



DREXEL UNIVERSITY

First-Year  
Exploratory Studies

A wide-angle photograph of a university campus. The top half of the image shows a dense canopy of green trees against a clear blue sky. The bottom half shows a paved walkway with several people walking, a person on a bicycle, and a group of people sitting on a bench. In the background, there are large, multi-story university buildings. A semi-transparent white rectangular box is overlaid in the center of the image, containing the text.

# Medical Field Majors How do you choose?



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# First-Year Exploratory Studies

## Medical Related Majors

### College of Nursing and Health Professions

- Behavioral Health Counseling
- Health Services Administration
- **Health Sciences**
- Nutrition and Foods
- **Nursing**
- Culinary Arts

### College of Arts and Sciences

- **Biology**
- **English**
- **Chemistry**
- **Psychology**

### College of Biomedical Engineering

- **Biomedical Engineering**

### School of Public Health

- **Public Health**



# Behavioral Health Counseling

## What do you study?

The BS in Behavioral Health Counseling (BHC) prepares students for careers in mental health and addictions treatment. The curriculum addresses the growing need for skilled, direct service providers. BHC graduates are effective and caring professionals who contribute to the healing and well-being of people in recovery, families, and communities.

The focus of this major is on *how to do* a broad range of evidence-based practices associated with individual and group counseling, person-centered assessment and treatment planning, psychiatric rehabilitation, recovery-oriented treatment of substance-use disorders, child and family-focused interventions and other essential clinical skills in demand by behavioral health care employers.

During the freshman and sophomore years, students develop a foundation for clinical practice by studying humanities, social sciences, writing, biological sciences, math, and research methods. Students utilize this foundation to translate evidence-based research into practice. Students also complete ten required courses focusing on interpersonal communication skills, ethical standards, multicultural competence, addictions counseling skills, cognitive behavioral approaches, assessment and treatment planning, and psychiatric rehabilitation practices.

**Note:** This major offers a 4-year, 1 co-op option or a 4-year non co-op. Students interested in this field could also consider a degree in psychology.



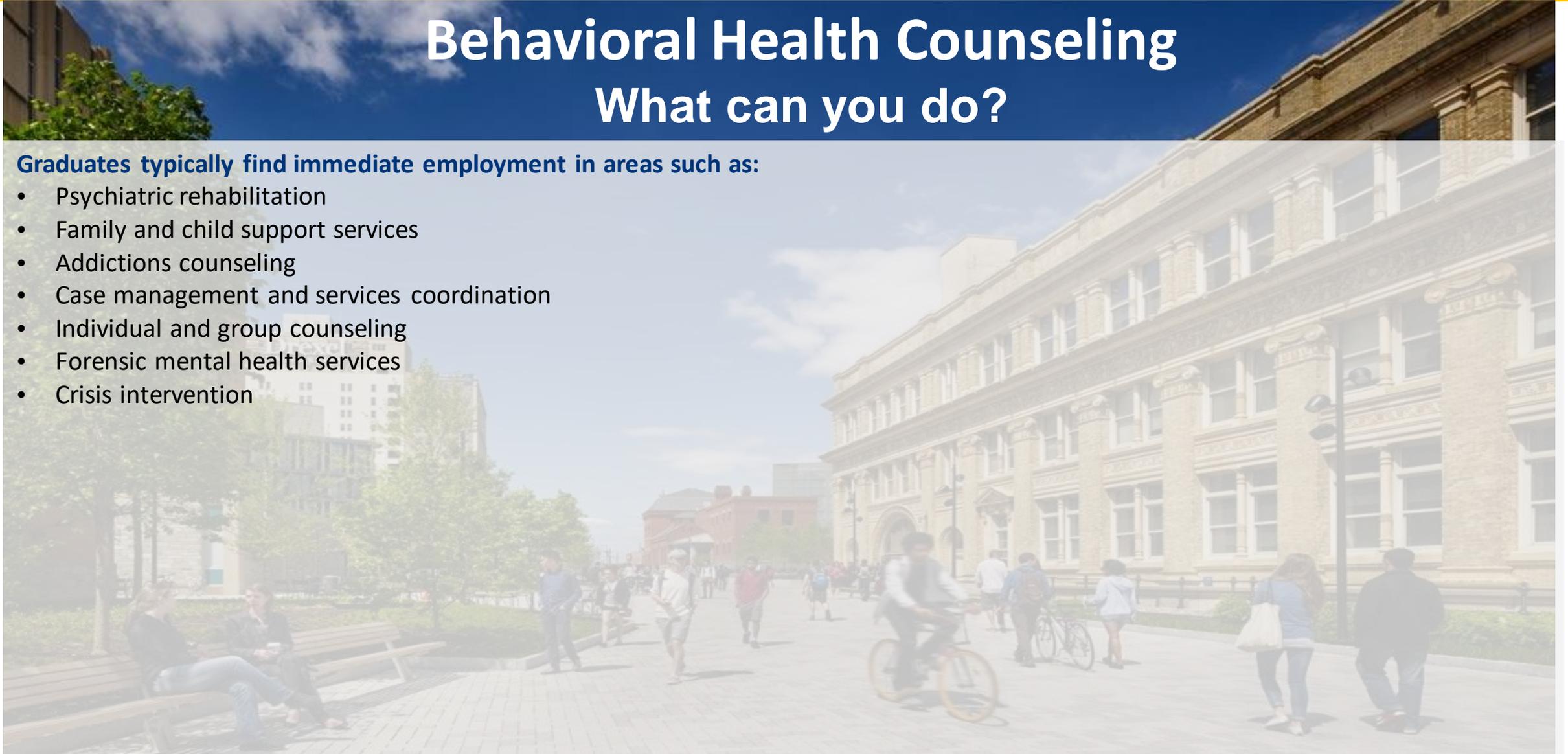
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# First-Year Exploratory Studies

