



TUP Graduate Handbook

M.S. in Biology Department of Biology

Handbook Updated 2020-2021

M.S. in Biology
Department of Biology
975 Oakland Ave

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INTRODUCTION

Welcome to the M.S. in Biology program! Expanding your career opportunities is an inherent part of our graduate program. Many destinations await you in medicine, private industry, government, and higher education. Your M.S. experience may provide a ladder to doctoral studies. Our 19 full-time biology graduate research faculty bring a breadth of scholarly knowledge and practical experience. Deeply committed to educating their students, these professors conduct a wide variety of research and service programs associated with the department.

IUP's Civility Statement

As a university of different peoples and perspectives, IUP aspires to promote the growth of all people in their academic, professional, social, and personal lives. Students, faculty, and staff join together to create a community where people exchange ideas, listen to one another with consideration and respect, and are committed to fostering civility through university structures, policies, and procedures. We, as members of the university, strive to achieve the following individual commitments:

To strengthen the university for academic success

Department of Biology

The Department of Biology offers a M.S. in Biology that is intended both for the student who wishes to pursue further graduate work leading to the PhD degree and for the student who desires the M.S. degree as a means to seek a career as a biologist in a number of different professions. The M.S. in Biology has two alternatives, the thesis and non-thesis options. The thesis option is research oriented, with an emphasis on a comprehensive research project under the supervision of a thesis advisory committee. The non-thesis option also requires a research component that is under the direction of a faculty member. Both alternatives are intended to provide the student with a well-rounded biology background, as well as furnish the research skills required for postgraduate positions.

Mission Statement and Program Objectives

From biomolecules to biomes, this is the place to study biology. Our department has the academic size and diversity to offer opportunities found at larger research institutions, yet maintain the personal and intimate learning community found at smaller liberal arts colleges. The M.S. in Biology allows you to prepare for employment in the public or private sector, continuing on to a doctoral program, or acceptance to a medical, dental, or veterinary school. Your graduate degree will train you for an academic career or jobs that are expanding in the workforce.

Faculty and Staff

With 19 graduate research faculty, students have the opportunity to work with a diverse group of advisors and committee members. Below is a list of current graduate research faculty with contact information and profiles of faculty research interests available at:

<https://www.iup.edu/biology/faculty/>

N. Bharathan (Ph.D., University of Maine); Professor and Department Chair

Joseph Duchamp (Ph.D., Purdue University); Professor and Department Assistant Chair

Seema Bharathan (Ph.D., University of Maine); Associate Professor

Shundong Bi (Ph.D., Howard University); Professor

Cuong Diep (Ph.D., Penn State University); Associate Professor and Graduate Coordinator

Sarah Emel (Ph.D., Washington State University); Assistant Professor

David Janetski (Ph.D., University of Notr

IUP Email

IUP offers an email account to all active students. **Your IUP email address is the primary means by which the university will contact you with official information and you should use for all IUP official communications. It is your responsibility to check your IUP email regularly.** Visit www.iup.edu/itsupportcenter/howTo.aspx?id=23401 to learn more about setting up this account. For more information regarding University policy on email communication, view the Graduate Catalog: www.iup.edu/gradcatalog

Graduate Student Assembly

The Graduate Student Assembly (GSA) represents the graduate student body's interests at IUP and within the Indiana community. The GSA makes recommendations related University-wide and graduate-specific policies and in areas of concern in the cultural, intellectual, and social life of the part- and full-time graduate student. Visit www.iup.edu/graduatestudies/gsa for more information.

Programs and Degrees

M.S. in Biology Program

The Department of Biology offers a Master of Science (M.S.) degree that serves both the student who plans to pursue further graduate work leading to a Ph.D. degree and the student who plans to seek a career following the completion of their M.S. degree.

