

2026-2027 Academic Requirements and Guidelines for Ph.D. Degree: Graduate Program in Interdisciplinary Biomedical Sciences

This document describes the policies and procedures for Ph.D. training in the Graduate Program in Interdisciplinary Biomedical Sciences (GPIBS) at the University of Arkansas for Medical Sciences (UAMS). The policies and procedures specific to the GPIBS Graduate Ph.D. Degree Program are in addition to the general rules and regulations of the UAMS Graduate School and may be supplemented by requirements of the GPIBS tracks.

Students and their advisors should be familiar with the requirements outlined herein, and with those of the Graduate School described in the current edition of the [UAMS Graduate School Catalog](#) and the [UAMS Graduate School Student Handbook](#), in addition to the requirements of the relevant GPIBS track.

To fulfill the requirements for the Ph.D. degree, students must satisfactorily complete the coursework required by the GPIBS and the designated GPIBS track, pass the candidacy examination, and complete the research requirements, including the writing of a dissertation and passing the final oral examination (dissertation defense). Students must complete the degree within 7 consecutive calendar years from the date of passing the candidacy examination.

I. GPIBS Ph.D. Curriculum

The requirements for graduating with a Ph.D. degree include completing a minimum of 24 semester credit hours of didactic coursework, including the courses listed below for years 1 and 2. The GPIBS tracks and/or doctoral advisory committees may specify the courses to be taken as electives and may require additional courses. The full Track Curriculum is detailed in Section X.

Year 1—Fall Semester

Course Name (Course Number)	Credits
• Foundations in Biomedical Sciences (IBSD 61037)	7*
• Scientific Communication & Ethics 1 (PCOL 51171)	1
• GPIBS Seminar (IBSD 5110V)	1
• Research (IBSD 5100V)	1

Notes:

- 1) The order of specified coursework may vary depending on the course offerings.
- 2) Students entering the GPIBS Graduate Ph.D. Degree Program with advanced training (such as students who have earned MS degrees, students transferring from other doctoral programs, or M.D./Ph.D. students who have completed portions of their M.D. training) may be eligible to have some course requirements transferred.
- 3) Students in good standing may take elective coursework at any time if agreed upon by the student and the Major Advisor. Students who have not selected a major advisor require approval from the GPIBS Track Leader.

After Year 2:

Students prepare for and pass the candidacy examination (described below), ideally before August 15 of Year 2. After attaining candidacy, Ph.D. students will focus the majority of their time and effort on developing, completing, and defending a doctoral dissertation. Candidates are required to complete a minimum of 18 semester credit hours of Doctoral Dissertation Research.

All students must enroll in a GPIBS or Track-specific Seminar each semester until graduation. The full Track Curriculum is detailed in Section X.

II. Research Rotations

To identify a major advisor, GPIBS graduate students working toward their Ph.D. participate in 3 research rotations during their first semester by registering for GPIBS Research (IBSD 5100V). In collaboration with their first-semester GPIBS faculty advisor, students select rotation advisors from any active laboratories in participating GPIBS tracks. Students are expected to spend approximately 15 hours/week in the laboratory during rotations, although some flexibility is expected to accommodate coursework, etc. Students and mentors are required to submit evaluations to the Graduate School via the [GPIBS Online Portal](#) after completion of each rotation event ([REQUIRED FORM 1](#)). Students who have not found a research home after 3 rotations can continue to rotate in laboratories during semester 2.

III. Major Advisor and Track Selection

Ideally, after the first semester, students will select a track. The following tracks are available:

- Biochemistry and Molecular Biology
- Cell Biology and Physiology
- Cancer Biology
- Microbiology and Immunology
- Neuroscience
- Pathobiology
- Pharmacology, Toxicology, and Experimental Therapeutics
- M.D./Ph.D.

Along with selecting a GPIBS track, students will select a major advisor and complete a Change-of-Plan Form (REQUIRED FORM 2). Any UAMS Graduate Faculty member is eligible to serve as a major advisor, provided that the faculty member is part of a GPIBS track with an active research program.

Students and Mentors are also required to work together to develop an electronically signed Mentor/Mentee Contract that outlines expectations for each side (REQUIRED FORM 3). If a student changes their major advisor, the student and the new major advisor must complete a new Change-of-Plan Form and Mentor/Mentee Contract.

IV. Promotion and Dismissal

As per the [UAMS Graduate School Handbook](#), GPIBS students must maintain a cumulative UAMS grade point average (GPA) of 2.85 or better (on a 4.0 scale) to be promoted in good standing to the subsequent semester. If a student's cumulative GPA falls below 2.85, they will be placed on academic probation by the Graduate School. Students on academic probation must raise their cumulative GPA to 2.85 or above upon completion of the next semester. Failure to raise the cumulative GPA above 2.85 will result in dismissal of the student from GPIBS and the UAMS Graduate School. Students on probation who raise their cumulative GPA to 2.85 or better will be promoted to the next semester in good standing.