## Behavioral Health Counseling What can you do?

**Graduates typically find immediate employment in areas such as:**

- Psychiatric rehabilitation
- Family and child support services
- Addictions counseling
- Case management and services coordination
- Individual and group counseling
- Forensic mental health services
- Crisis intervention





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## Culinary Arts What do you study?

Culinary Arts and Science comprises approximately equal parts culinary arts, food science, business and hospitality management. In the modern food and culinary industry, chefs and food professionals are becoming more sophisticated in their scientific understanding of food while food scientists are no longer bench scientists working in food, but rather integrated research practitioners.

The program provides students with the technical skills of a great chef while diving into the science, history, culture, food systems and business of food in order to prepare our alumni to go beyond the career possibilities available to traditional culinary graduates.

The BS in Culinary Arts and Science instills knowledge across all functional areas of the industry—from classic methods and contemporary techniques, to gastronomy, food systems and the chemical, biological and physical processes of cooking—preparing them for leadership positions in the fine foods segment of the hospitality industry, recipe development and testing, product innovation and a wide array of managerial and leadership positions within the industry. The program is a certified Culinology® program through the Research Chefs Association.



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# First-Year Exploratory Studies

## Culinary Arts What can you do?

Students majoring in Culinary Arts and Science are trained for careers in a variety of areas within the food industry including:

- Chef
- Research chef
- Restaurateur
- Product developer





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First-Year  
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# Health Services Administration

## What do you study?

This program develops critical competencies required to pursue a management career in health services management or administration and is designed for those interested in the non-clinical aspects of the health care and services.

The BS in Health Service Administration program provides you with a foundation in general management and economic principles related to health care and services, as well as an understanding of the administrative structure, operations and policies of the health care, services, and related industries. Your co-operative education experience helps you understand how to apply what you are learning while developing the confidence and professionalism attractive to future employers.

**Note:** This program offers only a 4-year, 1 co-op or a 4 year non co-op options.



# Health Services Administration

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**Note:** This program offers only a 4-year, 1 co-op or a 4 year non co-op options.



# Nutrition and Foods

## What do you study?

The Drexel Bachelor of Science in Nutrition and Foods program prepares students to pursue career opportunities in nutrition and dietetics. Graduates of this program are able to apply the principles of nutrition and food science to the nutritional care of individuals and groups - such as in school food service or community nutrition - or to excel in careers in the food and pharmaceutical industries.

*Dietetics* is the practical application of nutrition in the prevention and treatment of disease. Dietetics is an exciting and challenging profession because there are many diseases that are related to nutrition, such as heart disease, high blood pressure, stroke, cancer, diabetes and obesity.

The nutrition program at Drexel University is referred to as a Didactic Program in Dietetics (DPD) because we provide classroom training for students who want to become Registered Dietitian/Nutritionist (RD/RDN).

Students complete specific courses in medical nutrition therapy, community nutrition, foodservice management, and food science.



