Tuskegee University College of Veterinary Medicine

Office of the Associate Dean for Research and Advanced Studies (ADRAS)

Graduate Studies Information Package (Supplement to the Tuskegee University Graduate Handbook)

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A. Program descriptions

a. Interdisciplinary Pathobiology (IDPB) PhD Program, overview

The goal of Interdisciplinary Pathobiology (IDPB) graduate program at the College of Veterinary Medicine is to produce successful academicians and investigators in disciplines that intersect different topics in human, animal, and environmental health. Disciplines with strength areas of faculty in IDPB include cancer biology and therapy, reproductive and developmental biology, risk analysis/epidemiology, food safety and microbiology, nanobiotechnology, infectious diseases, toxicology, and control of food intake. The TU program will utilize a One Health concept based on systems theory to facilitate transformative learning that incorporates rich dialogue, critical self-reflection, and behavioral change for students, faculty, and communities. Additionally, community-based participatory research, and other active learning technologies of the social sciences are integrated with biomedical sciences and public health, utilizing wet laboratory, computerized modeling and modern information technologies. It will seek partnerships with other key disciplines within TU as well as externally.

The design of the program is multidimensional but interdisciplinary including local, national and global challenges and partnerships. A key area of strength is the partnership and collaborative linkages that has been developed nationally and internationally. We have partnerships with several USDA as well as CDC laboratories and universities in Egypt, Ethiopia, Uganda, Kenya, Ghana, India and the University of the West Indies in Trinidad and Tobago to name a few. We are actively engaged in advancing Global Health Systems that inter-relate health and development as integrative activities that are key in effective development of the third world.

IDPB program primarily focuses on the following areas:

- 1. Epidemiology & Risk Analysis (Epidemiology, Public health)
- 2. Infectious Diseases/Global Health (Microbiology, Immunology, Parasitology, Pathology), Food Safety, Zoonoses and Emerging Global Threats
- 3. Translational Medicine (applying research to reduce prevalence of health disparity diseases such as obesity/diabetes, cancer, HIV/AIDS, cardiovascular diseases), using technologies of the 21st century such as stem cell biology, reproductive toxicology, behavioral sciences and others.

The required credit hours to receive the PhD degree in IDPB are 60. Students who enter the IDPB Ph.D. Program with a DVM, MD, DDS, MPH, or Masters Degree in Nursing & Allied Health, or in any Biological Sciences and other relevant fields will be required to complete a minimum of 30 credits of graduate level courses including at least 16 credit hours of core courses (Statistics, Molecular Biology, Bioinformatics, Seminars, etc.). A student entering the program with only a B.S degree must complete another 30 credit hours of course work. Approval of the course work by the Advisory Committee is required. Some pre-requisite courses may be required, depending on the student's background. Students must complete thirty (30) credits of research at the doctorate level. Admission to candidacy will require completion of all core courses for the Ph.D. degree, passing qualifying examination in the core courses, successful public oral presentation of the proposed research and approval by the Advisory Committee, and submission of the form 'Application for Admission to Candidacy'.

A minimum of 4 graduate faculty members including the Faculty Advisor will serve as both the Advisory and Examination Committee. Faculty Advisors and graduate students are encouraged to include 1-2 external faculty with expertise in the subject area. The ADRAS may also request the inclusion of external faculty in the Advisory and Examination Committee, if necessary.

Table 1. IDPB program core and required courses

Course	Course Number	Credit
Bio Statistics I	EVSC 0500	3
Bio Statistics II	EVSC 0501	3
Integrative Biochemistry I	IBSC 0603	4
Integrative Molecular Biology I	IBSC 0604	4
Graduate Seminar I	MBIO 0600	1
Graduate Seminar II	IDPB 0602	1
Ph.D. Research/Thesis	IDPB 0800	30
Candidate for Degree	MBIO/PHSI/IBSC 0754	-

The remaining **30 credit hours** will be selected from graduate-level electives listed in the attached document, or as recommended by the Faculty Advisor/s.

b. Master of Science in Veterinary Sciences (MVSc), overview

<u>Thesis Option</u>: The Master of Science in Veterinary Science graduate program currently existing in the College of Veterinary Medicine aims to produce candidates successful in focused areas of Veterinary Sciences and One Health research under the mentorship of a faculty member whose interest and expertise complements the interest of the candidate. Applicants to the program are expected to have a specific interest area or career goal, based on which the graduate program contents, thesis project, and relevant course selections will be determined. Candidates have up to 2 years to complete the MVSc program, with successful completion of a thesis project, including approval of completion by the Advisory Committee of graduate faculty. A minimum of 3 members, including the Faculty faculty advisor will constitute the Committee.

