



A DUAL ENROLLMENT CAREER PATHWAY FOR

PRE-PHARMACY

tctc.edu/careerpathways

About the Program

- Get a head start on your Surgical Technology (SUR) program by completing The number of Pharmacists employed in the local area is expected to increase by 2.6% over the next ten years
- This degree will fulfill prerequisite course requirements for application to University of SC College of Pharmacy, Medical University of SC College of Pharmacy, Presbyterian College School of Pharmacy, South University College of Pharmacy, and Wingate University School of Pharmacy. This program, with individualized advisement, will also meet most requirements for colleges of pharmacy in the Southeastern U.S. Some colleges of pharmacy may require additional coursework.

About the Pathway

- High school students take dual enrollment classes at **Tri-County Technical College**.
- Upon completion of Associate in Applied Science Degree, apply directly to the SC College of Pharmacy, Presbyterian College School of Pharmacy, South University College of Pharmacy, or with individualized advisement, other colleges of pharmacy in the Southeastern US.

Pre-Pharmacy CAREER PATHWAY

IN HIGH SCHOOL

High School biology and chemistry strongly recommended.

Fall of 12th Grade Year:

- ENG 101
- MAT 130

Spring of 12th Grade Year:

- PSY 201
- ENG 102

**HIGH SCHOOL GRADUATION
AND
12 HOURS COLLEGE CREDIT**

AFTER HIGH SCHOOL

**Pre-Pharmacy Concentration
General Technology Associate in
Applied Science Degree**

FALL

- AHS 180
- BIO 101
- CHM 110
- Communications/
Social Science Course

SPRING

- BIO 102
- CHM 111
- MAT 120
- Communications/
Social Science Course

SUMMER

- BIO 210
- BIO 211

FALL

- CHM 211
- BIO 225
- SPC 205
- PHY 201

SPRING

- CHM 212
- CHM 213
- ECO 211
- Humanities
Course

AFTER TCTC GRADUATION

Pathways into SC Pharmacy Schools

SC COLLEGE OF PHARMACY
**PRESBYTERIAN COLLEGE
SCHOOL OF PHARMACY**
**SOUTH UNIVERSITY COLLEGE OF
PHARMACY**
MUSC SCHOOL OF PHARMACY
**WINGATE UNIVERSITY SCHOOL
OF PHARMACY**

Other Colleges of Pharmacy
in the Southeastern US
(with individualized advisement)

SC Mean Annual Wages
\$126,468

CONNECT WITH US

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PRE-PHARMACY COURSE DESCRIPTIONS

The Pre-Pharmacy degree fulfills prerequisite requirements for application to the SC College of Pharmacy, Presbyterian College School of Pharmacy, and South University College of Pharmacy. This program, with individual advisement, will also meet most requirements for college of pharmacy in the Southeastern U.S. Some colleges of pharmacy may require additional course work.

AHS 180 – Health Careers Preparation

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes selected topics such as study skills, test-taking skills, critical thinking, problem solving, ethics, health careers test preparation and other topics to promote student success.

BIO 101 - Biological Science I

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course is a study of the scientific method, basic biochemistry, cell structure and function, cell physiology, cell reproduction and development, Mendelian genetics, population genetics, natural selection, evolution, and ecology. Laboratory requirement supplements lectures.

Prerequisites: Satisfactory placement test scores for ENG 101 or completion of ENG 101, ENG 103, ENG 155 or ENG 100 and RDG 100. Satisfactory placement test scores for MAT 101 or completion of MAT 032, MAT 101, MAT 102, MAT 103, MAT 109, MAT 110, MAT 111, MAT 120, MAT 130, MAT 138, or MAT 140. Completion of BIO 105 and CHM 105 replaces MAT and ENG prerequisites. All prerequisite courses require a grade of “C” or higher.

Note: Credit may not be earned for both BIO 101 and BIO 105 or BIO 113.