The M.S. in Biology program has two alternatives, the thesis and non-thesis option. The thesis option is research oriented, requiring a comprehensive research project under the supervision of a thesis advisory committee and culminating in a publicly defended thesis. The non-thesis option requires a research component that is supervised by a single faculty member and is oriented towards students pursuing professional training and experience. Both options are intended to provide the student with a well-rounded biology background and furnish the desired research skills for postgraduate positions.

What Can You Expect from Faculty?

The faculty members are here to help you, especially your Graduate Coordinator. You can expect assistance in making timely progress towards your degree. Your Graduate Coordinator and thesis advisor will communicate regularly with you and will provide intellectual guidance and support for your scholarly efforts. Your thesis advisor will also facilitate participation in scholarly and professional experiences that will add depth and breadth to your skills.

Your Graduate Coordinator will provide you with accurate and timely information about academic requirements and academic evaluation. The faculty should tell you about the availability of courses you wish to take and the program of study requirements. There should be regular communication and meetings between you and your coordinator and advisor so that you receive the guidance you need to progress.

What Can You Expect from the School of Graduate Studies and Research (SGSR)?

Graduate education and research are critical components of IUP. The SGSR personnel are responsive and supportive and can assist with a range of questions or concerns. Areas the SGSR can assist with include: registration, University-wide policies and procedures, research funding, conducting responsible research, formatting your thesis or dissertation, deadlines, graduation, graduate assistantships, transfer credits, and more. Visit www.iup.edu/graduatestudies for additional information and a link to personnel who can assist.

The SGSR will also field any questions or concerns you may have about your graduate experience and will work with you to resolve challenges that may arise.

What Can the Faculty and SGSR Personnel Expect from You?

We expect that you will work hard to earn your degree, complete work and course assignments by the deadlines provided by faculty members, and demonstrate professional integrity and academic honesty at all times. Civility is a valued trait at IUP and we expect every student to exhibit this trait.

We expect you to be aware of happenings outside of your project and thesis topic. You should be aware of current world events and significant changes occurring at the university. Our goal is to produce well-rounded alumni whose knowledge and awareness has both breadth and depth.

It is critically important that you communicate regularly with your thesis advisor and Graduate Coordinator. These are the most important people for helping ensure your success at IUP.

Evaluation of Students

For information regarding School of Graduate Studies and Research policies on grading, view the Graduate Catalog: www.iup.edu/gradcatalog

Thesis Completion

A student pursuing the thesis option must conduct original research under the direction of the thesis supervisory committee and present a research thesis at the conclusion of the program. The candidate

Degree Requirements

Thesis-Option

Total Credits Required = **32 credit hours**

Required Core Courses = 11 credit hours

BIOL 602 Biometry	3 cr.
BIOL 611 Biology Seminar I	1 cr.
BIOL 612 Biology Seminar II	1 cr.
BIOL 795 Thesis	6 cr.

Elective Courses = 21 credit hours

Twenty-one credit hours of courses to be selected from the 500- and 600-level biology elective courses. Up to 6 credit hours may be selected from related science and mathematics courses.

Required Graduate Thesis

Includes both a written thesis and public oral defense.

Non-thesis Option

Total Credits Required = **35 credit hours**

Required Courses = 8 credit hours

BIOL 602 Biometry	3 cr.
BIOL 611 Biology Seminar I	1 cr.
BIOL 612 Biology Seminar II	1 cr.
BIOL 699 Independent Study	3 cr.

Elective Courses = 27 credit hours

Twenty-seven credit hours to be selected from the 500- and 600-level biology elective courses. Up to 6 credit hours may be selected from related science and mathematics courses.

Required Competency Exam

Includes an oral, written, or combined exam given by supervisory committee.

