GENERAL INFORMATION

Introduction. Our graduate program offers a Master of Science in Biology. The research interests of our faculty cover a wide range of specific disciplines. A student may take graduate courses and perform his or her own research project in a variety of areas, including developmental biology, behavioral biology, ecology, forestry, genetics, immunology, microbiology, physiology, and toxicology, under the supervision of a faculty member in the Department of Biology. Visit http://www.ipfw.edu/departments/coas/depts/biology/about/faculty/ for a complete list of faculty and their areas of interest. Both thesis and nonthesis options are available in all of these areas. Graduate students enrolled in the thesis option are eligible to receive teaching assistantships, which are awarded on a competitive basis.

Objectives and Value. The Master of Science in Biology is designed to prepare an individual to work toward one or more of the following goals:

- To become a research scientist in academia, industry, or government.
- To obtain advanced training for professional development or Ph.D. programs.
- To obtain continuing education as a high school teacher.

FACULTY

Whether graduate students are enrolled in the nonthesis or thesis option, they will be working closely with a faculty member as mentor and chair of their graduate committee. Students are encouraged to contact faculty with similar research interests to discuss options for graduate work. http://www.ipfw.edu/departments/coas/depts/biology/about/faculty/

FACILITIES AND RESOURCES

Major Research Equipment. Up-to-date research equipment is available in faculty research labs and a common equipment room.

Animal Care Facility. Our department operates a 9,000 square foot AAALAC-approved animal care facility. This facility allows for the housing of a number of different species of experimental animals and also contains an animal surgical suite and five research laboratories. The Science Building contains additional controlled-environment animal housing.

Computers and Computer Software. Numerous desktop computers are available within the department. The university has an extensive network and access to a variety of software packages, many of which may also be purchased for individual use at discount prices from the bookstore.

Library. The Walter E. Helmke Library has nearly 370,000 print books and maintains over 62,000 electronic periodical subscriptions. Interlibrary loan connects us to the Indiana University library system’s daily shuttle service to both Bloomington and Indianapolis, as well as libraries around the country.

Greenhouse. A 1,500-square-foot greenhouse with a head house is attached to the Science Building. Environmental plant-growth chambers are also available.
The Crooked Lake Station. This research facility is located about 30 miles northwest of Fort Wayne, on the shores of Crooked Lake. Among the most oligotrophic lakes in Indiana, Crooked Lake is approximately a mile long and more than 100 feet deep in some areas. Field station buildings consist of a main laboratory building and a large boat house. The main laboratory building has five offices for independent investigators and classroom facilities to accommodate classes of up to 15. Flowing lake water is available in a large holding room.

Student Housing. IPFW maintains apartment-style housing that is available to graduate students. Canterbury Green apartments, which are adjacent to IPFW, are within walking distance.

ADMISSION PROCEDURES
Contact the Department of Biology at 260-481-6040 for more information on the admission application. Be sure to submit the Department of Biology Supplemental Graduate Application available at http://www.edu/departments/coas/depts/biology/graduate to biology@ipfw.edu

Applications for the biology graduate program should be submitted online from the Purdue University Web site: http://www.gradschool.purdue.edu/admissions/

Refer to the above Web site for all information and directions. When all the necessary materials to complete your application file have been received by the Office of Graduate Studies, the office will forward them to the Department of Biology. The application will be reviewed and evaluated by the biology graduate committee. Each member of the committee will recommend acceptance or rejection of the candidate. The application will then be submitted to the Biology Graduate Program Director for action and recommendation to Purdue University for acceptance or rejection. Applications are notified of the final outcome of their application by the Purdue University Graduate School.