Prior to the candidacy examination, GPIBS students must complete and earn a grade of B or better in the Foundations of Biomedical Sciences course (IBSD 61037). The GPIBS Advisory Committee will review the academic record of any student who earns a grade lower than a grade of B in that course. The Committee will recommend a course of action to the GPIBS Director, which can include 1) dismissing the student from the program or 2) requiring the student to retake the course. If allowed to continue in the program, students who are required to retake the Foundations in Biomedical Sciences course must earn a grade of B or better before they are admitted to candidacy.

A student may be dismissed from the GPIBS if, at any time, their academic progress is found to be unsatisfactory by the program faculty. Examples of unsatisfactory performance include academic

dishonesty (e.g., cheating, plagiarism, forgery, or use of an artificial intelligence (AI) third-party service or site against/inconsistent with the [UAMS AI Generative Tool Use Policy](#)), lack of satisfactory research progress (includes receiving a rating of *Needs Improvement* at two consecutive committee meetings for Scholarly Activity), and failure to maintain the required cumulative GPA.

V. Stipends

Students in the GPIBS Graduate Ph.D. Degree Program may be eligible for a stipend, depending upon availability and standing. Generally, incoming Ph.D. students are appointed to a graduate research assistantship for a period of up to 24 months. During this period, the Graduate School also pays tuition, but students are responsible for paying their fees. After 24 months, student stipends, tuition, and fees are to be paid by the major advisor or other funding sources.

To remain eligible for a stipend, students must be enrolled as a full-time student (minimum of 9 semester credit hours during the fall and spring terms and 1 credit hour during the summer session) and remain in good standing.

Students are not allowed to have outside employment concurrent with stipend support. Students will be given time off for official UAMS holidays. Additional time off needs to be approved by the mentor or GPIBS Director.

VI. Doctoral Advisory Committee

After a student selects a major advisor, the student and advisor together select a doctoral advisory committee composed of five members (including the major advisor). At least three members of the committee must be members of the relevant GPIBS track. The committee must include members who hold primary appointments in at least two departments at UAMS. Up to 2 members of the committee can be at-large. The list of committee members shall be ([REQUIRED FORM 4](#)) to obtain the Track Leader, GPIBS Director, and Dean of the Graduate School approvals.

The major advisor will chair the student's doctoral advisory committee. **The student is required to meet with the doctoral advisory committee at least twice annually (once during the fall and spring terms).** The first committee meeting MUST occur before the beginning of Scientific Communication Ethics 3 (SCE3) in mid-September. Prior to each committee meeting, the student and advisor will complete the Biannual Research Evaluation form and send it to the committee members before the meeting ([REQUIRED FORM 5](#)).

A Student Advisory Committee Report ([REQUIRED FORM 6](#)) must be completed and uploaded to the [GPIBS Online Portal](#). The biannual meeting requirement is designed to ensure adequate student progress and to keep open lines of communication between the student and the committee. Following each meeting, it is the student's responsibility to file the Committee Report with the Graduate School and to provide the Track Leader with a copy. Failure to meet with the doctoral advisory committee biannually will result in a review of student progress and status in the program by the GPIBS Advisory Committee.

A meeting between the doctoral advisory committee and the student may also be convened at the request of a simple majority of the committee members.

VII. Candidacy Examination

The Candidacy Examination (also referred to as the Qualifying Examination) marks the transition from coursework to independent dissertation research. Students should complete the exam before August 15, prior to the start of their third year in the program. The exam consists of two integrated components, a written research proposal and an oral defense, both of which are administered by the student's Doctoral Advisory Committee.

The Goals of the Qualifying Examination

The qualifying exam emphasizes independent scientific thinking, not just technical execution. Through the qualifying exam process, the committee should determine if the student can:

- Understand and apply fundamental biomedical science concepts, with a focus on knowledge specific to their field of study.
- Critically analyze data, which includes the ability to identify gaps in knowledge for their field, formulate hypotheses based on existing data and literature, and design rigorous and feasible experiments to test those hypotheses.
- Develop a logical sequence of experiments that addresses a central research question.
- Anticipate near-term and long-term challenges and have realistic backup strategies and approaches ready.
- Clearly communicate and defend their ideas and decisions in written and oral formats.

Written Research Proposal

Each student will write an original research proposal, primarily on their own. The proposal should be developed through ongoing discussion with the mentor and committee, and following SCE3 and SCE4 course guidelines. However, the written proposal must reflect the student's independent thinking and scientific reasoning.

- Extensive preliminary data are NOT necessary for the exam.
- The proposal need not match the student's dissertation project. However, a proposal aligned with the student's research is preferred, as students are strongly encouraged to develop their proposal for submission to external funding mechanisms (e.g., NIH F30 or F31 mechanisms, or foundation fellowships), where appropriate.
- The majority of the proposal should be composed of sections developed by the student, not rewritten from a proposal developed with their Major Advisor.
- A signed statement from both the student and the advisor must accompany the proposal, clearly describing the nature and extent of mentor input and affirming the student's primary authorship.
- The GPIBS Advisory Committee will provide a common due date for all GPIBS students to submit their proposals to their committee.

