

## ENVIRONMENTAL SCIENCE

An Interdisciplinary Program

Solving the many environmental problems facing our society calls for an interdisciplinary approach. The goal of the interdisciplinary Environmental Science Program in the College of Applied and Natural Sciences at Louisiana Tech University is to prepare graduates for many of the opportunities that exist in the environmental job market. This preparation combines the knowledge and training needed not only to analyze and diagnose environmental problems but also to develop and implement solutions to these problems.

Participating units are equipped with modern instrumentation, and competent faculty who are eager to instruct you in the use and application of such instrumentation in appropriate laboratory courses. Faculty are specialists in their disciplines and will guide you in your educational pursuits, and stimulate your intellectual curiosity. In addition, faculty members are involved in a wide array of environmentally-related research topics. Many opportunities exist for involvement with these research projects.

### FEDERAL STATE AND LOCAL AGENCIES

Departments of Natural Resources  
Departments of Environmental Quality  
Departments of Environmental Protection  
Departments of Transportation and Justice  
Geological Services  
Park Services  
Urban and Regional or Energy Planning

### ENVIRONMENTAL ORGANIZATIONS

Ducks Unlimited  
National Audubon Society  
National Wildlife Federation  
Sierra Club  
The Nature Conservatory  
Wilderness Society

### PRIVATE INDUSTRY

Environmental Consultants  
Environmental Compliance Officers  
Occupational Health and Safety  
Oil, Gas and Mining Industries  
Pollution Abatement  
Waste Management

### ACADEMICS

Teaching and Research

### FOR ADDITIONAL INFORMATION CONTACT:

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SCHOOL OF  
BIOLOGICAL SCIENCES



Louisiana Tech University



Visit the Web Site:  
[www.LaTech.edu/ans/biological-sciences](http://www.LaTech.edu/ans/biological-sciences)

## SCHOOL OF BIOLOGICAL SCIENCES

The school is one of six academic units in the College of Applied and Natural Sciences.

Three undergraduate degrees are offered in the School of Biological Sciences:

- **Biology (BS)**
- **Medical Technology (BS)**
- **Environmental Science (BS)**

## BIOLOGY

There are two concentrations under the Biology degree:

- Biological Sciences
- Applied Biology

### Biological Sciences Concentration Requirements

**Biology core courses:** introductory, microbiology, genetics, ecology, cell biology, physiology, seminar (25); General Chemistry (8); General Physics (8); Arts (3); English (12); Mathematics (6); Statistics (3); Social Sciences (9); Speech (3); History Elective (3); Organic Chemistry (8); Biochemistry (8); Biological Sciences Electives\* (22); General Electives (6).

\*At least 12 hours of Biology electives - 300/400 level

### Applied Biology Concentration Requirements

**Biology core courses:** introductory, microbiology, genetics, ecology, cell biology, physiology, seminar (25); General Chemistry (8); General Physics (8); Arts (3); English (12); Mathematics (6); Statistics (3); Social Sciences (9); Speech (3); History Elective (3); Biological Sciences Electives\* (19); General Electives (6); Science Electives (19).

\*At least 10 hours of Biology electives - 300/400 level

### PRE-MEDICINE/PRE-DENTISTRY AND PRE-PROFESSIONAL PROGRAMS

If your goal is a career in medicine, dentistry or other health occupation, Louisiana Tech University can help prepare you for entrance to professional school.

**The minimum requirements for entrance to most Medical and Dental schools are:**

General biology with lab (8 hours), general chemistry with lab (8), organic chemistry with lab (8), general physics with lab (8), Mathematics, and English. There may be additional courses required by particular schools; check web sites! Furthermore,

most schools have a substantial list of courses that are RECOMMENDED prior to admission.

The requirements for many (but not all) medical and dental schools have been incorporated into the Biological Sciences concentration. The Applied Biology concentration may fulfill the prerequisites for some pre-professional schools other than medicine and dentistry. It is the student's responsibility to obtain the catalog, or Web printout, from the respective professional school and inform the Tech faculty advisor so that a "customized" plan can be made.

In addition to the prerequisite courses mentioned above, students are required to complete the Medical College Admission Test (MCAT), Dental Admission Test (DAT), or other pre-professional exam. In preparation for these tests, the student is advised to take a rigorous selection of science courses including genetics, anatomy, physiology, biochemistry, histology and ecology.

### EXAMPLES OF PRE-PROFESSIONAL PROGRAMS

- Pre-Cardiopulmonary Science
- Pre-Occupational Therapy
- Pre-Optometry
- Pre-Pharmacy
- Pre-Physician Assistant
- Pre-Physical Therapy
- Pre-Radiologic Therapy
- Pre-Respiratory Therapy

It is the student's responsibility to determine what is required for admission to the particular institution in which he/she is interested.

### FOR ADDITIONAL INFORMATION CONTACT:

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## MEDICAL TECHNOLOGY

Medical Technologists (often called Clinical Laboratory Scientists) develop and perform a broad range of laboratory tests, which are essential to the detection, diagnosis, and treatment of many diseases. They are held accountable for the accuracy of test results, correct errors, and have the knowledge of biology, chemistry and pathology

necessary to interpret these tests. They also consult with other professionals to develop and implement health care policy. Some of the exciting areas of Medical Technology are Hematology, Immunology, Bacteriology, Parasitology, Clinical Chemistry, Blood Banking, Toxicology, and Management.



Most Medical Technologists are employed in private medical laboratories, clinics, the armed forces, governmental health agencies, pharmaceutical houses, research facilities and as consultants to industry. Job opportunities are available nationwide, and demand for Medical Technologists is projected to continue into the 21<sup>st</sup> century.

The Program in Medical Technology was established in 1937 at Tech and remains one of the longest continually running programs in the United States. It has been recognized by the Louisiana State Board of Regents as being in the top 1% of academic program in the State.

### DEGREE REQUIREMENTS

The Bachelor of Science in Medical Technology at Louisiana Tech University requires 125 semester hours of course work and training. There is a pre-clinical requirement of 85 semester hours and a clinical component of 40 semester hours. The clinical component includes hands-on education and training offered at several nationally accredited affiliated hospital based programs located in Louisiana and the surrounding states. Students are admitted to these clinical programs on a competitive basis.

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