Application Checklist. Complete applications for admission include the online form and the documents listed below. The following application materials should be sent to:

Graduate Admissions Office  
Kettler Hall 112  
Indiana University-Purdue University Fort Wayne  
2101 E. Coliseum Blvd.  
Fort Wayne, IN 46805-1499

- One copy of Statement of Purpose
- Official Graduate Record Exam (GRE), Medical College Admission Test (MCAT), or Dental Admission Test (DAT) scores
- One copy of official transcript from all institutions attended (minimum of 3.0 or equivalent undergraduate cumulative grade point average)
- At least three (3) letters of recommendation (online version or PDF form is available from the Purdue University Web site; http://www.gradschool.purdue.edu/admissions/)
- Application fee (paid online at time of submission)
- TOEFL or IELTS scores for international, non-native speakers of English
Submit the Department of Biology Supplemental Graduate Application available at http://www.edu/departments/coas/depts/biology/graduate to biology@ipfw.edu
Minimum required scores for admission are available at http://www.gradschool.purdue.edu/gradrequirements/dep.cfm?p=BIOS-PFW.html

A limited number of teaching assistantships (TA) are available from the Department of Biology. These are awarded on a competitive basis, thus acceptance into the program does not guarantee receipt of a TA position. Research assistantships (RA) are also available, largely as a result of external funding for faculty. Such RA positions are awarded to accepted graduate students by individual faculty members rather than the department.

**Deadlines**
*Application Deadlines*

For domestic students who wish to be considered for a teaching assistantship, completed applications (including online application form and all required documents) must be received by the Office of Graduate Studies no later than February 15 for admission in the fall semester, or August 15 for admission in the spring semester. Please also remember to submit the Department of Biology Supplemental Graduate Application available at http://www.edu/departments/coas/depts/biology/graduate to biology@ipfw.edu. To avoid postal and office processing delays, students are encouraged to submit application materials 2 weeks before the deadline.

For domestic students who are not applying for a teaching assistantship, completed applications must be received by the Office of Graduate Studies no later than April 15 for admission in the fall semester, or October 15 for admission in the spring semester. Please also remember to submit the Department of Biology Supplemental Graduate Application to biology@ipfw.edu. To avoid postal and office processing delays, students are encouraged to submit application materials 2 weeks before the deadline.

For all international students applying from abroad, completed applications should be received by the Office of Graduate Studies no later than February 15 for admission in the fall semester and August 15 for admission in the spring semester. Please also remember to submit the Department of Biology Supplemental Graduate Application to biology@ipfw.edu. To avoid postal and office processing delays, students are encouraged to submit application materials 3 weeks before the deadline.

*Other Deadlines*

To facilitate course scheduling, students who have accepted a teaching assistantship must submit their proposed course schedule to the Biology Graduate Program Director by July 1 for the fall semester and November 1 for the spring semester. The Biology Graduate Program Director will make teaching assignments based on the students' course schedules. No changes in teaching assignments will be accommodated after July 15 for the fall semester and November 15 for the spring semester.

Graduate students are expected to be aware of and follow deadlines that relate to progression though their program. Failure to demonstrate progress by meeting these deadlines is grounds for dismissal from the program or loss of one’s teaching assistantship.
REQUIREMENTS

**English Proficiency Requirements.** International, non-native speakers of English must achieve a TOEFL score of 550 or higher on the paper-based test, 213 or higher on the computer-based test, or 77 or higher on the Internet-based test in order to be considered for admission to a degree program. In addition, applicants who take the TOEFL IBT must achieve the following minimal test scores in addition to the overall required score: reading, 19; listening, 14; speaking, 18; and writing, 18.

As an alternative to the TOEFL, the Graduate School accepts IELTS (Academic Module) scores of 6.5 or higher. The scores must be documented by an official report from Educational Testing Services or IELTS and must be no more than 24 months old at the time the application credentials are reviewed in the Graduate School. Non-native speakers of English who are U.S. citizens or who hold permanent visas are not required to submit TOEFL/IELTS scores.

**Selection of a Committee.** The chair of a student’s graduate committee must be a member of the Purdue University Graduate Faculty from the Department of Biology. In addition to the chair, the student’s graduate committee consists of at least two other faculty members. External committee members must be approved by the Purdue Graduate School as graduate faculty appointments by filing graduate school Form 24.