Table 2. MVSc Thesis program core and required courses

Core Courses	Course Number	Credit
Biostatistics I (or biomed. stats.)	EVSC 0500	3
Biostatistics II	EVSC 0501	3
Biochemistry	CHEM 0561 or IBSC 0603	3
Seminar I	MBIO 0600 or PHSI 0600	1
Research / Thesis	MBIO 0700 or PHSI 0700	6
		TOTAL 16

The remaining **16 credit hours** will be selected from the elective graduate-level courses listed in the attached document or as recommended by the Faculty Advisor.

<u>Non-Thesis Option</u>: Admission or switching to the Master of Science in Veterinary Science non-thesis option requires direct approval by the dean of the College, and specific pre-requisites need to be met. Course options and requirements for the non-thesis option differ from other graduate programs; therefore, all students in non-thesis option must consult with ADRAS or the Dean before registering for any graduate courses. Three Graduate Faculty, including the Faculty Advisor and ADRAS, will serve as the Advisory Committee for a non-thesis graduate student.

Table 3. MVSc Non-Thesis program core and required courses

Core Courses	Course Number	Credit
Biostatistics I (or biomed. stats.)	EVSC 0500	3
Biostatistics II	EVSC 0501	3
Biochemistry	CHEM 0561 or IBSC 0603	3
Seminar I	MBIO 0600 or PHSI 0600	1
Non-Thesis Report	MBIO 0700 or PHSI 0700	3
		TOTAL 13

The remaining **19 credit hours** will be selected from the elective graduate-level courses listed in the attached document, or as recommended by the Faculty Advisor.

B. Admissions

- All applications to TUCVM graduate programs are submitted and pre-screened by the TU Graduate School. Applicants are expected to have checked the programs to which they are applying to be admitted into. Approved applications are forwarded to the ADRAS for selection and admission decisions.
- Admission to the program is determined by the ADRAS or Director of Graduate Programs, based on the recommendation of the TUCVM Graduate Programs Admissions Committee. Admission or denial decision is communicated to the applicants by the Tuskegee University Graduate School. Competitive candidates with **DVM**, **MD**, **DDS**, **MPH**, **MS** degrees in Veterinary Science or Nursing should have a cumulative grade point average of 3.00 or higher and have completed the general and the subject parts of the Graduate Record Examination (GRE). Waiver for any of the requirements or required documents will be decided by ADRAS in consultation with Dean of the College.
- Candidates who have completed a *Master's Degree (M.S.)* in areas related to Pathobiology (e.g., the Biology, Chemistry, Physical sciences, Health, Food, Nutritional, Agricultural, Environmental, or Natural Resource Sciences, or who have a strong undergraduate and graduate grounding in the biosciences are eligible to receive admission to IDPB.
- Candidates who have completed a *Bachelors Degree* (B.S.) in areas e.g., the Biological, Chemical, Health, Food, Nutritional, Agricultural, Environmental, or Natural Resource Sciences, or who have strong undergraduate background in the biosciences are eligible to receive admission to the IDPB Doctoral Program. If necessary, the student may be required to take additional undergraduate courses. Obtaining a M.S. degree in one of the established programs at Tuskegee University as an intermediate step to the Ph.D. Degree is an option but not a requirement.
- Three letters of recommendation from faculty or others who have known the student in an academic or research capacity, official transcripts from each institution attended, and a statement of goals and potential research focus areas are required.
- Applications from International students especially those with financial support from their governments will be considered for admission. However, they should get their transcripts evaluated course-by-course by the WES, New York and enclose them with the International Student Application. International students who are granted admission TUCVM graduate programs must consult with the Tuskegee University Office of International Programs, concerning legal documents to enter and/ or stay in the United States for the duration of program.
- After students are granted admission, they meet with the ADRAS or Director of Graduate Programs for initial guidance. By the second semester of enrollment, the student must form his/her Advisory Committee, consisting of the Faculty Advisor, and a minimum of three to four other faculty members who are knowledgeable in the student's research area. This Advisory Committee will be formed from the faculty

designated as Graduate Faculty by TU. The Dean of the Graduate School upon the recommendation of the ADRAS and the Dean of the College of Veterinary Medicine (CVM) formally approves the Advisory Committee. This approval process accompanies the student's Application for Candidacy to the TU Graduate School, in which the members of the Advisory Committee must be listed.

