

Natural Science

Pre-Medical Technology Concentration (3+1 Program)

Jan Reber, Advisor

A major in Natural Science with a Pre-Medical Technology concentration in pre-medical technology is designed for students participating in 3-year pre-professional programs. Upon successful completion of three years at Taylor University, students then complete 1-2 years of professional requirements at an approved accredited school.

All Taylor University degree requirements are applicable with the following exceptions: PHI 413, the minimum of 42 hours of upper-division credit, the minimum 128 total-hour requirement, and the senior comprehensive requirement. Normally, students complete all applicable requirements within three years, including a minimum of 96 total hours and a minimum of 35 major hours taken in courses offered in the natural science area. These courses must be selected in accordance with the unique requirements of the pre-professional program.

The medical technologist serves as a vital part of the hospital medical team, performing the lab tests that lead to successful diagnosis of illness. Taylor University maintains affiliations with Methodist Hospital of Indiana, located in Indianapolis, Indiana.

The National Accrediting Agency for Clinical Lab Sciences requires three years of college work as a minimum of pre-professional preparation. After satisfactory performance of preparatory courses specified by the hospital program of choice (usually an additional year or more), and upon receipt of an official transcript verifying the satisfactory completion at an approved accredited school, the student is granted the baccalaureate degree by Taylor University. The student is then eligible to take a national certifying examination. Upon successfully passing the certification examination, the student will be certified as a registered medical technologist or its equivalent.

Natural Science—Pre-Medical Technology Concentration (BS)

The Bachelor of Science degree with a major in Natural Science and a Pre-Medical Technology concentration requires 35-38 hours of natural science with a minimum of 16 hours in biology and 16 hours in chemistry. *Note: Some hospital programs also require at least one semester of physics.*

All Taylor University degree requirements are applicable with the following exceptions: PHI 413; the minimum of 42 hours of upper-division credit; the minimum 128 total-hour requirement; and the senior comprehensive exam. Students must complete a minimum of 96 total hours at Taylor prior to entering the hospital program. *All major courses must be completed with a grade of C- or better and are included in the major GPA.*

Major Requirements

Select at least **16** hours of biology:

BIO 201	4	Biology I: Foundations of Cell Biology and Genetics
BIO 203	4	Principles of Genetics
BIO 244	4	Human Anatomy and Physiology I
BIO 245	4	Human Anatomy and Physiology II
BIO 471	4	Microbiology and Immunology

Select at least **16** hours of chemistry:

CHE 211	4	College Chemistry I
CHE 212	4	College Chemistry II
CHE 301	4	Analytical Chemistry I
CHE 302	4	Analytical Chemistry II
CHE 311	4	Organic Chemistry I

Select **one** option from the following:

MAT 140	3	Fundamental Calculus for Applications
MAT 151	4	Calculus I
MAT 145†	3	Introduction to Functions and Calculus
and		
MAT 146†	3	Functions and Calculus

†MAT 145 & 146 count as one option.

Successful completion of an approved hospital program through an accredited school.

Science Research Training Program

The purpose of the Science Research Training Program is to stimulate students beyond “normal education” with hands-on practical experiences, promote real-world industrial relationships (careers), and prepare future graduate students. As faculty, students and staff, our goal is to pursue excellence (world leadership in selected research areas) and thereby stay on the cutting edge of scientific research and thought.

We encourage scholarly research and crossover interactions between various disciplines, and we promote publications in professional journals by Taylor University faculty and students. Where possible, we relate science with society and apply science and technology to various mission field needs. Research activities are carried on quietly and often on a long-range basis, but are essential to leadership and progress. During the summer months, when faculty and students can devote more time to independent research, student stipends are available for research one-on-one with a faculty member. These projects include the areas of biology, chemistry, computers, engineering, environmental science, math, and physics.

Natural Science Courses

NAS 170

1-4 hours

Selected Topics

A course offered on a subject of interest but not listed as a regular course offering.

NAS 201

3 hours

Nature of Science

A lecture and seminar based introduction to the nature of science in three main areas: life sciences, physical sciences, and earth and space sciences. The course will examine the scientific paradigm, the nature of science, and the characteristics of good science applied in these three main areas. The course will have three laboratory projects examining the nature of science in each area. Offered fall or spring semesters. *Meets the foundational core life science, physical science, or earth science requirement.*

NAS 220

4 hours

Natural Science Research Methods

To introduce general science research in the fields of biology, chemistry, computer science, environmental science, mathematics, and physics/engineering. An overview of selected representative research topics, problem solving approaches, instrumentation, and analysis techniques. The lab emphasizes the use of scientific instrumentation and advanced computer software tools. *For students enrolled in CRAM. Meets any foundational core lab science requirement.*

NAS 230

Health Education for Behavior Change

This course prepares students interested in various health care careers to perform health education in community settings. Topics include disease prevention, principles of exercise and movement, nutrition, helping skills, and behavior change theories. After successful completion of course, students are able to work in the Invitation Diabetes Prevention Program.

NAS 270

1-4 hours

Selected Topics

A course offered on a subject of interest but not listed as a regular course offering.

NAS 309

2 hours

Science Education Methods

This is a junior-level science education methods course for biology, chemistry, and physics majors obtaining certification in secondary education. This course covers the philosophy of science, science educational psychology, the science standards (both national and state), science curriculum development, classroom management and assessment, laboratory management and development, and technology and professional development in the sciences. *Prerequisites: EDU 150 and 260.*

NAS 360

1-4 hours

Independent Study

An individualized, directed study involving a specified topic.

NAS 370

1-4 hours

Selected Topics

A course offered on a subject of interest but not listed as a regular course offering.

NAS 393

1-4 hours

Practicum

Supervised learning involving a first-hand field experience or a project. Generally, one hour of credit is awarded for a minimum of 40 hours of practicum experience. *Offered primarily during summer.*

NAS 450

1-4 hours

Directed Research

Investigative learning involving closely directed research and the use of such facilities as the library or laboratory.

NAS 480

1 hour

Seminar

A limited-enrollment course designed especially for upper-class majors with emphasis on directed readings and discussion. *Seminar focuses on the integration of topics from contemporary science with an emphasis on recent research reports of interdisciplinary interest. Guest lecturers, faculty, and student reports serve as the method of instruction.*

NAS 490

1-2 hours

Honors

Individualized study or research of an advanced topic within a student's major. *Open to students with at least a 3.00 GPA in the major field.*

Notes