Proposal Format

The proposal should be formatted using the guidelines for an NIH F31 application (single-spaced, 11-point font or larger). The required sections are:

- Title page with contribution statement (1 page)
- Specific Aims (1 page)
- Research Strategy (6 pages)
- References (no page limit).
- Vertebrate Animals, Select Agents, Human Subjects (if needed)

Committee Review of the Written Proposal

- The Doctoral Advisory Committee has two weeks to review the written proposal and return a decision to the student. The committee will evaluate the proposal for scientific rigor, feasibility, clarity, and independence.
- If the proposal receives a favorable vote from 80% of the committee members, the student moves on to the oral defense. The committee may share comments to help the student prepare for the oral examination. Comments will be coordinated and communicated by the Major Advisor.

Re-examination

- If the written proposal is not deemed acceptable, the committee will provide written feedback that is coordinated and communicated to the student by the mentor. The student has one chance to revise and resubmit, within approximately 4 weeks.
- Failure to pass the written portion of the exam after two attempts may result in dismissal from the program, in accordance with GPIBS policies.

Oral Examination (Defense)

The oral examination evaluates the student's ability to defend their proposal, field questions in real time, and demonstrate both depth and breadth of knowledge. It is meant to assess not just the proposal itself, but the student's overall scientific readiness, including how well they have integrated prior coursework and foundational knowledge.

- The exam is scheduled approximately 2 weeks after the written proposal is approved.
- The Major Advisor chairs the oral examination.
- A program representative (e.g., Track Leader or designee) will attend the oral defense as a non-voting observer to ensure fairness and adherence to exam policies and procedures.
- Only committee members and the program representative attend the exam, unless the mentor and committee agree otherwise. The student must be told in advance if anyone else will be present.
- The student will prepare and present an approximately 20-minute presentation summarizing the proposal and field questions from the committee about the rationale behind experimental design and methodology, interpretation of expected and alternative outcomes, potential pitfalls and contingency plans, and concepts from the broader biomedical sciences.

Roles and Responsibilities

Student Responsibilities

- Develop the research proposal independently and take ownership of the ideas.
- Students are encouraged to seek feedback early and often, but must ensure that all final work reflects their own ideas and writing.
- Engage constructively with the mentor, committee, and SCE3/SCE4 groups for feedback during proposal development.
- Adhere to formatting, submission, and timeline requirements.
- Prepare thoroughly for both the written and oral components.
- Be transparent about contributions and uphold standards of authorship.
- Complete and submit [REQUIRED FORM 7](#) to the GPIBS Director at the conclusion of the oral examination.

Mentor Responsibilities

- Guide the scientific direction, scope, and feasibility, while keeping the intellectual ownership of the proposal firmly with the student.
- Give constructive, high-level input without drafting text, rewriting sections, or otherwise assuming authorship of the proposal.
- Help the student interpret feedback from committee members and prioritize revisions, while allowing the student to make final decisions.
- Set clear expectations around independence, timelines, and exam logistics early during the process.
- Flag and address any potential conflicts of interest (e.g., overlap between the proposal aims and ongoing funded work) to keep the process transparent and fair.
- Moderate the discussion during the oral examination and lead deliberations regarding the exam outcome.

- Ensure the student completes and submits [REQUIRED FORM 7](#) to the GPIBS Director at the conclusion of the oral examination.

Committee Responsibilities

- Keep mentorship and constructive feedback at the center of the process.
- Provide timely, constructive, and written feedback on the proposal.
- Ensure that the examination is fair, rigorous, and conducted in accordance with program policies.
- Evaluate the student's performance across both the written and oral components, taken as a whole.

Evaluation of the Oral Examination

The oral examination is graded as PASS or FAIL.

- [REQUIRED FORM 7](#) must be completed at the conclusion of the oral examination.
- A passing outcome requires a favorable vote from at least 80% of the committee members.
- Successful completion of the oral examination advances the student to Ph.D. candidacy.

Re-examination

- If the student does not pass, one re-examination attempt is permitted, to be scheduled within approximately 4 weeks.
- Failure to pass after two attempts may result in dismissal from the program, in accordance with GPIBS policies.

Extension Request

In exceptional circumstances, the GPIBS Advisory Committee may grant up to a six-month extension for the Candidacy Exam.

- The student and Major Advisor must submit a written justification to the GPIBS Director, who will bring the request to the GPIBS Advisory Committee for review.
- If the extension is granted but the Candidacy Exam is not completed by the end of the extension period, the student's academic standing may be in jeopardy.