- Admission to the MVSc program options also follows the guidelines and requirements set by the TU Graduate School. Applications forwarded to the TUCVM are reviewed by the TUCVM Graduate Programs Admissions Committee. Admission to the program is contingent upon the academic background and interest of the candidate, as well as availability of mentors and resources in the candidate's interest area. Admitted MVSc (both Thesis- and Non-thesis options) students are initially advised by the ADRAS for one semester, unless they already have identified a graduate faculty Advisor. From the second semester onwards, students are expected to identify a project and a Faculty Advisor, and assemble an Advisory Committee.
- In all cases, the student Advisory Committee will also serve as the Examination Committee.

C. Transfer of Credits

Students who have earned credits for graduate courses at other institutions may request the CVM graduate Advisor faculty to consider those courses for transfer credit. The Faculty Advisor and the Advisory Committee will determine the courses and the number of credits to be transferred. The courses to transfer must be of graduate level, and related to the graduate degree pursued. Transfer courses must be listed in the **Application for Admission to Candidacy** form. The process to request transfer of credits is outlined in the TU Graduate Student Handbook.

D. Financial Resources & Student Support

Enrolled graduate students may be financially supported by any of the following mechanisms:

- 1. Institutional grants.
- 2. Individual faculty grants.
- 3. Foreign students supported by their governments or other international organizations.
- 4. Tuition waivers: Dean of the CVM may request TU's Provost and President to approve tuition waivers for graduate students. These tuition waivers will be reserved for U.S citizens and permanent residents, and will require satisfactory justification/s.

If a faculty member has on-going research projects that would fully or partially pay for graduate student stipend and/or tuition, the ADRAS and the faculty will consult with the Dean of the CVM on the conditions for any additional stipend/tuition support to the student, or for other research-related needs.

E. Time Limits for Completion and for Financial Support

Students are expected to complete their graduate studies within the time limit indicated in the TU Graduate Handbook (section IV.c.). However, students receiving financial support through the university or external funding agencies will require periodic review of progress to decide on the continuation of financial support. Provision of support the first year doesn't guarantee support for additional years if the student is not in good academic standing or making acceptable progress in the program. Financial support can be rescinded at any time for any conduct deemed unbecoming of a graduate student, including unsatisfactory academic standing, violation of CVM or TU policies and procedures, unexplained absences, failure to appear or to submit requested program documents, unsatisfactory academic performance, lack of productivity, unethical conduct of research and unprofessional behaviors. In addition to academic achievement, graduate students in the CVM are expected to manifest professionalism at all times. This includes dress, decorum, language, and respectful interactions with Tuskegee University faculty, staff and students. Students receiving financial support through the College of Veterinary

Medicine must complete their program within the timeline approved by their Faculty Advisor and Graduate Committee. Financial support will terminate at the end of the approved timeline. Requests for an extension can be made by the Faculty Advisor with approval from the Graduate Committee to the Dean of the College. Approval of the request depends on availability of funds, and the request must be submitted in writing with justification for the extension and the new timeline for completion of the degree.

F. Laboratory or Teaching Assistantships (LA/TA)

Based on specific needs of the academic, research or service areas within the College, graduate students may be asked to do Laboratory or Teaching Assistantships in TUCVM. Students fully or partially financially supported through the TUCVM will not be compensated for the TA/LA services. Externally funded students may also serve as TA/LA to gain academic experience. Besides approval by the dean, compensation of externally funded students for TA/LA may require permission from the funding agency or may depend on visa restrictions.

G. IDPB Course Work & Dissertation

For those who completed a master's degree, the minimum course work requirement for IDPB would be 30 credit hours. No additional transfer of credits is permitted. However, depending on the student's background and courses previously taken, the Faculty Advisor and the Advisory Committee may request waiver of a Core course, or ask a student to take additional prerequisites or other graduate level courses. With recommendation for Admission to Candidacy, the student's Advisory Committee approves the course work as well as the research topic, which will be finally approved by the Dean of Graduate School.