Timeline for Successful Program Completion

Fall Semester Year 1

- 1) Enroll in required courses BIOL 602 Biometry and BIOL 611 Seminar I
- 2) Enroll in 6 T(IOL 611 S)4.4I I

Spring Semester Year 2

- 1) Enroll in 3 (Thesis) or 6 (Non-Thesis) additional credit hours of coursework at the 500 or 600 level
 - a. This may include required BIOL 795 or BIOL 699 with approval of your thesis/research advisor
 - b. Students need to take remaining credit hours to reach 32 (Thesis) or 35 (Non-Thesis) total credit hours
- 2) Submit Application to Graduate (file with Graduate School)
- 3) Complete writing thesis
- 4) Schedule thesis defense

Deadlines for degree completion

For more information, view the Graduate Catalog: www.iup.edu/gradcatalog

For a May Graduation

December 15: Master's candidates have filed their RTAF.

March 1: Draft of thesis has been provided to all committee members to review ahead of the defense (Biology departmental deadline).

March 15: Master's candidates have successfully defended thesis (Biology departmental deadline).

April 1: Master's candidates have successfully defended thesis (SGSR deadline).

April 1: Draft copy of thesis submitted to the School of Graduate Studies and Research (grad-research@iup.edu) for review.

April 1: Copies of signed thesis signature pages and necessary forms submitted to the School of Graduate Studies and Research.

April 15: Electronic thesis/dissertation submitted to ProQuest.

May 1: Master's candidates have applied for graduation through URSA.

For an August Graduation

May 15: Master's candidates have filed their RTAF.

June 1: Draft of thesis has been provided to all committee members to review ahead of the defense (Biology departmental deadline).

June 15: Master's candidates have successfully defended thesis (Biology departmental deadline).

July 1: Master's candidates have successfully defended thesis (SGSR deadline).

July 1: Draft copy of thesis submitted to the School of Graduate Studies and Research (grad-research@iup.edu) for review.

July 1: Copies of signed thesis signature pages and necessary forms submitted to the School of Graduate Studies and Research.

July 15: Electronic thesis submitted to ProQuest.

August 1: Master's candidates have applied for graduation through URSA.

For a December Graduation

August 15: Master's candidates have filed their RTAF.

October 1: Draft of thesis has been provided to all committee members to review ahead of the defense (Biology departmental deadline).

October 15: Master's candidates have successfully defended thesis (Biology departmental deadline).

November 1: Master's candidates have successfully defended thesis (SGSR deadline).

November 1: Draft copy of thesis submitted to the School of Graduate Studies and Research (grad-research@iup.edu) for review.

November 1: Copies of signed thesis signature pages and necessary forms submitted to the School of Graduate Studies and Research.

November 15: Electronic thesis submitted to ProQuest.

December 1: Master's candidates have applied for graduation through URSA.

University Policies and Procedures

University policy is the baseline policy. Programs may have policy that is more stringent than the University baseline policy; however, not less stringent than the University baseline policy. For questions regarding this statement, please contact [Program Coordinator] or the School of Graduate Studies and Research.

Academic Calendar

View the IUP Academic Calendar: www.iup.edu/news-events/calendar/academic/

The following University and SGSR policies can be found at www.iup.edu/gradcatalog

Academic Good Standing

www.iup.edu/gradcatalog

Academic Integrity

www.iup.edu/gradcatalog

The Source: A Student Policy Guide: www.iup.edu/studentconduct/thesource/

Bereavement-Related Class Absences

www.iup.edu/gradcatalog

Continuous Graduate Registration for Dissertation and Thesis

www.iup.edu/gradcatalog

Grade Appeal Policy

www.iup.edu/gradcatalog

Graduate Fresh Start Policy

www.iup.edu/gradcatalog

Graduate Residency Requirement

www.iup.edu/gradcatalog

Leave of Absence Policy

www.iup.edu/gradcatalog

Time Limitations

www.iup.edu/gradcatalog

Time-to-Degree Masters/Doctoral Dismissal Appeal Policy

www.iup.edu/gradcatalog

Time-to-Degree Extension for Master's Thesis and Doctoral Dissertation

www.iup.edu/gradcatalog

Transfer of Credits Policy

www.iup.edu/gradcatalog

Research

Graduate students are expected to comply with all applicable federal, state, and university research regulations. Before conducting research at IUP, you should review the [research policies](#), paying extra attention to several in particular:

Export Control

[Export Control](#) regulations are federal laws that prohibit the unlicensed export of certain commodities or information for reasons of national security or protections of trade. An export is any oral, written, electronic, or visual disclosure, shipment, transfer, or transmission of commodities, technology, information, technical data, assistance, or software codes to anyone outside the US, a non-US individual wherever they are, or a foreign embassy or affiliate.