# Nutrition and Foods

## What can you do?

Graduates of this program may go on to graduate study to further their education within this growing field, or in a related healthcare field. The study of the biochemical nature of nutrients and foods, their interaction with the environment, and their eventual metabolic fate is a strong career path for more research-minded students and provides a unique base for graduate study.

### Possible job titles include:

- Food research and development technician.
- Food market researcher.
- Scientific laboratory technician.
- Nutritionist.
- Food production supervisor.
- Food sales representative.
- Food technologist.
- Food safety specialist.



# Nutrition and Foods

## Internal Transition Requirements

**Nutrition is a degree that depends heavily on science background and as such has some requirements around cumulative GPA and science GPA as follows:**

- Cumulative GPA of 2.5
- Minimum Science GPA of 2.5
  - Average grades of B-/C+ in sciences
  - At least 2 lab sciences completed
- Students close to, but not meeting these criteria, can be evaluated on a case-by-case basis by a NFDS advisor



# Public Health

## What do you study?

The Bachelor of Science in Public Health degree program prepares students to become innovative public health leaders by blending classroom learning with real-world experiences in the core public health disciplines. Students learn to improve the health of populations through science, practice and community partnerships.

Students are required to take 181 credits, including required courses in general university education, physical and life sciences, social sciences and public health. Students can choose from a number of elective courses in social sciences and public health, as well as a number of free electives and a public health capstone experience, to complete their degree.

### Popular Courses:

- Disease Outbreak Investigation
- Drugs and Society
- Global Health
- Violence and Trauma
- Women, Children, Health and Society



# Public Health

## What can you do?

**A variety of careers are applicable to the public health degree, including positions in public service (local, city and state government), non-governmental organizations (local and international), and healthcare settings.**

**Some settings in which public health professionals work include the following:**

- Government & public health agencies
- Hospital administration
- Pharmaceutical corporations
- Health care analysis
- Clinical research labs
- Nonprofit health agencies
- Occupational safety health administration
- Health care advocacy organizations



# Global Public Health

## What do you study?

Students are required to take 180 credits, including required courses in general university education, language, social sciences, global health, and public health. Students can choose from a number of elective courses in social sciences and public health, as well as a number of free electives and a public health capstone experience, to complete their degree.

### Popular Courses:

- Introduction to Health & Human Rights
- The World's Water
- Introduction to Global Health and Sustainability
- Disease Outbreak Investigations
- Public Health Data Analysis
- Women, Children, Health and Society
- The Social Determinants of Health and Well-Being
- Public Health Leadership

**Note:** You may also want to look into Global Studies if this major appeals to you



# Global Public Health

## What can you do?

A variety of careers are applicable to the public health degree, including positions in public service (local, city and state government), non-governmental organizations (local and international), and healthcare settings.

Some settings in which public health professionals work include the following:

- Public health analyst
- Health educator
- Health coordinator
- Education specialist
- Health promotion assistant
- Behavioral health workers
- Site prevention specialist
- Site community health worker



# A career in medicine

## What courses do you need?

To attend medical school, you really could choose from any major! But you will need to have the following academic background:

Each health profession has specific course requirements, but one year of the following is generally required by most medical, dental, pharmacy, and veterinary schools:

- General Biology
- General (Inorganic) Chemistry
- Organic Chemistry
- Physics
- English



# A career in medicine

## What kind of student do you need to be?

A decision to pursue a career in medicine requires determination, hard work, and personal sacrifice. Students need to commit a great deal of time to their academic, research, and volunteer activities. The development of organizational and interpersonal skills is also a necessity. The first step is taking the required courses and achieving excellent grades.

For allopathic medical schools (MD degree granting) in 2018, the national average cumulative GPA of matriculated medical school applicants was 3.72 and the science and math GPA of matriculated applicants was 3.65

For osteopathic medical schools (DO degree granting), in 2018 the national average cumulative GPA for matriculants was 3.54 and the national average science GPA was 3.43



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# First-Year Exploratory Studies

## A career in medicine What should you study?

### Most common majors:

- Biology
- Biochemistry/Chemistry
- Psychology
- Nursing
- Health Science
- English
- Biomedical Engineering





# Biology

## What do you study?

### 1<sup>st</sup> Year Foundation Courses

- Biology, Chemistry, Math & English
- Honors Options   
BIO, CHEM & ENGL
- MATH placement by testing
- 3 Quarters (10 weeks each)