Guidance and the Use of Generative AI for the Preliminary Exam

The use of generative AI in preparing the proposal must be disclosed. GPIBS guidance on AI use is provided in Section X. When appropriate, the student, their mentor, and the Doctoral Advisory Committee should discuss how AI and generative AI tools were used in preparing the proposal, and the committee should determine how it will evaluate the student's work accordingly.

VIII. Dissertation and Defense

The student's doctoral advisory committee shall be responsible for the approval of the written dissertation and the final oral examination (dissertation defense). After the written dissertation is completed and forwarded to all members of the advisory committee, the committee shall be allowed at least two weeks to evaluate it. After the committee has given their approval, the major advisor will schedule the dissertation defense. Not less than 14 days prior to the date of the dissertation defense, public notices must be posted on campus announcing the title of the dissertation, and the date, time, and location of the presentation. The final examination will be evaluated by the student's dissertation advisory committee and shall result in a grade of PASS or FAIL (a passing grade requires a passing vote of at least 80% of the committee members) ([REQUIRED FORM 8](#)). The student shall be notified of the outcome immediately after the final examination.

Upon passing the final oral examination, it is the responsibility of the student to prepare and submit final copies of the dissertation to the dissertation advisory committee and to the appropriate personnel in the UAMS Library for approval. According to the Graduate School regulations, the final

copies (meeting the standards of the library for dissertations) must be submitted to the UAMS Library at least 10 days before the degree is to be conferred.

IX. Appeals

A student has the right to appeal any decision made by the faculty. If a student feels a faculty decision is inappropriate, the student may appeal the decision to the Track Leader. A student who wishes to further appeal the decision of the Track Leader shall follow the Grievance Procedures outlined in the Graduate Student Handbook.

X. Guidance on the Use of Generative Artificial Intelligence by GPIBS Students

This section provides guidance and best practices for using generative artificial intelligence (GAI) tools in preparing GPIBS academic requirements, including the qualifying examination proposal, MS thesis, and doctoral dissertation, as well as related scholarly materials. GAI refers to AI systems that generate text, images, data, code, or other content in response to prompts. These guidelines are intended to uphold academic integrity, intellectual ownership, and research ethics in accordance with GPIBS standards and [UAMS Academic Affairs Policy 2.1.6](#). They apply across all disciplines, methodologies, funding sources, and research locations for GPIBS students.

The guiding principle is that GAI may support a student's work but cannot substitute for it. Scientific ideas, reasoning, analysis, and conclusions must come from the student. AI use requires active oversight, as students must verify outputs and exercise their own judgment throughout. Presenting AI-generated content as original work is plagiarism and will be treated as academic misconduct. Students must be able to explain and defend every aspect of their work.

Permitted Uses

Students may use AI tools for editorial support, including cleaning up grammar, improving clarity, and reorganizing text for better flow. This is comparable to various forms of traditional editorial assistance, such as having a colleague read a draft for readability. Students should save earlier versions of their work so they can demonstrate how their ideas developed over time. If materials will eventually be incorporated into publications or grant applications, any AI use should also be consistent with the policies of relevant journals and funding agencies

Prohibited Uses

Students should not use GAI to generate scientific content that they could not independently produce and defend. This covers the full range of scholarly work, including research questions, hypotheses, experimental design, data analysis, interpretation of results, conclusions, and references.

Disclosure

Students must disclose any GAI use in preparing GPIBS-related materials. Disclosures should describe which tools were used and how so that the committee can assess whether the use is consistent with these guidelines. Students should expect to discuss their AI use with their committee. When GAI has been used, the document must include a Generative AI Use Disclosure Statement in the Acknowledgments section (see appendix) that covers:

- Tool(s) used and version
- Purpose(s) of use
- Nature of prompts or queries
- Methods for validating outputs
- Steps taken to mitigate bias

Students should keep records of which AI tools and versions they used, the prompts they submitted, the outputs they received, and how they verified and validated those outputs. These records must be made available to advisors, committees, or compliance bodies on request.

Confidentiality, Research Compliance, Intellectual Property, and Legal Considerations

Students should consult with their major advisor before uploading unpublished data, manuscripts, grant proposals, or other confidential materials to an AI tool.

Identifiable data may not be entered into public or institutionally unapproved AI systems. Research data must only be handled in tools that have cleared institutional governance review, and all GAI use involving research data must comply with [UAMS policy \(2.1.6-UAMS-AI-Policy\)](#). Students are responsible for compliance with applicable regulations, including:

- [HIPAA](#) (Protected Health Information)
- [FERPA](#) (Educational records)
- Institutional IT and data governance policies

Students are also responsible for ensuring that:

- AI-assisted outputs do not violate copyright or third-party rights
- Proper attribution is provided

Students should also be aware that:

- AI-generated outputs may not be protected under U.S. copyright law
- Liability for misuse rests with the user

Student Responsibilities

AI-generated content can be inaccurate, reflect biases in training data, and lack genuine critical reasoning. Consequently, human judgment is essential at every step. Students are fully responsible for their work and must be able to explain and defend it without assistance from AI. Students must also complete any required training on AI and GAI compliance.

