Tuskegee University
College of Agriculture, Environment and Nutrition Sciences
Department of Agricultural and Environmental Sciences
Master of Science (M.S.) in Environmental Management (*Online Only*)

Contact Information:
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Degree(s) Offered: Master of Science (M.S.) in Environmental Management, Non-Thesis Option (Online Only)

The Environmental Sciences graduate program offers several specialty areas, such as climate change, watershed management, environmental health, fate and transport of environmental toxicants, soil health, hydrology, geospatial science and nutrient and ecosystem management. This program is flexible in terms of research and course work so that students can achieve their career-inspired and individual objectives. Students complete a total of ~30 credit hours that include a research (thesis option) or professional project (non-thesis option). Find out more about the environmental science management program at http://elearning.tuskegee.edu/programs/graduate. Graduates of this field are poised to successfully pursue careers with government, academia, and industry.

Departmental Admissions Requirements:

- Applicants must have completed a B.S. degree from a department of approved standing and granted by an accredited college or university, preferably in Environmental Sciences, biology, or a related area to be considered for the Master's program in Environmental Sciences.
- Prerequisite academic work should provide evidence that the application shall be able to pursue the graduate course effectively.
- A cumulative GPA of 3.0/4.0 or better is required for regular admission; however, student with a cumulative GPA of 2.7-2.99/4.0 will be considered for conditional admittance for residential programs. Acceptance may also be obtained by the completion of two program core courses with a minimum B grade for individuals who meet the criteria above.

University Admissions Requirements:

- Although it is required that applicants submit GRE scores to complete the admissions application, no minimum is required.
- Official Transcript from all colleges/universities attended (International Students must have transcripts translated through World Education Services - WES).
- Completed Application along with the required amount of application fees

- Three Letters of Recommendation
- Statement of Purpose
- GRE Scores
- Financial Affidavit (International Students –only)
- Test of English as Foreign Language (TOEFL) Scores (International students only).

Graduation Requirements:

A. The Master of Science, Non-Thesis Option (*Online Only*)

The **non-thesis** M.S. is a professional degree in which a student must complete a minimum of 32 credit hours of graduate course work to receive the degree, and other requirements may be specified by the department. Thus, programs leading to this degree provide opportunities for students to increase their knowledge and competencies in the various agricultural disciplines. A student, according to his/her needs may **(a)** obtain a balanced and unified training encompassing a wide spectrum of subject matter area or **(b)** obtain intensive training in a specified area. The emphasis of the program is to enable students to develop skills as professional practitioners in the communication of technical knowledge and its application to the solution of current and future technical, economic, and social problems of individuals and groups. The expected duration of the Non-Thesis Option program is 12-18 months.

- Core Courses: 14-15 Credits
- Area of Concentration (PLSS) Courses: 12 Credits
- Elective Courses: 6 Credits (Any graduate level courses 500 or above outside EVSC**)**
- Admission to Candidacy
- Passing of the Final Oral Examination

Course and Credit Requirements for the Master of Science, Non-Thesis Option

To earn a professional degree, a minimum of **30 graduate credits** are required comprising **15 credit hours** of core courses, **12credit hours** for the area of concentration (Environmental Sciences; EVSC) and **9 credit hours of electives in a discipline other than the student's concentration**. **The final project/paper** will account for 6 **credit hours** of the core requirements**.** As all M.S. degree candidates must take at least two graduate courses in biometry (EVSC 500 and 501) before graduation, if undergraduate work was done at Tuskegee University and EVSC 500 was required for graduation, it may not be transferred to graduate work; thus, an appropriate substitute will be required. For those who have not completed EVSC 500, this course may be included in the curriculum as an elective course. All courses must be approved by the Advisory Committee. Following the completion of 15 credits, students are required to be admitted to Candidacy. In addition to the course work outlined above, may be required to complete additional requirements prior in preparation for the **Final Oral Examination** which must be passed based on the document as determined by the Advisory Committee.

Core Courses (15 credits):

EVSC 0501	Biostatistics II	3 credits
EVSC 0504	Environmental Science II	3 credits
EVSC 0507	Introduction to Geographic Information Systems	3 credits
EVSC 0545	Remote Sensing; Principles and Applications	3 credits
EVSC XXX1	Environmental Management/Policy	3 credits
EVSC 0560	Hydrology and Water Resources Management	3 credits
EVSC 0570	Agrometeorology	3 credits
EVSC XXX2	Online Seminar	3 credits

Professional Development Project (6 credits):

AGSC 0699	Non-thesis Graduate Project	6 credits

Elective Courses (9 credits):

EVSC 0500	Biostatistics I	3 credits
PLSS 0510	Soil Physics	3 credits
EVSC 0517	GIS Applications	3 credits
PLSS 0521	Soil and Water Conservation	3 credits
EVSC 0522	Introduction to Toxicology	3 credits
EVSC 0580	Environmental Legal Case Study	3 credits
EVSC 0555	Soil Chemistry	3 credits
EVSC 0590	Soil/Environmental Microbiology	3 credits
EVSC xxx3	Environmental Auditing	3 credits
EVSC 610	Climate Change and Climate Modeling	3 credits

Advisory Committee

A three-member Advisory Committee will be appointed to guide and monitor the student's professional development. The chairman of the appointed committee shall serve as the student's advisor.