### 1<sup>st</sup> year Biology Cells to Ecosystems

### 2<sup>nd</sup>/3<sup>rd</sup> year

- Start an optional minor
- Declare BIO concentration



# Biology

## What do you study?

### Concentrations:

#### Organismal/Physiology

- Bio 201 Human Phys I
- Bio 203 Human Phys II
- Bio 373 Dev Bio
- Bio 284 Bio of Stress or Bio 412 Bio of Aging or Bio 468 Pathophysiology

OR

#### Cell/Mol/Genetics/Biochem

- Bio 430 Cell Bio of Disease or Bio 318 Bio of Cancer
- Bio 410 Adv Mol Biology
- Bio 244 Genetics or  
Bio 444 Human Genetics
- Bio 404 Struct & Function or Bio 314 Pharmacology or  
Bio 416 Biochem of Disease



# Biology

## What do you study?

### Concentrations:

#### Pathobiology

- Bio 221 Microbiology
- Bio 426 Immunology
- Bio 320 Microbial Patho
- Bio 223 Parasitology or Bio 420 Virology

#### General Bio

- 1-2 from CMGB
- 1-2 from Org/Phys
- 1-2 from Eco/Evo/Genomics
- 2 “Focus” and 2 “Breadth”





# Chemistry

## What do you study?

The Department of Chemistry offers two undergraduate degrees - A BS in chemistry provides a certified curriculum with substantial research experience, while a BA in chemistry provides a solid chemistry core within a flexible curriculum, and offers a concentration in biochemistry.

### **BS in Chemistry:**

Provides a complete introduction to the many subfields of chemistry, along with significant hands-on laboratory research experience. All students must earn at least 9 credits of research experience prior to graduation. The BS degree in chemistry is well suited for students wishing to pursue graduate degrees in chemistry or a related discipline. Students are prepared for careers in a range of industries, including pharmaceutical, biotech, environmental, manufacturing or other allied fields. Students can also elect to do a concentration in biochemistry.

### **BA in Chemistry:**

This program is less demanding mathematically compared to the BS, and is well suited for those interested in entering medical school and other chemistry-related fields, as well as those aspiring to careers in biotechnology, forensic chemistry and environmental chemistry. Graduates may work as laboratory technicians in the pharmaceutical industry, as research assistants in medical school science departments such as toxicology or biochemistry, or as technicians in biotechnology and forensic firms.



# Chemistry

## What do you study?

### First year plan of study: BS and BA in Chemistry:

Term 1		Credits
<a href="#">BIO 122</a>	Cells and Genetics	4.5
<a href="#">CHEM 121</a>	Majors Chemistry I	5.0
<a href="#">ENGL 101</a> or <a href="#">111</a>	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
<a href="#">MATH 121</a>	Calculus I	4.0
<a href="#">UNIV S101</a>	The Drexel Experience	1.0
Term Credits		17.5
Term 2		
<a href="#">CHEM 122</a>	Majors Chemistry II	5.0
<a href="#">ENGL 102</a> or <a href="#">112</a>	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
<a href="#">MATH 122</a>	Calculus II	4.0
<a href="#">PHYS 101</a>	Fundamentals of Physics I	4.0
<a href="#">CIVC 101</a>	Introduction to Civic Engagement	1.0
Term Credits		17.0
Term 3		
<a href="#">CHEM 123</a>	Majors Chemistry III	5.5
<a href="#">ENGL 103</a> or <a href="#">113</a>	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
<a href="#">MATH 123</a>	Calculus III	4.0
<a href="#">PHYS 102</a>	Fundamentals of Physics II	4.0
Term Credits		16.5

**Note: There is a new bio sequence** - BIO 131- Cells and Biomolecules- 4 credits + BIO 134- Cells and Biomolecules lab- 1 credit; BIO 132- Genetics and Evolution- 4 credits + BIO 135- Genetics and Evolution Lab; BIO 133- Physiology and Ecology- 4 credits + BIO 136- Anatomy and Ecology lab- 1 cred