**Plan of Study.** A plan of study, which lists all of the formal coursework that a student agrees to take (except research credits such as BIOL 698), must be prepared by the student in consultation with his or her major professor and other members of his or her graduate committee. See *Course Descriptions* and *Specific Requirements* below for information regarding credit requirements to be detailed in your Plan of Study. Students are encouraged to create an informal course plan with their committee during their first semester to help stay on track. Students are encouraged to file the formal plan of study as soon as possible, preferably in the first or second semester. However, it must be filed prior to the beginning of the final semester of enrollment, according to the IPFW Graduate Bulletin. The graduate committee may require remedial course work, and such course(s) do not count among the courses accepted for the student’s graduate degree on the plan of study. After approval by the student’s graduate committee and the Biology Graduate Program Director, the plan of study will be forwarded to the IPFW Office of Graduate Studies for final action.

**Transfer of Credits.** Under certain circumstances, students may transfer credits taken at another institution or while an undergraduate at IPFW or Purdue. The details of each circumstance are given below. The total number of credits utilized from any combination of the following may not exceed 12.

(i) Graduate credits taken at another institution
A maximum of 12 hours of graduate credit from another institution (including other campuses of Purdue University) at a grade of B or better may be approved by the student committee for inclusion in the plan of study. Courses taken more than five years prior to the date of application cannot be transferred.

(ii) Credit for courses taken in postbaccalaureate status
Students may include in the plan of study no more than 12 hours of graduate credit with a grade of B or better taken while enrolled as postbaccalaureate residents prior to being admitted to our graduate degree program. Courses taken more than five years prior to the date of application cannot be transferred.

(iii) Credit for courses taken in excess of undergraduate degree requirements
A maximum of 12 course credits earned as an undergraduate at IPFW or Purdue University may be applied toward a master's degree if these credits are in excess of any requirements for a baccalaureate degree. To be eligible, the courses must meet the following conditions: (1) the student received a grade of B or better; (2) the course was at the 500 level or higher; and (3) the student had senior standing when taking the course. The registrar’s academic record change (Form 350), obtained from the main biology office (SB 330), must be completed for each course considered for transfer.

**Grades and Index Requirements.** Grades lower than a C will not be applied to a plan of study. A cumulative index of 3.0 on a scale of 4.0 (a B average) is expected. Students in the thesis option are expected to earn S grades for research. A student who has two consecutive sessions of U grades for research credits will be discontinued or will be continued only if special conditions to be determined by the committee are met. The student’s progress will be monitored yearly by the student’s committee.

**Specific Requirements for the Nonthesis Option.** For a nonthesis option, at least 30 credit hours of course work are required. Fifteen of the credit hours must be at the 500 level within the Department of Biology. The remaining 15 hours can be fulfilled by some combination of the following: additional BIOL courses at the 500 level; up to 9 credit hours of BIOL 595 (Special Assignments); up to 6 credit hours of undergraduate courses at the 300 or 400 level taken from other departments (students must earn a grade of no lower than B); or up to 15 credits of 500-level courses in other departments. All courses applied to the plan of study require the approval of the student’s graduate committee, the Biology Graduate Program Director, and the IPFW Office of Graduate Studies. If a student changes from a nonthesis to a thesis option, up to nine credits of BIOL 595 will count towards the degree requirements. Although students may take courses on other Purdue campuses, at least one-half of the total credit hours used to satisfy degree requirements must be earned in residence on the IPFW campus. Remote, televised instruction from a campus, including distance learning, is considered to have been obtained from that campus, regardless of the student’s physical location. Students registering for a nonthesis degree must take an exam during their last semester and check with the Department of Biology for all deadlines. The exam(s) will be prepared by the student’s committee and will focus on the student’s area of concentration. If desirable, the committee can request other faculty members to submit questions. The writer of the questions should also be the grader. A passing grade must be earned. The student will have a maximum of two attempts to pass the exam.

**Specific Requirements for the Thesis Option.** Those students selecting the thesis option must obtain a minimum of 30 credit hours in formal course work and research credit combined. A minimum of 18 credit hours of formal course work approved by the student’s committee is required. The remaining 12 credits can be exclusively BIOL 698 Research M.S. Thesis or a combination of 9 credits minimum of BIOL 698 and 3 credits maximum of BIOL 595 Special Assignments. BIOL 595 credits cannot be included in the 18 credit hours of formal course work.