Other:

Professional Development Document/Thesis

The final draft of the non-thesis document or the thesis must be filed with the student's Advisory/Examining 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 are distributed to members of the Advisory/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 Professional Development Document/Thesis in its final form rests with the Advisory/Examining Committee.

Transfer Credits

A **maximum of nine (9) semester hours** may be transferred from graduate courses taken at other university provided the student has grades of **"B"** or better in these courses. For students who are pursuing a second Master's degree at Tuskegee University nine hours of credit are transferable from courses taken to fulfill the requirements of the first degree. Transfer credits may be recommended under both core and elective categories.

Admission to Candidacy
Immediately after completing 15 credits of course work at Tuskegee University, the student must submit to the Dean of Graduate Studies, a completed application for the Candidacy for the degree.

Seminars
A student pursuing the Master of Science degree in Environmental Sciences must present at least two seminars. The first seminar (AGSC 0600 or equivalent) shall be the presentation of the student's research proposal of the Master's thesis. The second (AGSC 0604 or equivalent) shall be his/her final seminar. The student is also required to participate in all seminars arranged by the department regardless of if he or she is enrolled in the course or not.

List of Courses

(Master of Science Non-Thesis Options)

AGSC 0699. NON-THESIS GRADUATE PROJECT. 1st and 2nd Semesters, Summer, 3 credits. Research, preparation and production of final project paper under the directions of a major advisor. Students in this program will be required to select research problems on a specific topic concentrating on the investigation of problems in agricultural, Environmental and related sciences.

EVSC 0500. BIO-STATISTICS I. 1st Semester. Lect. 2, Lab 3, 3 credits. Statistical methods in scientific research. An introductory course in statistics dealing with the application of various methods of analyzing research data to include sampling, randomization, the normal distribution, "t" test, linear regression, correlation, Chi-Square, and analysis of variance of random design. Laboratory assignments require the use of pocket calculators and the University's time share computer.

EVSC 0501. BIO-STATISTICS II. 1st Semester. Lect. 2, Lab 3, 3 credits. The application of advanced statistical methods in analyzing biological data to include analysis of two-way experiments, factorial experiments, covariance analysis, least-square analysis with unequal subclass numbers and curvilinear regression. Laboratory assignments require the use of the University's time share computer and departmental microcomputers. Prerequisites: EVSC 0500 or Permission of instructor.

EVSC 0504. ENVIRONMENTAL SCIENCE II. 2nd Semester. Lect. 3, 3 credits. Problems related to the presence of biologically active substances and potential hazardous synthetic chemicals in the environments. Strategies in minimization and management of these hazards

will be discussed. Pesticides, radiation hazards, industrial chemical and potential biological hazards will be considered. Prerequisites: CHEM 0320 or Permission of Instructor.

EVSC 0507. INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS. 1 Semester. Lect. 2, Lab 1, 3 credits. Introductions to GIS concepts. Basic theoretical concepts, computer catography, database systems, getting maps into digital form and geocoding. Familiarity with Arc-GIS software.

EVSC/PLSS 0510. SOIL PHYSICS. 2nd Semester (Even years). Lect. 3, 3 credits. Theory and practice of quantifying soil particle and pore distributions, soil structure, soil water content, soil water potential , saturated and unsaturated flow, infiltration, drainage, energy balance, evapotranspiration and irrigation.

EVSC 0517. GIS APPLICATOINS.

EVSC 0521. EVSC 0517. SPECIAL STUDIES IN GIS. 2nd Semester. Lect. 2, Lab 1, 3 credits. Research applications of GIS with special emphasis on complex spatial analysis of soil, water. Prerequisite EVSC 0507.

EVSC/PLSS 0522. PHYSIOLOGY OF PLANT GROWTH AND DEVELOPMENT. 2 Semester. Lect. 3, Lab 3, 3 credits. Dealing with all essential and beneficial nutrient elements, absorption, translocation and their metabolic association in plants.

EVSC 545. REMOTE SENSING: PRINCIPLES AND APPLICATIONS.

EVSC 0555. SOIL CHEMISTRY. 1stSemester, even years. Lect. 3, 3 credits. Theory and practice of the inorganic chemical reactions involved in soil development and nutrient availability and cycling; topics include chemical ion exchange equilibria and kinetics, colloidal systems, solubility diagrams and oxidation reduction. Prerequisites: CHEM 0231, 0232, PLSS 0210. Same as PLSS 0555.