Mentor and Committee Responsibilities

Major advisors and committees are responsible for assessing whether students meet program and institutional standards, including their ability to explain and defend their work independently. Advisors should discuss acceptable AI use with their students, review disclosure statements, and ensure compliance with academic and research standards. Committees should evaluate the integrity and originality of the dissertation and may request documentation of AI use when questions arise.

Violations and Enforcement

Failing to disclose AI use or misrepresenting authorship is a violation of UAMS Graduate School academic integrity policies. Consequences may include:

- Academic misconduct proceedings and
- Dismissal from the program
- Delayed graduation
- Dissertation rejection
- Additional disciplinary action

Dissertation AI Disclosure Examples

Generative AI (GAI) Use Disclosure

I used a generative artificial intelligence tool, [XXXXXX], to assist with improving readability, organization, and language. These are my original ideas, reflections, interpretations of the clinical case, and conclusions.

I provided the AI tool with the assignment rubric, activity description, presentation materials that I used, and personal reflections from participation in [XXXXXXXXXX]. I made prompts to organize, edit for clarity, improve readability, verify the presence of required rubric elements, and IPEC competency domains.

To avoid potential harms associated with generative AI use, I ensured that the tool was not used to generate original scientific conclusions, clinical recommendations, or personal interpretations. All insights, reflections, and professional perspectives described in the document were developed by my own educational experience and participation in the activity. The AI tool was used only as a writing assistant to help organize and refine language.

I reviewed all generated text for accuracy and alignment with the assignment instructions. Any sections that did not accurately represent my interpretation of the experience were modified or removed.

I performed the final quality checks to ensure that the reflection accurately represented my own experience and insights. The final submitted document, therefore, represents my original reflective work, with generative AI used only to assist in editing and language refinement.

Declaration of generative AI and AI-assisted technologies in the writing process.

During the preparation of this work, the author used ChatGPT 5.5 to assist with readability, grammar, precision of language, and transitions.

In some sections, the author provided the AI tool with brief background information or contextual prompts and asked for suggestions regarding the structure, logical order, presentation, and organization of the material. The author then drafted the sections and selectively incorporated relevant suggestions provided by the AI tool.

To avoid potential harms associated with the use of generative AI, the author ensured that AI was not used to generate original scientific conclusions, clinical recommendations, or personal interpretations. All conclusions and interpretations were developed by the author. No figures, tables, or images in this study were generated by AI.

The author provided the AI with the text and created prompts to edit for clarity, improve readability, fix grammar issues, and make smooth transitions between sections. The author then reviewed and revised all AI-assisted text sentence by sentence to ensure accuracy. Any descriptions or information that were clearly redundant, did not accurately reflect the author's interpretation, or contained scientific inaccuracies were modified or removed.

After the writing was revised by the author, the final quality check was performed by the author with the assistance of the UAMS Writing Center. The author declares that this document represents the author's original scholarly work, with AI used only to assist with editing and language refinement.

XI. Track Curricula

Biochemistry and Molecular Biology Track

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (9 credit hours)

- 1 credit hour Seminar (BIOC 5105V)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)
- 3 credit hours Methods in Biomedical and Translational Sciences (BIOC 61093)
- 3 credit hours Current Trends in Biomedical Sciences (BIOC 51063)
- 1 credit hour Research (BIOC 5104V)

Each summer until graduation

- 1 credit hour Research (BIOC5104V)

Year 2 Fall (9 credit hours)

- 2 credit hours Seminar (BIOC 5105V)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 3 credit hours Biostatistics I (BIOS 50133) or Experimental Design and Quantitative Analysis (PCOL 51433)
- 3 credit hours Elective and/or Research (BIOC 5104V)

Year 2 Spring (9 credit hours)

- 2 credit hours Seminar (BIOC 5105V)
- 1 credit hour Scientific Communication and Ethics IV (PCOL 51231)
- 6 credit hours Elective and/or Research (BIOC 5104V)

Students must take a total of 4 credit hours of Special Topics in Biochemistry or Electives from outside the Track. Special Topics and Electives are typically taken from Year 2 onward. A variety of Special Topics courses are offered, and students should choose, with the advice and consent of his/her advisory committee, Special Topics courses that enhance his/her development as a scientist.