All IDPB students will be required to enroll for at least 30 credit hours of research. Students registering for research must submit a report to their advisor/s at the end of each semester in which the research hours are taken. An "I" grade may be assigned for research and changed to an appropriate letter grade (A-D) only after the student defends his/her dissertation.

Dissertation format and requirements are explained in the Graduate Student Handbook.

H. MVSc Course Work and Thesis/ Non-thesis Report

Students enrolled in MVSc program must complete a total of 16 credit hours of required course work and additional 16 or 19 credits of electives, research, or non-thesis report. Depending on the student's background and courses previously taken, the Faculty Advisor and the Advisory Committee may request waiver of a Core course, or ask a student to take additional prerequisites or other graduate level courses. With recommendation for Admission to Candidacy, the student's Advisory Committee approves the course work as well as the research topic, which will be finally approved by the Dean of Graduate School.

Non-thesis students may only take, in addition to the core courses, selected courses recommended by the Faculty Advisor or the Advisory Committee. The non-thesis report will include a comprehensive review or report on a topic agreed upon by both the student and Faculty Advisor. The report must follow a pre-designed template/format available from office of the ADRAS, and be submitted to the Faculty Advisor and Advisory Committee for grading.

I. Admission to Candidacy to the Degree

Admission to Candidacy is a critical step in CVM graduate programs. Students are PhD or MVSc candidates <u>only</u> after their candidacy is approved by the Graduate School. Graduate students admitted to the TUCVM must apply for candidacy after 30 Credit hours of course work for PhD, or 15 credit hours of course work for MVSc. At the time of application for admission to candidacy, students must have prepared a complete research project proposal, assembled an Advisory Committee, and publicly presented and defended the proposal. Public defense of the proposal ensures that the student's basic knowledge of the subject area is solid, and constructive suggestions on the proposal are not missed out. The Advisory Committee may separately meet with the student to advise the student on study design, statistical considerations, methodology, potential setbacks and alternatives, timelines, etc.

Requirements for admission to candidacy are: 1) Completion of all core courses for the graduate degree, 2) Passing of the core courses with minimum of a B grade, 3) Successful public oral presentation and defense of the proposed research, and approval of the proposal by the Advisory Committee and, 4) Submission of a completed application for Admission to Candidacy. Requirements for the Masters degree candidacy are the same, except that no public oral defense of the project is needed. <u>ADRAS will sign-off Candidacy application forms only when all these</u> requirements are met.

Students whose application to candidacy to the degree is denied will be removed from the program unless the reasons for denial can be corrected within a semester. Similarly, students who do not apply for candidacy within a semester after completion of the course work may be removed from the program.

Due dates for Admission to Candidacy are posted on the TU Graduate School website (https://www.tuskegee.edu/graduate-school).

J. Continuous Registration and Candidate for the Degree

If a student has completed all course and research requirements but has not yet been admitted to candidacy for the degree, they may enroll for <u>Continuous Registration</u>. In this case, the student will be considered as enrolled full-time. If a student has completed all course and research requirements and has been admitted to the candidacy for the degree, they may enroll as <u>Candidate for the Degree</u>. In this case also the student will be considered as enrolled full-time.

K. Residency Requirement

A graduate student is required to be in residence for at least two academic years during the course of Doctoral study, or two semesters during the course of a Masters study. If a student needs to do their dissertation/thesis work off campus, Tuskegee University Graduate School policy will apply (see Handbook).

L. Application for Graduation

During the last semester of their graduate studies, the Faculty Advisor of a graduate student will submit a completed Application for Graduation form (available at https://www.tuskegee.edu/graduate-school). By submitting the form, the Faculty Advisor and student indicate that the student is ready to graduate at the next graduation timetable. Soon afterwards, the student and Advisor/s will submit a **draft copy** of the thesis, **request for final examination**, complete final **oral examination**, submit oral **examination report**, and then the **final copy of the thesis**. Due dates for these are posted on the TU Graduate School website (https://www.tuskegee.edu/graduate-school).

M. Final Oral Examination

Final oral examination <u>must be requested</u> in time to meet both IDPB and MVSc degree requirements. For this, the student and Faculty Advisor fill out the 'Request for Final Oral Examination' form and submit it to the Graduate School with a copy to ADRAS. The student must also submit a complete draft of their dissertation to every member of the Examination Committee at least two weeks prior to the date of the examination. The oral examination will be on the student's research only. Approval of ALL members of the Examination Committee is necessary for the student to pass the oral examination.