**Submission of a Thesis Proposal.** Students must submit a written proposal to their thesis committee and are encouraged to do so as soon as possible. However, it must be filed prior to the beginning of the third semester. Thesis proposal submission and defense should be done in consultation with the student’s advisor. Proposal format will be determined by the student’s thesis advisor. However, it should include a thorough review of literature, a detailed plan for the research project, and a projected schedule for its completion.

**Submission of the Thesis.** The thesis must be written in a format specified by the Purdue University Graduate School. A copy of the *Manual for the Preparation of Graduate Theses* is available online at
www.gradschool.purdue.edu/thesis.cfm. Students should acquire a copy of this manual before beginning thesis preparation. The thesis should be prepared in a format suitable for publication. Before submitting the final draft, the student should check with the thesis format advisor in the Helmke Library at IPFW to confirm the format of the thesis. The Department of Biology’s secretary can provide the name of the designated individual. Upon completion of the final draft and approval by the thesis committee and the Biology Graduate Program Director, the thesis must be taken to the thesis format advisor in Helmke Library for final format approval. After approval at IPFW, the student must also submit the thesis electronically to the Purdue University Graduate School. Purdue assesses a thesis deposit fee, which is due at thesis submission.

Oral Defense. All thesis students must present their research to the department in a seminar and pass a final oral defense of their thesis work after they have submitted their thesis to their examining committee. The time of the examination will be decided by each student’s thesis committee. The thesis will be signed by the examining committee and the Biology Graduate Program Director after the student has satisfactorily made all of the required corrections.

Graduate Assistantships. The department offers a limited number of graduate teaching assistantships to qualified students in the thesis option. These assistantships are available on a competitive basis and provide tuition reduction and a stipend. Students receiving an assistantship are expected to register for a minimum of 3 and a maximum of 12 credits. International students should check with the International Student Services office for requirements. With satisfactory performance in the classroom and in the research project, a student will receive a teaching assistantship for up to four semesters. Further support must be explicitly agreed upon by the Biology Graduate Program Director.

A limited number of research assistantships are also available from faculty receiving external support. The student should inquire with individual faculty members regarding the availability of research assistantships.

Students receiving an assistantship also receive a substantial tuition-reduction benefit. However, they must pay student fees each semester, plus a nominal fee per credit hour. Students not receiving an assistantship must pay the student fees, plus the normal tuition rate per credit hour. Rates depend on whether or not the student is an Indiana resident. Please access the graduate program website at http://www.ipfw.edu/financial for current fee and tuition rates.

For students not receiving an assistantship, Chancellor’s Merit Award Scholarships are also available. Awards are for beginning IPFW students that are U.S. citizens classified as non-Indiana residents and allows those students to attend IPFW at in-state costs for tuition and fees. Awards are also available for international students. Specific requirements are available from the Financial Aid Office – http://www.ipfw.edu/financial

Fees and Expenses. For current IPFW fee information, contact the bursar’s office at 260-481-6824 or visit http://www.ipfw.edu/financial/

Financial Assistance
IPFW assists you in seeking financial aid for your college education. More than $22 million in financial aid is available each year to IPFW students. To be considered a full-time student and qualify for financial aid, graduate students must be enrolled for at least 9 credits per semester. Sources of financial aid for graduate students include, but are not limited to, subsidized Federal Stafford Loans, unsubsidized Federal Stafford Loans,
Perkins Loans, and Federal Work-Study. For more information, contact Financial Aid at 260-481-6820 or 800-324-IPFW. More information can be found online at www.ipfw.edu/financial/

**Academic Regulations.** Students enrolled in the Biology Graduate Program are subject to university regulations and policies as published in the *Graduate Bulletin*. The following regulations specifically apply to biology.

**Course Load.** In order to be considered a full-time graduate student, a student must take at least 8 credit hours per semester during the fall and spring semesters. Students must be registered in at least 6 credit hours to be considered a full-time student in the summer.

**Time Limitation.** Graduate students should complete the program within six semesters (three years) of admission, while a minimum of two full semesters is required to obtain residency. Course and research credits greater than five years old will be dropped from the student’s plan of study. Similarly, course and research credits earned by a student whose enrollment has been inactive for five years cannot be used on a new plan of study.

**SUGGESTED TIMELINE**
Progress through the degree program and order of timeline should be determined by the student, advisor, and committee. The following timeline assumes student completion in four semesters.