BIO 102 - Biological Science II

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course is a study of the classification of organisms and structural and functional considerations of all Kingdoms (Particularly major phyla as well as viruses). Vertebrate animals and vascular plants are emphasized. Laboratory requirement supplements lectures.

Prerequisites: Completion of BIO 101 or BIO 113 with a grade of C or higher. Satisfactory placement test scores for MAT 101 or completion of MAT 101 with a grade of C or higher.

Note: Credit may not be earned for both BIO 102 and BIO 114.

BIO 210 - Anatomy and Physiology I

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is the first in a sequence of courses, including an intensive coverage of the body as an integrated whole. All body systems are studied. Topics include terminology, biological chemistry, cells, tissues, and the following systems: integumentary, skeletal, muscular, nervous, special senses. Lab requirement supplements lectures.

Prerequisites: Completion of BIO 101 or BIO 113 with a grade of “C” or higher.

Note: Credit may not be earned for both BIO 210 and BIO 112.

BIO 211 - Anatomy and Physiology II

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is a continuation of a sequence of courses, including intensive coverage of the body as an integrated whole. All body systems are studied. A continuation of BIO 210, the following systems are studied: endocrine, circulatory, lymphatic, respiratory, digestive, urinary, fluids and electrolytes, reproductive. Lab requirement supplements lectures.

Prerequisites: Completion of BIO 210 with a grade of “C” or higher.

BIO 225 - Microbiology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is a detailed study of microbiology as it relates to infection and the disease processes of the body. Topics include immunity, epidemiology, medically important microorganisms, and diagnostic procedures for identification. Laboratory requirement supplements lectures.

Prerequisites: Completion of BIO 101 or BIO 113 with a grade of “C” or higher.

Note: Credit may not be earned for both BIO 225 and BIO 115.

CHM 110 - College Chemistry I

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is the first course in a sequence which includes the following topics: atomic and molecular structure, nomenclature

and equations, properties, reactions and states of matter, stoichiometry, gas laws, solutions, and equilibria. Heat processes and molecular structure will also be covered. Lab requirement supplements lectures.

Prerequisites: Math placement scores satisfactory for MAT 109 or MAT 110 or completion of MAT 102, MAT 109, MAT 110, MAT 111, MAT 138, or MAT 140. Reading placement score satisfactory for ENG 101, ENG 103, or ENG 155 or completion of ENG 101, ENG 103, or ENG 155. All prerequisite courses require a grade of C or higher.

Note: High school preparatory chemistry is strongly recommended. Credit may not be earned for both CHM 110 and CHM 106.

CHM 111 - College Chemistry II

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course is a continuation of the study of atomic and molecular structure, nomenclature and equations, properties, reactions, and states of matter, stoichiometry, gas laws, solutions, and equilibria. Other topics included are kinetics, thermodynamics, and electrochemistry. Lab requirement supplements lectures.

Prerequisite: Completion of CHM 110 with a grade of C or higher. Satisfactory math placement test scores for MAT 130 or MAT 140 or completion of MAT 109, MAT 110, MAT 111, MAT 130, MAT 138, or MAT 140. All prerequisite courses require a C or higher.

Note: Credit may not be earned for both CHM 111 and CHM 107.

CHM 211 - Organic Chemistry I

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is the first in a sequence of courses that includes nomenclature, structure and properties, and reaction mechanisms of basic organic chemistry. Laboratory requirement supplements lectures.

Prerequisites: Completion of CHM 111 with a grade of C or better.

CHM 212 - Organic Chemistry II

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course is a continuation of basic organic chemistry. Topics include nomenclature, structure and properties, reaction mechanisms of basic organic chemistry, biochemistry, and spectroscopy. Laboratory requirement supplements lectures.

Prerequisites: Completion of CHM 211 with a grade of C or better.

CHM 213 - Principles of Biochemistry

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course is the study of the major biochemical processes, including those related to proteins, enzymes, nucleic acids, DNA replication and transcription, carbohydrates, lipids, and their associated pathways and significance. This course serves as an introduction to biomolecule structure, function, synthesis, and metabolism as found in living organisms.