Elective courses administered by the Biochemistry Track that could be used to satisfy the Elective requirements include:

- Biology of Cancer (BIOC 61302, 2 credit hours)
- Any Special Topics in Biochemistry course, such as:
 - Special Topics in Manuscript Preparation for Publication (BIOC 6120V, 1 credit hour)
 - Special Topics in Biochemistry-Proteomics (BIOC 6120V, 2 credit hours)
 - Special Topics in Biochemistry-Proteins and Enzymes (BIOC 6120V, 2 credit hours)

Year 2 Summer

- 1 credit hour Research (BIOC 5104V)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 2 credit hours Seminar each semester (BIOC 5105V) excluding summer
- 7 credit hours of Dissertation Research (BIOC 6140V)

Cancer Biology Track:

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (9 credit hours)

- 1 credit hour Seminar (IBSD 5110V)[†]
- 1 credit hour Scientific Communication and Ethics II (PHAR 51191)
- 3 credit hours Biology of Cancer (BIOC 61302)
- 3 credit hours Electives*
- 1 credit hour Special Topics in IBS (IBSD 6100V)
- 1 credit hour Research (IBSD 5100V)

[†]For Seminar, students will attend the biweekly Cancer Institute Forum and cancer-relevant seminars offered in other tracks and Cancer Institute Grand Rounds such that a minimum of 1 seminar is attended each week.

*Electives are chosen at the discretion of the mentor and the student's Doctoral Advisory Committee. Possible courses include but are not limited to:

Pathologic Basis of Disease (PATH 61103 – 3 credits), Histology and Laboratory Screening (PATH 61303 – 3 credits), Immunology (MBIM 51033 - 3 credits, Molecular Cell Biology (PHYO 61044 – 4 credits), Systems Therapeutics (PHAR 61003 – 3 credits), Cancer Epidemiology (EPID 53333 – 3 credits), Graduate Pharmacology and Therapeutics (PHAR 51073 – 3 credits), and Introduction to Bioinformatics for Cancer Genomics (BMIG 52203 – 3 credits).

Year 1 Summer (1 credit hour)

- 1 credit hour Research (IBSD 5100V)

Year 2 Fall (10 credit hours)

- 1 credit hour Seminar (IBSD 5110V)[†]
- 1 credit hour Scientific Communication and Ethics III (PHAR 51201)
- 3 credit hours Experimental Design and Quantitative Analysis (PCOL 51433)
- 3 credit hours Electives*
- 1-3 credit hours Special Topics in IBS (IBSD 6100V)
- 1 credit hour Research (IBSD 5100V)

Year 2 Spring (9 credit hours)

- 1 credit hour Seminar (IBSD 5110V)[†]
- 1 credit hour Scientific Communication and Ethics IV (PHAR 51231)
- 3 credit hours Electives*
- 1 credit hour Special Topics in IBS (IBSD 6100V)
- 3 credit hours Research (IBSD 5100V)

Year 2 Summer (1 credit hour)

- 1 credit hour Research (IBSD 5100V)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion (Fall and Spring Semesters)

- 1 credit hour of Seminar (IBSD 5110V)[†]
- 1 credit hour of Special Topics in IBS (IBSD 6100V)
- 7 credit hours of Doctoral Dissertation (IBSD 6200V). Must complete a minimum of 18 hours to graduate.

Summer semester

- 1 credit hour of Doctoral Dissertation (IBSD 6200V)

Cell Biology and Physiology Track:

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (9 credit hours)

- 1 credit hour Seminar/J club (PHYO 51051)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)
- 3 credit hours General Physiology (PHYO 51003)
- 3 credit hours Biostatistics I (BIOS 50133) or Experimental Design and Quantitative Analysis (PCOL 51433). May take other selective or biostatistics courses in Year 2 (Fall).
- 1 credit hour Elective and/or Research (PHYO 5105V)

Each summer until graduation

- 1 credit hour Research (PHYO 5105V)

Year 2 Fall (9 credit hours)

- 1 credit hour Seminar/J club (PHYO 51051)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 3 credit hours Molecular Cell Biology (MBIM 61044)
- 4 credit hours Elective and/or Research (PHYO 5105V)

Year 2 Spring (9 credit hours)

- 1 credit hour Seminar/J club (PHYO 51051)
- 1 credit hour Scientific Communications and Ethics IV (PCOL 51231)
- 7 credit hours Elective and/or Research (PHYO 5105V)

A minimum of 24 credit hours of coursework is required. Electives are chosen based on advice from the student's mentor and/or advisory committee. Cellular and Molecular Endocrinology (PHYO 5104) is a potential elective that is strongly recommended for students in the CBP track.

Year 2 Summer

- 1 credit hour of Research
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 1 credit hour Seminar/J club (PHYO 51051) each semester excluding summer
- 9 credit hours of Dissertation Research (PHYO 6200V). Must complete a minimum of 18 hours to graduate.