**For Thesis Students**

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<thead>
<tr>
<th>Semester</th>
<th>Meeting with the Graduate Committee Chair to:</th>
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<tbody>
<tr>
<td></td>
<td>a. Select the research topic</td>
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<td>b. Select the committee members</td>
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<td>c. Obtain necessary training/certification on-</td>
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<td></td>
<td>i. Handling biological/chemical hazards</td>
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<td>ii. Handling animals</td>
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<td>iii. Handling radio-active materials</td>
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<td>d. Review literature</td>
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<td>e. Prepare/present the thesis proposal (must be completed before Semester 3)</td>
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<td>f. File plan of study (must be completed before final semester of enrollment, according to IPFW Graduate Bulletin)</td>
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<th>Semester</th>
<th>Meeting with the committee to:</th>
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<tr>
<td></td>
<td>a. Report progress</td>
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<td></td>
<td>b. Present thesis proposal (if not completed in Semester 1)</td>
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<tr>
<td></td>
<td>c. File plan of study (if not completed in Semester 1)</td>
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<tr>
<th>Semester</th>
<th>Meeting with the committee to:</th>
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<tbody>
<tr>
<td></td>
<td>a. Report progress</td>
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b. Declare graduation (must be completed in semester prior to final semester of enrollment)

Semester 4 | Meeting with the Graduate Committee Chair to discuss:
| a. Preparation of the thesis, work with your Graduate Committee Chair to determine a deadline for submitting your initial thesis draft to them for review, this should occur prior to scheduling your defense date

Thesis and Defense Timeline:
| b. Schedule the defense date at least 3 weeks prior to the oral defense, it should be scheduled at least 2 weeks prior to the university deadline
| c. Submit the pre-defense draft of the thesis to the committee at least 2 weeks prior to the defense
| d. Defend the thesis at least 2 weeks prior to the university deadline in order to allow time for corrections
| e. Submit thesis corrections to the committee within the week following the defense
| f. Submit the final draft to the university by the stated deadline

For Nonthesis Students

| Semester 1 | Meeting with the Graduate Committee Chair to select the courses
| Semester 2 | Meeting with the Graduate Committee Chair to review course progress
| Semester 3 | Meeting with the Graduate Committee Chair to:
| a. Review course progress
| b. Declare graduation (must be completed in semester prior to final semester of enrollment)
| Semester 4 | Meeting with the Graduate Committee Chair to discuss final/exit exam procedures

COURSE DESCRIPTIONS
Students working toward a Master of Science degree in biology can choose from the following courses to develop a plan of study in conjunction with their major professor and advisory committee to meet their interests and needs. For convenience, the courses are grouped in three categories according to their content. Course descriptions can be found in the Graduate Bulletin at http://bulletin.ipfw.edu/preview_program.php?catoid=34&poid=5900&returnto=897

ABOUT IPFW
Indiana University-Purdue University Fort Wayne (IPFW) offers more academic and extracurricular opportunities than any other higher education institution in northeast Indiana. A joint campus of two
internationally recognized Big Ten schools, IPFW grants both Indiana University and Purdue University degrees.

IPFW reflects the IU and Purdue commitments to excellence in teaching, research, and service. The university takes advantage of the latest technologies to enhance classroom instruction, research, and communications. IPFW provides access to an excellent education through academic diversity, flexibility, and affordability. IPFW students have access to superior research, academic, and extracurricular pursuits. IPFW is committed to the continued educational, economic, and cultural development of its 11-county service area.

The university is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. Various colleges, schools, divisions, and programs have earned additional accreditation through professional societies. IPFW is a member of the Council of Graduate Schools.

More information about IPFW is available online at http://www.ipfw.edu/about/

About the Office of Graduate Studies. The mission of the IPFW Office of Graduate Studies is to facilitate offering a range of distinctive graduate programs, especially targeted professional master’s degree programs, important to the social, economic, cultural, and intellectual life of northeast Indiana. For additional information about all IPFW graduate programs, go to www.ipfw.edu/gradstudies/ or call 260-481-6795.

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http://www.ipfw.edu/biology

IPFW is an Equal Opportunity/Equal Access University