# Chemistry

## What do you study?

### First year plan of study:

#### BS in Chemistry, concentration in biochemistry

Term 1		Credits
<a href="#">BIO 122</a>	Cells and Genetics	4.5
<a href="#">CHEM 121</a>	Majors Chemistry I	5.0
<a href="#">ENGL 101</a> or <a href="#">111</a>	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
<a href="#">MATH 121</a>	Calculus I	4.0
<a href="#">UNIV S101</a>	The Drexel Experience	1.0
	Term Credits	17.5
Term 2		
<a href="#">CHEM 122</a>	Majors Chemistry II	5.0
<a href="#">ENGL 102</a> or <a href="#">112</a>	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
<a href="#">MATH 122</a>	Calculus II	4.0
<a href="#">PHYS 101</a>	Fundamentals of Physics I	4.0
<a href="#">CIVC 101</a>	Introduction to Civic Engagement	1.0
	Term Credits	17.0
Term 3		
<a href="#">CHEM 123</a>	Majors Chemistry III	5.5
<a href="#">ENGL 103</a> or <a href="#">113</a>	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
<a href="#">MATH 123</a>	Calculus III	4.0
<a href="#">PHYS 102</a>	Fundamentals of Physics II	4.0
	Term Credits	16.5

Biochemistry Requirements		
<a href="#">CHEM 371</a>	Chemistry of Biomolecules	3.0
<a href="#">BIO 311</a>	Biochemistry	4.0
<a href="#">BIO 306</a>	Biochemistry Laboratory	2.0
<a href="#">BIO 404</a>	Structure and Function of Biomolecules	4.0

Note: same new bio sequence applies here too.



# Chemistry

## What can you do?

Earning a degree in chemistry provides opportunities to a wide variety of careers in many different fields, including science, research, business and healthcare. With a chemistry degree, you can find a position that suits your particular interests while also earning a high salary.

- **Chemical technician** - Chemical technicians are responsible for ensuring research chemists are able to properly and efficiently perform studies in a lab
- **Toxicologist** - Toxicologists are responsible for testing various blood and tissue samples to detect the presence of pharmaceuticals, poison, alcohol and other substances in the body. They help answer questions related to criminal cases
- **Forensic scientist** - Forensic scientists collect and analyze evidence from a crime scene. This might include items like dirt samples, blood samples, fingerprints and more.
- **Pharmacologist** - Pharmacologists perform studies on new and existing drugs and other pharmaceuticals for their effect on humans and animals. They study the source and chemical makeup of drugs. They might be responsible for ensuring drugs are safe and adhere to rules and regulations.
- **Chemist** – too many types of chemists to explain!



# Psychology

## What do you study?

Students in Drexel's Bachelor of Science (BS) in Psychology undergraduate program learn how to frame and find answers to important questions regarding human behavior, cognition and emotion, and how to apply their findings to improve lives.

### Required courses include:

- Physiological Psychology
- Abnormal Psychology
- Computer-Assisted Data Analysis I
- Psychological Research I
- History and Systems of Psychology
- Psychology of Learning
- Cognitive Psychology
- Experimental Psychology
- Psychological Testing and Assessment



# Psychology

## What can you do?

While you would need to get a higher level degree to be a therapist, an undergraduate degree in psychology is a great starting point for a wide variety of career paths. In fact, 75% of students who study psychology do not go on to get a graduate degree in psychology.

### Careers include:

- **Career counselor** – typically work in academic settings, aiding students in building future educational or career paths and help clients evaluate their abilities and interests, overcome challenges and obstacles, and develop necessary skills.
- **Psychiatric technician** - Care for people who have mental illness and developmental disabilities. Technicians typically provide therapeutic care and monitor their patients' conditions. Aides help patients in their daily activities and ensure a safe and clean environment.
- **Rehabilitation specialist** - Rehabilitation counselors help people with physical, mental, developmental, and emotional disabilities live independently. They work with clients to overcome or manage the personal, social, or psychological effects of disabilities on employment or independent living.
- **Case manager**- Case Management is a collaborative process of assessment, planning, facilitation, care coordination, evaluation and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote patient safety, quality of care, and cost effective outcomes.



# Nursing

## What do you study?

The Bachelor of Science in Nursing (BSN) is an intensive full-time undergraduate program. Drexel's undergraduate BSN program options include intensive immersion in nursing science as well as facilitated entrance into nursing practice.

Drexel's nursing curriculum is built to respond to the rapidly changing health care system, as well as to student's needs.