Microbiology and Immunology Track:

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (10 credit hours)

- 1 credit hour Seminar (MBIM 51061)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)

- 3 credit hours Basic Principles of Microbiology (MBIM 51043)
- 3 credit hours Immunology (MBIM 51033)
- 1 credit hour Current Topics in Microbiology (MBIM 51091) or Immunology (MBIM 51101)
- 1 credit hour Research (MBIM 5107V)

Each summer until graduation

- 1 credit hour Research (MBIM 5107V)

Year 2 Fall (11 credit hours)

- 1 credit hour Seminar (MBIM 51061)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 1 credit hour Current Topics in Microbiology (MBIM 51091) or Immunology (MBIM 51101)
- 4 credit hours Advances in Microbiology and Immunology I (MBIM 61044)
- 3 credit hours Biostatistics I (BIOS 50133) or Experimental Design and Quantitative Analysis (PCOL 51433) may be taken in the Spring of Year 2
- 1 credit hour Research (MBIM 5107V)

Year 2 Spring (10 credit hours)

- 1 credit hour Seminar (MBIM 51061)
- 1 credit hour Scientific Communications and Ethics IV (PCOL 51231)
- 1 credit hour Current Topics in Microbiology (MBIM 51091) or Immunology (MBIM 51101)
- 4 credit hours Advances in Microbiology and Immunology II (MBIM 61054)
- 3 credit hours Research (MBIM 5107V)

Year 2 Summer

- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 1 credit hour Seminar (MBIM 51061) each semester excluding summer
- 8 credit hours of Dissertation Research (MBIM 6203V). Must complete a minimum of 18 hours to graduate.
- 1 credit hour Current Topics in Microbiology (MBIM 51091) or Immunology (MBIM 51101) each semester excluding summer

Neuroscience Track:

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (12 credit hours)

- 1 credit hour Seminar (NBDS 51051)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)
- 3 credit hours Basic Neuroscience (NBDS 51003) (required)
- 3 credit hours Cellular and Developmental Neuroscience (NBDS 51043) (required)
- 3 credit hours Biostatistics I (BIOS 50133) or Experimental Design and Quantitative Analysis (PCOL 51433)
- 1 credit hour Research (NBDS 5107V)

Each summer until graduation

- 1 credit hour Research (NBDS 5107V)

Year 2 Fall (10 credit hours)

- 1 credit hour Seminar (NBDS 51051)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 8 credit hours of Electives, and/or Research (NBDS 5107V)

Year 2 Spring (10 credit hours)

- 1 credit hour Seminar (NBDS 51051)
- 1 credit hour Scientific Communications and Ethics IV (PCOL 51231)
- 8 credit hours Electives, and/or Research (NBDS 5107V)

A minimum of 6 hours of elective didactic courses are to be chosen based on advice from the student's advisor and/or advisory committee. These courses do not have to be NBDS courses.

Year 2 Summer

- 1 credit hour Research (NBDS 5107V)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 1 credit hour Seminar (NBDS 51051) each semester excluding summer
- 9 credit hours of Dissertation Research (NBDS 6200V). Must complete a minimum of 18 hours to graduate.

Pathobiology Track:

Year 1 Fall (10 credit hours)

- GPIBS Core is described in Section I.

Year 1 Spring (12 credit hours)

- 1 credit hour GPIBS Seminar (IBSD 5110V)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)
- 3 credit hours General Physiology (PHYO 51003)
- 3 credit hours Histology and Investigative Pathology (PATH 61303)
- 3 credit hours Biostatistics (BIOS 50133) or Experimental Design and Quantitative Analysis (PCOL 51433)
- 1 credit hour Research (IBSD 5100V)

Each summer until graduation

- 1 credit hour Research (IBSD 5100V)

Year 2 Fall (10-12 credit hours)

- 1 credit hour GPIBS Seminar (IBSD 5110V)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 3 credit hours Pathologic Basis of Disease (PATH 61103)
- 3-6 credit hours Electives*
- 2-4 credit hours Research (IBSD 5100V)

Year 2 Spring (10-11 credit hours)

- 1 credit hour GPIBS Seminar (IBSD 5110V)
- 1 credit hour Scientific Communications and Ethics IV (PCOL 51231)
- 3-6 credit hours Electives*

- 5-6 credit hours Research (IBSD 5100V)

*Electives are chosen at the discretion of the mentor and the student's advisory committee. Possible courses include but are not limited to:

Biology of Cancer (BIOC 61302), Basic Biology of Aging (PHYO 61033), Immunology (MBIM 51033), Molecular Epidemiology (EPID 53353), Graduate Molecular and Cellular Endocrinology (PHYO 51033), Human Development (NBDS 51093), Molecular Cell Biology (MBIM 61044), Systems Therapeutics (PCOL 61003), Cancer Epidemiology (EPID 53333), Epidemiology of Infectious Disease (EPID 53263), and Basic Neuroscience (NBDS 51003)

Year 2 Summer

- 1 credit hour Research (IBSD 5100V)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 1 credit hour Seminar (IBSD 5110V) each semester excluding summer
- 9 credit hours of Dissertation Research (IBSD 6200V). Must complete a minimum of 18 hours to graduate.