Human Subjects Protection

[Human Subjects Protection](#) at IUP is overseen by the Institutional Review Board (IRB) for the Protection of the Human Subjects. The IRB is the regulatory body of IUP that is responsible for the review of research that involves human participants. The purpose of IRBs nationally is to protect participants in research as well as to protect researchers conducting research involving human participants.

Animal Care and Welfare

[Animal Care and Welfare](#) at IUP is overseen by the Institutional Animal Care and Use Committee (IACUC). This committee is charged with ensuring compliance with federal regulations concerning the use and welfare of animals in teaching and research. The IACUC also strives to ensure that all uses of animals under the auspices of IUP are held to highest ethical standard.

Research Misconduct

[Research Misconduct](#) means fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the research community for proposing, conducting, or reporting research, including failure to comply with Federal regulations for protection of researchers, human subjects, the public, or the welfare of laboratory animals.

Copyright

[Copyright](#) information is available to help guide you in writing your thesis or dissertation.

Plagiarism

[Plagiarism](#) is a type of fraud that involves using someone else's words, ideas, or data as if it were one's own work, and is defined in the [Academic Integrity Policy](#). Visit the [Writing Center](#) for help understanding what constitutes plagiarism and how to avoid it.

Technology Transfer and Intellectual Property

[Technology Transfer and Intellectual Property](#) guidance and resources are available for students at IUP and through [PASSHE](#).

Professional Development

Funds are available to support participation in scholarly and creative activities that add to professional development in a significant way. Applicants may request up to \$300 and must provide a clear description of the proposed activity. Examples of eligible activities include serving as a moderator, discussant, or session chair at a disciplinary conference; presenting research methodology for feedback at a roundtable discussion at a conference; or leadership activities related to professional or disciplinary associations. Simply attending a conference, while a valuable learning experience, is not eligible for support.

Publication Costs

Costs associated with the publication of articles in scholarly journals, which pay no royalty or fee to the author, will be funded up to a limit of \$500. These costs include: article submission fees, reasonable photographic reproduction fees, and page charges. This policy does not extend to any writing for which the student receives compensation or to vanity press charges.

For more information and instructions on how to apply for funding, visit the SGSR Internal Funding for Graduate Student Research website: <http://www.iup.edu/research/resources/funding-research/students/graduate/internal-iup-funding-for-graduate-student-research/>

Research Experiences for Summer Scholars (RESS)

Participate in the cutting-edge research being done at IUP this summer (Summer Sessions I and II) during the annual Research Experiences for Summer Scholars program.

The RESS program promises some of the best networking opportunities and professional development events during your time at Indiana University of Pennsylvania. You will be amazed by the resources available to you and the quality of research right here at IUP. Many exciting frontiers are being explored, and you can be a part of it all! Limited funding may be available to students as a summer salary.

<https://www.iup.edu/natsciandmath/events/ress/>

Graduate Student Outstanding Research Award

The School of Graduate Studies and Research recognizes graduate students who have completed what their academic departments believe to be outstanding research projects during the academic year. Three to five \$100 awards are made, on a competitive basis, to graduate students each spring, following the review of a faculty nomination letter and a completed proposal. Awards are presented at the annual university-wide Research Awards Luncheon.

The Thomas Smythe Memorial Scholarship

This award is open to any graduate student or ~~any~~ undergraduate student with junior standing during the

Signature Page

My signature below indicates that I am responsib