Prerequisites: Completion of BIO 101 or BIO 113 and CHYM 211 with a grade of C or higher.

Note: Course is only offered in the Spring.

ECO 211 - Microeconomics

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes the study of the behavior of households and firms, including supply and demand, elasticity, price/output in different market structures, pricing of resources, regulations, and comparative advantage and trade. Credit cannot be awarded for both ECO 211 and ECO 101.

Prerequisites: Satisfactory reading and writing placement scores for ENG 101; or completion of ENG 100, ENG 101, ENG 103, ENG 155; or satisfactory English placement scores for ENG 101 and completion of RDG 100. Satisfactory math placement scores for MAT 109 or MAT 110 or completion of MAT 102, MAT 109, MAT 110, MAT 111, MAT 130, or MAT 140. All prerequisite courses require a grade of C or higher.

ENG 101 - English Composition I

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This is a (college transfer) course in which the following topics are presented: a study of composition in conjunction with appropriate literary selections, with frequent theme assignments

to reinforce effective writing. A review of standard usage and the basic techniques of research are also presented.

Prerequisites: Satisfactory Writing placement score or a grade of C or higher in ENG 100 or in ENG 155 and satisfactory Reading placement score or a grade of C or higher in RDG 100.

ENG 102 - English Composition II

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This is a (college transfer) course in which the following topics are presented: development of writing skills through logical organization, effective style, literary analysis and research. An introduction to literary genre is also included.

Prerequisites: ENG 101 with a grade of “C” or higher.

MAT 120 - Probability and Statistics

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes the following topics: introductory probability and statistics, including organization of data; sample space concepts; random variables; counting problems; binomial and normal distributions; central limit theorem; confidence intervals and test hypothesis for large and small samples; types I and II errors; linear regression and correlation.

Prerequisites: Satisfactory math placement score or MAT 102 with a grade of “C” or

higher, or MAT 101 with a grade of A and a satisfactory reading placement score or ROG 100 with a grade of “C” or higher or ENG 101 or ENG 103 with a grade of “C” or higher.

MAT 130 - Elementary Calculus

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

The course is designed to introduce the ideas and applications of Differential and Integral Calculus and focuses on the concepts of functions, limits, continuity, differentiation, and integration in the context of algebraic functions.

Prerequisites: Satisfactory math placement score of MAT 109 with a grade of C or higher and a satisfactory reading placement score of ROG 100 with a grade of C or higher or ENG 101 or ENG 103 with a grade of C or higher.

PHY 201 - Physics I

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This is the first in a sequence of physics courses. Topics include mechanics, wave motion, sound, heat, electromagnetism, optics, and modern physics. This course covers mechanics, waves, fluids and heat. As a transfer course, PHY 201 is designed for non-physical science and non-engineering majors. Lab requirements supplements lectures.

Prerequisites- Satisfactory placement scores for MAT 111, MAT 130, MAT 138, or MAT 140 or completion of MAT 110, MAT 111, MAT 130, or MAT 140. All prerequisite courses require a grade of C or higher.

Note: Credit may not be earned for both PHY 201 and PHY 101, PHY 200, or PHY 221.

PSY 201 - General Psychology

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes the following topics and concepts in the science of behavior: scientific method, biological bases for behavior, perception, motivation, learning memory, development, personality, abnormal behavior, therapeutic techniques, and social psychology.

Prerequisites: Satisfactory reading and English placement scores for ENG 101; or satisfactory English scores for ENG 101 and completion of RDG 100 with a grade of “C” or higher; or completion of ENG 100, ENG 101, ENG 103 or ENG 155 with a grade of “C” or higher. BIO 101 strongly recommended.

SPC 205 - Public Speaking

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course is an introduction to principles of public speaking with application of speaking skills.

Prerequisites: ENG 101, ENG 103, ENG 155, or ENG 156 with a grade of “C” or higher.