Pharmacology, Toxicology and Experimental Therapeutics

Year 1 Fall (10 credit hours)

- GPIBS Core described in Section I

Year 1 Spring (10 credit hours)

- 1 credit hour Seminar (PCOL 51091)
- 1 credit hour Scientific Communication and Ethics II (PCOL 51191)
- 3 credit hours Principles and Methods of Pharmacology and Toxicology (PCOL 51053)
- 3 credit hours General Physiology (PHYO 51003)
- 1 credit hour Journal Club (PCOL 51151)
- 1 credit hour Research (PCOL 51031)

Each summer until graduation

- 1 credit hour Research (PCOL 51031)

Year 2 Fall (10 credit hours)

- 1 credit hour Seminar (PCOL 51091)
- 3 credit hours Graduate Pharmacology and Therapeutics (PCOL 5107)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 3 credit hours Elective (choose to take in Fall or Spring of 2nd year)*
- 1 credit hour Journal Club (PCOL 51151)
- 1 or 4 credit hours Research (PCOL 51031) (based on taking elective or not)

Year 2 Spring (10 credit hours)

- 1 credit hour Seminar (PCOL 51091)
- 1 credit hour Scientific Communications and Ethics IV (PCOL 51231)
- 3 credit hours Elective (choose to take in Fall or Spring of 2nd year)*
- 3 credit hours Experimental Design and Quantitative Analysis (PCOL 51433)
- 1 credit hour Journal Club (PCOL 51151)

- 1 or 4 credit hours Research (PCOL 51031) (based on taking elective or not)

*The elective must include 3 additional course credit hours based on advice from the student's mentor and/or advisory committee. Systems Therapeutics (PCOL 62101) is highly encouraged.

Year 2 Summer

- 1 credit hour Research (PCOL 51031)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 to Degree Completion

- 1 credit hour Seminar (PCOL 51091) each semester excluding summer
- 9 credit hours of Dissertation Research (PCOL 51241). Must complete a minimum of 18 hours to graduate.

M.D./Ph.D

Year 1 (Fall, Spring, and Summer)

- M1 and M2 courses satisfy the first-year Graduate School course requirements.

Year 2 Fall (9 credit hours)

- 1-2 credit hours Seminar*
- 1 credit hour M.D./Ph.D. Clinical Transitions (IBSD 61101)
- 1 credit hour Scientific Communication and Ethics III (PCOL 51201)
- 0 to 6 credit hours of Electives[#] and/or Biostatistics[±]
- 1 to 6 credit hours Research (IBSD 5100V Research)

Year 2 Spring (9 credit hours)

- 1-2 credit hours Seminar*
- 1 credit hour M.D./Ph.D. Clinical Transitions (IBSD 61101)
- 1 credit hour Scientific Communication and Ethics IV (PCOL 51231)
- 0 to 6 credit hours of Electives[#] and/or Biostatistics[±]
- 1 to 6 credit hours Research (IBSD 5100V Research)

Year 2 Summer

- 1 credit hour Research (IBSD 5100V Research)
- Candidacy Exam (research proposal submitted to committee followed by oral defense)

Years 3 and 4

- 1-2 credit hours Seminar*
- 1 credit hour M.D./Ph.D. Clinical Transitions (IBSD 61101) each semester excluding summer
- 6-7 credit hours of Doctoral Dissertation (6200V)

M.D./Ph.D. students must complete a minimum of:

- 4 credit hours of Research (IBSD 5100V Research) or electives
- 6 credit hours of Seminar
- 18 credit hours of Doctoral Dissertation

*Seminar courses can be any of the following: IBSD 5110V IBS Seminar / BIOC 5105V Biochemistry Seminar / MBIM 51061 Microbiology & Immunology Seminar / PHAR 51091 Pharm-

Tox Seminar / PHYO 51051 Physiology Seminar / NBDS 51051 Neurobiology Seminar. (Each seminar is 1 credit hour, except for Biochemistry, which is 2 credit hours.)

[#]Electives are based on advice from the student's mentor and/or advisory committee.

[±]The Biostatistics requirement can be satisfied by Biostatistics I (BIOS 50133) or Experimental Design and Quantitative Analysis (PHAR 51433)

GPIBS Required Forms:

<https://gradschool.uams.edu/gpibs/gpibs-forms/>

FORM 1 (Rotation evaluation). Minimum of 3 uploaded during the Fall semester of Year 1.

FORM 2 (Track and Mentor Form). End of Fall semester of Year 1.

FORM 3 (Ph.D. Mentor/Mentee Contract). Spring semester of Year 1

FORM 4 (Ph.D. Committee Meeting Roster). By the end of the Summer following Year 1.

FORM 5 (Biannual Evaluation Report). Twice yearly starting in Year 2.

FORM 6 (Ph.D. Committee Meeting Report). Twice yearly starting in Year 2.

FORM 7 (Candidacy Exam Form). Summer following Year 2.

FORM 8 (Final Defense Form). Following dissertation defense.