EVSC 0560. HYDROLOGY AND WATER RESOURCES MANAGEMENT.

EVSC 0570. AGROMETEOROLOGY.

EVSC 0580. ENVIRONMENTAL LEGAL CASE STUDY.

EVSC 0590. SOIL/ENVIRONMENTAL MICROBIOLOGY. 1st Semester, Odd year. Lect. 3, 3 credits. Description, location, taxonomy, abundance and significance of the major groups of soil microorganisms, major biochemical transformations carried out by the organisms; major biochemical transformations carried out by the soil micro flora and their relationships to soil fertility and environmental pollution are examined. Prerequisites: CHEM 0320 or Permission of Instructor. Same as PLSS 0590.

EVSC 0610. CLIMATE CHANGE AND CLIMATE MODELING.

EVSC 0695. SPECIAL TOPICS IN ENVIRONMENTAL SCIENCES. 1st and 2nd Semesters. Lect. 3, 3 credits. Topics in the advanced level may be selected from the following: biochemistry, environmental sciences, chemistry, biology, soil sciences and veterinary sciences.

EVSC XXX1. ENVIRONMENTAL MANAGEMENT/POLICY.

EVSC XXX2. ONLINE SEMINAR.

EVSC XXX3. ENVIRONMENTAL AUDITING.

EVSC 0752. CONTINUOUS REGISTRATION. 1st and 2nd Semesters, Summer. 0 credits. Restricted to graduate students who have taken all courses including EVSC 0700 and need to use the service and resources of the University to complete their theses or reading for graduate examination. Students may have a maximum of two registrations only; afterward registration as a regular graduate student will be required until degree requirements have been completed. Prerequisite: Permission of major advisor.

EVSC 0754. CANDIDATE FOR DEGREE ONLY. 1st and 2nd Semester, Summer. 0 credits. Restricted to graduate students who have completed all requirements for graduate degree including final oral or comprehensive examination, submission of thesis and approval of the thesis by the Office of the Graduate Programs. Students will be permitted to register in the category one time only.

****Note: At the time of program development the listed courses comprise EVSC/PLSS courses; however, any EVSC/PLSS courses developed hereafter and meet the requirements indicated may be used to fulfill the concentration requirement indicated above Further, elective courses may include those in any discipline offered at the graduate level (500 or above) as specified above. For students enrolled in the online program, availability of courses may be available on a limited basis; students will need to confer with online degree the program coordinator.**

Key Graduate Faculty

Name	Specialty Area	Phone	E-mail Address
Kokoasse A-Kpomblekou	Soil Chemistry and Waste Management	334-724-4522	akpomblekou@mytu.tuskegee.edu
Deloris Alexander	Prebiotics, Probiotics	334-724-4667	dalexander@mytu.tuskegee.edu
Ramble Ankumah	Soil Sciences, Environmental Sciences		rankum@mytu.tuskegee.edu
Conrad Bonsi	Plant Breeding	334-727-8333	cbonsi@mytu.tuskegee.edu
Marceline Egnin	Plant Biotechnology/Molecular Biology and Plant Breeding	334-724-4404 or 727-8084	Megnin@mytu.tuskegee.edu
Gamal El Afandi	Climate Change	334-724-4790	geafandi@mytu.tuskegee.edu

Souleymane Fall	Climate Change, GIS	334-421-7567	sfall@mytu.tuskegee.edu
Guohao He	Plant Genomics, Genetic Mapping, QTL Mapping, Molecular Breeding	334-727-8459	Hguohao@mytu.tuskegee.edu
Jacquelyn Jackson	Plant Biotechnology/Molecular Biology	334-724-4953	jjackson@mytu.tuskgee.edu
Desmond Mortley	Horticulture, Hydroponics, Sustainable Agriculture, Biofuels	334-727-8404	mortleyd@mytu.tuskegee.edu
Channapatna S. Prakash	Plant Biotechnology/Molecular Biology	334-727-8023	Prakash@mytu.tuskegee.edu
Joseph Quansah	Hydrology, Watershed Management, Climate Change, Geospatial Science and Information Systems	334-727-8419	jquansah@mytu.tuskegee.edu
Franklin Quarcoo	Entomology	334-727-8792	quarcoof@mytu.tuskegee.edu
Raymon Shange	Agroecology, Microbial Ecology, Molecular Ecology, and Ecological Engineering	334-724-4967	rshange@mytu.tuskegee.edu

Additional details that are not shown in this handout may be found on the Bulletin of the Department of Agricultural and Environmental Sciences, the DAES website, the DAES Graduate Student Handbook as well as TU's Graduate Handbook and website.