

Tuskegee University
College of Veterinary Medicine, Nursing and Allied Health
Doctoral Degree (PhD) in Interdisciplinary Pathobiology (IDPB)

Contact Information: Dr. Ayman I. Sayegh, Associate Dean, Research and Advanced Studies
sayeghai@mytu.tuskegee.edu; Ph.: (334) 727-8149
Ms. Tammie Hughley, Manager/Coordinator
hughleyt@mytu.tuskegee.edu; Ph.: (334) 724-4540

Degree Offered: Doctoral Degree (PhD) in Interdisciplinary Pathobiology (IDPB)

* For additional information please refer to the Graduate Handbook.

The Interdisciplinary Pathobiology graduate program at the College of Veterinary Medicine, Nursing and Allied Health produces successful academicians and investigators in the areas of cancer cell biology, HIV/AIDS, cancer and nano-therapy, reproductive biology, risk analysis / epidemiology, food safety and control of food intake.

Admission Requirements:

- Applicants must have completed the B.S. degree from an accredited college or university.
- Cumulative GPA of 3.0 or better
- Completed Online Application and Application Fee
- Official Transcripts from all colleges/universities (International Students must have transcripts through World Education Services –WES)
- GRE Scores at least 540 (old) or 156 (new), less than 5 years old
- Personal Statement
- 3 Recommendation Letters
- Resume or Curriculum
- *ETS/WES Scores (International students only)
- TOEFL (International students only)
- Affidavit of Support and Bank Statement (International students only)

Graduation Requirements:

- Core Courses: 10
- Elective Courses: 17
- Research/Thesis: 30
- Admission to Candidacy
- Passing of the Final Oral Examination

Advisory Committee:

During the first semester of his/her study in the IDPB, PhD program, the student and his/her Major Professor must recommend to Department Head for approval an Advisory Committee consisting of a minimum of four members including the Major Professor and the Department Head. The Advisory Committee shall also serve as the Examination Committee.

Core Courses (42 credits): Required by All Students

| Course Number | Course | Credit |
|---------------|--------|--------|
|---------------|--------|--------|

The student's Advisory Committee may recommend transfer credits for up to 9 hours for graduate courses taken by the student at Tuskegee University as part of another graduate program or at any other institution. Transfer credits may be recommended under both core and elective categories.

Admission to Candidacy:

Admission to Candidacy for students who are enrolled in the Doctoral program in Interdisciplinary Pathobiology include the following:

1. Completion of all course work required for the PhD program (more than 30 credits for the students starting with a MS degree, or 60 credits for those starting with a BS degree).
2. Passing a written qualifying examination.
3. Successful oral presentation of research proposed to the Advisory Committee. Students who fail the qualifying examination after two attempts may apply for a Master's degree in any of the established programs at Tuskegee University. In such cases, the student will have to meet the oral examination requirements of the Master's degree Graduate Program.

Seminars:

A student pursuing the Doctoral Degree in Interdisciplinary Pathobiology must present two seminars. This course includes practical examples of proper conduct of research, issues with copy right violation, plagiarism, interpretation of published work among other academic requirements including discussions on basic research methods, and a review of current research topics. Oral presentations are required.

Thesis:

The final draft of the thesis/dissertation must be filed with the student's Advisory Committee at least 30 days before the date listed in the university calendar for final copies to be submitted during the semester in which the student expects to graduate. The student must present to the Dean of Graduate Programs a "Preliminary Approval Sheet" (PAS) bearing the signature of the Major Professor before the final oral examination may be scheduled and before copies of the thesis/dissertation are distributed to members of the Examining Committee.

After the "Preliminary Approval Sheet" has been signed, it should be submitted to the Dean of Graduate Programs before the final examination is scheduled and before the final draft of the thesis/dissertation is prepared for final approval. Approval of the thesis/dissertation in its final form rests with the Examining Committee.

| List of Core Courses | |
|-----------------------------|--|
| MBIO 0660 | BIOMEDICAL STATS. CR. 3. The conceptual and theoretical bases of biomedical research designs are examined. Appropriate statistical methods, which correspond to and are consistent with the biomedical research design, will be studied. These include both parametric and nonparametric methods. Descriptive statistics, probability distributions, comparative statistics (t test, ANOVA) and causal analysis (chi square, regression and other multivariate techniques) will be covered with emphasis on inferential aspects of statistics and on the interpretation of results which would be rational and meaningful in biomedicine. |
| IBSC 0603 | INTEGRATIVE BIOCHEMISTRY. CR. 4. IBS course developlati8.9(n)BS course developaBIOMC |

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| | emphases on model systems) under-girded by chemistry that bear on the aforementioned (biochemistry). Biochemical Topics: Context-Living Systems, Protein Structure and Function, Enzymes and Co-Enzymes, Metabolism |
| MBIO 0663 | BIOMEDICAL INFORMATICS. CR. 3. This course is designed to enable biomedical students to exploit information technology (IT) to manage the expansive biomedical knowledge base systems in advancing their scholarly and professional activities. The course will emphasize the use of information technologies to create compound scientific documents, access and examine the Internet and the World wide Web(WWW), develop hypermedia systems and scientific presentation tools. Current use of bioinformatics in the new emerging area of genomics will be examined. Hands-on experience in computer applications will be emphasized. |
| IBSC 0605 | INTEGRATIVE MOLECULAR BIOLOGY I. CR. 4. This is a graduate-level, integratively-taught course that explores the origin, modification and interactive properties of living organisms, focusing on nucleic acids. This course is team taught, with different faculty teaching, based on their areas of expertise. |
| IBSC 0606 | INTEGRATIVE MOLECULAR BIOLOGY II. CR. 4. This course is a continuation of the concepts began in IBSC 605, IBS Molecular Biology, Part I and thus constitutes an academic year, a two semester, ordered and integrative examination of molecular, cellular, organismic, developmental, populational and ecological phenomena –whose conceptual origins rest with the unitary linkage between chemical, biological and geological cycles that support life on Earth. This second part of Molecular Biology focuses largely on RNA, post-translational processes and other complex phenomena with molecular bases. This course will include discussions of applications to RNA (ex. Cancer, Immune function, Embryology, and other topics, per the instructors' discretions. |
| MBIO 0600 | SEMINAR I - MICROBIOLOGY. CR. 1. This course includes practical examples of proper conduct of research, issues with copy right violation, plagiarism, interpretation of published work among other academic requirements including discussions on basic research methods, and a review of current research topics. Oral presentations are and/or reports are required. |
| IDPB 0602: | SEMINAR II. CR. 1. This course includes practical examples of proper conduct of research, issues with copy right violation, plagiarism, interpretation of published work among other academic requirements including discussions on basic research methods, and a review of current research topics. Oral presentations are and/or reports are required. |
| IDPB 0800 | PHD RESEARCH & DISSERTATION. CR. 30. This course deals with continuation of dissertation research for a PhD student, the candidate will have a specific topic related to any research in the area of Microbiology, Molecular Biology and Nano-Particle based diagnostic approach for isolation of microbial pathogens etc. |

List of Elective Courses

Infectious Disease
MBIO 0523

ADVANCED IMMUNOLOGY

IDPB 0601

animal diseases are discussed. Participants are provided an opportunity to utilize various advanced immunologic and molecular biologic techniques that have application in microbial research. **Prerequisite: MBIO 0411 and MBIO 0412 or their equivalent, and approval of the course coordinator.**