Graduates of the baccalaureate program will be prepared to:

- Utilize the growing compendium of knowledge and information sources from nursing and other disciplines to learn, teach, heal the sick, and conserve health;
- Contribute to the profession by sharing knowledge and skills with clients, peers, and other professionals in a variety of methods;
- Utilize multiple technologies that access and manage information to guide professional practice;
- Participate in culturally sensitive health promotion activities that contribute to the community's health and wellness;
- Participate in ongoing educational activities related to personal growth, professional practice, and community service;
- Apply knowledge and skills appropriate to their selected areas of career clinical practice;
- Develop personal potential for leadership in a changing health care environment;
- Integrate ethical concepts and principles, The Code of Ethics for Nurses, and professional standards into practice within professional, academic, and community settings;
- Utilize critical-thinking skills to improve the health outcomes of patients, families, and communities across the continuum of care.



# Nursing

## Internal Transition Requirements

**The nursing program is highly competitive, and as such the internal transition requirements are stringent.**

- Cumulative GPA of 2.75
- Grades of C or higher in the math and science courses that will count towards nursing
  - ANAT 101-103, student must complete at least 101 and 102 prior to nursing transfer
  - MATH 100, or MATH 101, or a higher level MATH course.
  - BIO 226, or BIO 221-222
  - CHEM 108 (or CHEM 101) and CHEM 103, can be completed after nursing transfer
- Students close to, but not meeting these criteria, will be evaluated on a case-by-case basis by a NURS advisor.
- A NURS advisor will create a proposed plan of study for students interested in nursing.



# Health Sciences:

## What do you study?

Designed to provide a strong foundation for students who wish to pursue careers and graduate study in the health professions

The Bachelor of Science in Health Sciences program exposes students to a wide variety of careers in health care and related professions. Our emphasis on interdisciplinary study, coupled with expert faculty, gives students the opportunity to explore different facets of health-related professions before matriculating to specialized graduate programs or entering the workplace. Whether you are on the fast track to a career in health professions or still finding your path, our Health Sciences program offers a multitude of options for completing your degree.

The Health Sciences program offers a rigorous four-year curriculum for students interested in pursuing careers in health-related professions.

Courses in health and clinical sciences, research methods, statistics, and healthcare ethics are combined with a core curriculum of mathematics, humanities, and social sciences to provide a fully integrated and comprehensive curriculum. Our multidisciplinary approach enables students to develop clinical, research, and interpersonal skills that provide a highly competitive edge in the marketplace and admission to post-graduate studies.

**Note:** This major has only a 4-year 1 co-op option.



# Health Sciences: What do you study?

## First Year Plan of Study:

Term 1		Credits
<a href="#">BIO 122</a>	Cells and Genetics	4.5
<a href="#">CHEM 101</a>	General Chemistry I	3.5
<a href="#">ENGL 101</a> or <a href="#">111</a>	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
<a href="#">UNIV NH101</a>	The Drexel Experience	1.0
Free elective		3.0
Term Credits		15.0
Term 2		
<a href="#">BIO 124</a>	Evolution & Organismal Diversity	4.5
<a href="#">CHEM 102</a>	General Chemistry II	4.5
<a href="#">CIVC 101</a>	Introduction to Civic Engagement	1.0
<a href="#">ENGL 102</a> or <a href="#">112</a>	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
<a href="#">MATH 101</a>	Introduction to Analysis I	4.0
Term Credits		17.0
Term 3		
<a href="#">BIO 126</a>	Physiology and Ecology	4.5
<a href="#">CHEM 103</a>	General Chemistry III	5.0
<a href="#">ENGL 103</a> or <a href="#">113</a>	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
<a href="#">MATH 102</a>	Introduction to Analysis II	4.0
Term Credits		16.5

**Note:** Same change to bio sequence



# Health Sciences: What do you study?

Designed to provide a strong foundation for students who wish to pursue careers and graduate study in the health professions





# English: What do you study?

**Students take courses in literature, creative writing and practical publication as they prepare to master the literary and creative world of the future.**

Curriculum focuses on the connection between oral, written, and digital modes of communication; analytical, ethical, and critical thinking; the relevance and relation of the past to the present; the relations between and among cultures; the role of literary and philosophical texts in our attempts to explain human motives and behavior; issues of personal and communal identity; and the connection of the literary arts to social change.

**English major offers two concentrations:**

- **Literary Studies**

Concentration electives include: Classical to Medieval Literature, Romanticism to Modernism, Survey of World Literature , American Literature I, British Literature I, Literature and Society

- **Writing**

Concentration electives include: Introduction to Journalism, Argument and Rhetoric Writing Fiction Writing Humor and Comedy

**Note:** The English Major has 52 credits in free electives, so it is totally possible to fit in those pre-med prerequisites.



