surgery), Jon Parrish (Animal Sciences), Manish Patankar -associate director- (Obstetrics and Gynecology), Bret Payseur (Genetics), Francisco Pelegri (Genetics), Richard Peterson (Pharmacy), Linda Schuler (Comparative Biosciences/Veterinary Medicine), Dinesh Shah (Obstetrics and Gynecology), Ei Terasawa (Pediatrics), James Thomson (Cell and Regenerative Biology), Watters (Comparative Biosciences/Veterinary Medicine), Milo Wiltbank (Dairy Science), Wi Xu (Oncology), and Jing Zheng (Obstetrics and Gynecology)

Associate Professors Craig Atwood (Medicine), Anjon Audhya (Biomolecular Chemistry), Dawn Davis (Medicine), Theresa Duello (Obstetrics and Gynecology), Laura Hernandez (Dairy Science), Joan Jorgensen (Comparative Biosciences), Chad Vezina (Comparative Biosciences/Veterinary Medicine)

Assistant Professors Reid Alisch (Psychiatry), Lisa Arendt (Comparative Biosciences), Sebastian Arriola Apelo (Dairy Science), Barak Blum (Cell and Regenerative Biology), Derek Boeldt (Obstetrics and Gynecology), Michael Cahill (Comparative Biosciences/Veterinary Medicine), Ricki Colman (Cell and Regenerative Biology), Feyza Engin (Biomolecular Chemistry), Michelle Kimple (Medicine), Pam Kreeger (Biomedical Engineering), Matthew Merrins (Medicine), Bikash Pattnaik (Pediatrics), Aleks Stanic-Kostic (Obstetrics and Gynecology)

Time Limits

Steps in the grievance procedures must be initiated and completed within the designated time periods except when modified by mutual consent. If the student fails to initiate the next step in the grievance procedure within the designated time period, the grievance will be considered resolved by the decision at the last completed step.

OTHER

Most ERP students are 100% funded through research assistantships and/or fellowships, which include tuition, health insurance, and a monthly stipend.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Demonstrate breadth in one's understanding of endocrine systems, i.e., the integration and control of reproduction and normal body function through endocrine signaling.
2. Utilize an understanding of specific principles involved in investigating endocrinology, reproduction and development to advance research in one's area of concentration.