N. Submission of Dissertation/Thesis

The student must submit to the Graduate School copies of their thesis or dissertation signed by all members of the Examination Committee, the ADRAS and the Dean of the College. Specific steps for the completion of Tuskegee

University graduate degree requirements are provided in **section VII** of the Graduate Handbook (https://www.tuskegee.edu/Content/Uploads/Tuskegee/Files/GraduateHandbook2021kp.pdf, REQUIREMENTS FOR COMPLETION OF THE DEGREE). Due dates for submission of final copies are updated and posted on the TU Graduate School website (https://www.tuskegee.edu/graduate-school).

O. Attachments

- o TUCVM checklist for graduate students (see below)
- o Graduate Student Progress and Evaluation form (see below)
- Template for Dissertation/Thesis
- o IDPB program and courses description
- MVSc Thesis option courses and description
- o MVSc Non-thesis option and description
- Frequently Asked Questions (on Website https://www.tuskegee.edu/Content/Uploads/Tuskegee/files/ADRAS%20FAQs.pdf)

TUCVM Graduate Student Program Checklist
☐ Select Courses, register (with Advisor input if applicable) (student and ADRAS support)
☐ Check about assistantship (PhD student and mentor, teaching or lab assistantship)
☐ Change from Conditional to Regular admission (student, if applicable)
o Fill form
 Send to TU Graduate School
☐ Transfer Credits from outside TU or from a graduate degree (up to 9 credits, student)
 Fill form, attach transcript
 Send to TU Graduate School
☐ Second Semester of Grad School
o Identify an Advisor for dissertation, thesis or non-thesis (student)
Assemble Graduate Advisory Committee (3-non thesis, 4 or more for others)
□ Presentation/defense of Research Project Proposal (student, mentor, & committee)
Required for Admission to PhD Candidacy)
☐ After 15 Credit hours (30 for PhD), GPA 3.0 or higher, successful defense of Project Proposal
 Apply for Candidacy (student and mentor; need Transcript, Project Title and Abstract;
Deadlines: Oct 15, April 25, June 18)
□ Public Seminar/Presentation of Research Project Progress (required for PhD; student and
mentor)
Progress Evaluation plan (between student and mentor)
 ○ Committee meets or gets updates each semester □ Last Semester in Grad School
☐ Application for Graduation (student; Deadlines: <u>Jan 20, June 10, Sept 10</u>)
■ Fill form and send to TU GS
□ Non-Thesis
■ Submit report, clear 'l' if applicable
☐ Thesis complete and satisfactory (student and mentor)
☐ Preliminary Approval of Draft Thesis (mentor)
Fill formSend to TU GS
☐ Request for final Oral Exam (student and mentor)
Fill form
Send to TU GS
☐ Final Oral Exam Report (committee)
■ Fill form
■ Send to TU GS
☐ Thesis Final Copy to TU GS (student and mentor; Deadlines: Apr. 15, July 8, Nov. 12)
☐ Certificate of Completion (ADRAS)
Need to have completed all the above

o Fill form and send to TU Graduate School

Tuskegee University College of Veterinary Medicine Graduate Student Progress and Evaluation Recommended For use by Students and Advisors

Student	Name:					
Major Pr	ofessor/s:					
Graduate	e Program:					
Month a	nd Year student started at TU:					
Started r	tarted research with current Major Professor (Month/Year esearch Project itle:					
Research	Research Specific Objectives:					
1.						
2.						
3.						
4.						
Performa	ance <u>EXPECTATIONS</u> from student <u>FOR THE YEAR</u> (<u>with schedule and timeline, if possible</u>):					
1.	Research Objective/s to work on:					
	Committee Meeting and Schedule:					
	Training on specific skills:					
	Dissertation/Thesis writeup:					
	Teaching or Laboratory assist:					
	Course work completion:					
	Proposal Writing or Fellowship Application:					
	Publication:					
9.	Presentation:					
10.	Other					
Advisor o	comments at the end of the year					
Student	Comments at the end of the year					
Projecte	d Graduation timeline (Month/Year):					

^{*}A copy of this form must be submitted to office of the ADRAS, and cc to the Dean of CVM.