# English:

## What can you do?

Careers for graduates with an English degree span many fields, thanks in part to the transferrable skills provided by the major. These skills include strong written and verbal communication, cultural competency and experience with diverse research methods.

English major careers include

- **Social Media Manager** - responsible for planning, implementing, managing and monitoring a company's Social Media strategy in order to increase brand awareness, improve Marketing efforts and increase sales.
- **Communications Director** - controls the flow of information between an organization and the public. Determines marketing strategies, directs public relations campaigns and is often the face of the company at media events.
- **Technical Writer** - develop product manuals, how-to guides, website help sections, journal articles, and other content that distills technical information with ease and clarity. They make processes easy to understand and products easy to use.
- **Public relations specialist** - responsible for growing, shaping, and maintaining a company's reputation and brand. Identifies media opportunities, maintains existing media relations, and promotes positive public awareness of the company through external communications.
- **Lawyer**
- **Human Resource Specialist - Prepares** compensation and benefits packages, setting up company policies and maintaining updated employee records.



# Biomedical Engineering

## What do you study?

**Biomedical Engineering Degree program prepares students to conceive, design, and develop devices and systems that improve human health and quality of life,**

**Students must select from one of the following concentrations:**

- **Biomaterials and Tissue Engineering** - focuses on the fundamental knowledge of natural and synthetic biomaterials and cellular biology and educates students in the emerging field of cellular and tissue engineering.
- **Biomechanics and Human Performance Engineering**
  - provides students with the background and skills needed to create work and living environments which improve human health and enhance performance.
- **Biomedical Informatics** - focuses on the management, analysis and visualization of data that is generated in molecular and cellular biology, genomics and other areas of biology and biomedicine. Students are trained in the development of useful computational models of living systems and novel informatics technologies in life sciences.
- **Biomedical Devices and Imaging** - focuses on the theoretical and practical issues related to machine vision, image processing and analysis, and signal processing associated with such medical applications as ultrasound, optics, magnetic resonance, and autoradiographic imaging.
- **Neuroengineering** - includes the modeling of neural and endocrine systems, neural networks, complexity in physiological systems, evolutionary influences in biological control systems, neurocontrol, neurorobotics, and neuroprosthetics.



# Biomedical Engineering

## What do you study?

Students will be equipped with the appropriate skills and abilities to understand the medical need, evaluate existing solutions, define requirements, identify constraints, and choose tests to verify requirements have been met.

### **Required coursework includes:**

#### **Programming and Modeling for Biomedical Engineers I**

This course aims to introduce students with some fundamental concepts about programming in MATLAB to give the ability to solve basic bioengineering problems.

#### **Introduction to BMES Design I – Defining Medical Problems**

This course will focus on defining the problem which includes: 1) understanding the medical need, 2) evaluating existing solutions, 3) defining requirements, identifying constraints and 4) choosing tests to verify requirements have been met.

#### **Introduction to BMES Design II – Evaluating Design Solutions**

This course will focus on developing solutions that include: 1) generating multiple solution pathways, 2) refining solution choices based on requirements and constraints, 3) conducting experimental verification tests and 4) finally concluding if the solution was a success.



# Biomedical Engineering

## Why BME for med school?

Biomedical engineering is the most natural course of study to get you into medical school and guide you towards a rich and exciting medical career. There may be an easier way to become a physician or health professional, but as a high achiever, you'd rather do it the right way. In biomedical engineering, you will learn about biology and the anatomy and physiology of the human body and its systems in a way that nobody else teaches it. Equipped with your engineering skills, you will truly learn medicine, and your mind will constantly alert you: here is something that I can do to improve, to design, to make a difference.

### Internal Transition Requirements:

- MATH 110 and CHEM 111 - B or better
- cumulative GPA of at least 2.75

or

- CHEM 101 and MATH 121 C or better
- cumulative GPA of at least 2.75

Students MUST complete the first applicable course in the Chemistry and Calculus sequences or substitutes (MATH 105 = MATH 110; MATH 116 & MATH 117 = MATH 121) as determined by the admitting advisor before admission into the School will be considered



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# First-Year Exploratory Studies

# Biomedical Engineering

## What else can you do?

**In addition to medical school, a degree in biomedical engineering will prepare you for jobs including:**

- Software and hardware engineering.
- Medical device industry.
- Innovative design and development.
- Research and development.
- Manufacturing.
- Equipment testing and field servicing.
- Clinical patient evaluation.
- Technical documentation.