INTERPROFESSIONAL HEALTH SCIENCES MAJOR (B.S.)

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The Interprofessional Health Sciences Campus, Nutley, New Jersey
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The Bachelor of Science in Interprofessional Health Sciences (BS-IPHS) major is a degree that combines the benefit of a liberal arts education with those of pre-professional training in the health sciences and management practices. The BS-IPHS program spans the science and the administration of health systems. It offers experiential opportunities and strengthens Catholic values alongside rich engagement with the healthcare profession. Students select between three diverse concentrations of study to meet their interests in the health professions (Health Sciences Administration & Management; Exercise Science; or Pharmaceutical & Health Sciences Marketing).

The BS-IPHS is a 4-year degree that prepares students for diverse job options in the healthcare arena after graduation. The BS-IPHS can provide an excellent foundation for graduate work in a variety of healthcare fields such as athletic training, physical therapy, nutrition, nursing, public health, physician assistant, health administration and other advanced degree options. It can also complement pre-medical studies. In addition, the number of elective course credits (27 credits) provides students an opportunity to enrich their major course of study with a minor, study abroad, graduate pre-requisite course work, or the Honors program.

Program Requirements

Students are required to meet standards and requirements in the University core, the School of Health & Medical Science (SHMS) college core, the IPHS program core and their concentration. In addition, students will enroll in elective courses (27 credits). Students earn graduation candidacy at 120 credits.

*If students place into MATH 0012 Developmental Math, they must also take MATH 0014 College Algebra before they register for MATH 1015.

*IPHS Core courses are for IPHS majors only or with special permission from the instructor. However, IPHS 2510 is open to all majors.

*There are prerequisite requirements for most courses in each IPHS concentration. To enroll in any concentration course, you must meet with an IPHS advisor.

Code	Title	Hours
University Core Requirements		
CORE 1001	University Life	1
CORE 1101	Journey of Transformation	3
CORE 2101	Christianity and Cult in Dial.	3
CORE 3XXX: Engaging the World		3
ENGL 1201	Core English I	3
ENGL 1202	Core English II	3
Subtotal		16
School of Health and Medical Science (SHMS) College Core Requirements		
MATH 1015	Pre Calc Math Alg and Trig	4
BIOL 1211	General Biology- Organisms	3
BIOL 1212	General Biology-Organisms Lab	1
BIOL 1222	General Biology-Cell	3
BIOL 1223	General Biology-Cell Lab	1
PHIL 1130	Biomedical Ethics	3
PSYC 1101	Introduction to Psychology	3
SOCI 1101	Introduction to Sociology	3
One Language Course		3
Subtotal		24
IPHS Program Core Requirements		
IPHS 2510	Introduction to Health Sciences and Health Careers	3
IPHS 2511	Professionalism, Practice and Ethics for Healthcare Professionals	2
IPHS 3510	Promotion of Health and Wellness in the Health Sciences	3
IPHS 3550	Statistics and Research in the Health Sciences	3
IPHS 4510	Social Determinants of Health for the Health Sciences	3
IPHS 4520	Legal Concepts for Healthcare Delivery	3
Subtotal		17
Concentration (Select one)		36
Health Sciences Administration & Management Concentration (p. 1)		
Exercise Science Concentration (p. 2)		
Pharmaceutical and Health Sciences Marketing Concentration (p. 2)		
Subtotal		36
Electives		**27**
Total Hours		**120**

Concentrations

Health Sciences Administration & Management Concentration

For the student who chooses the Health Sciences Administration & Management concentration, the student will meet the standards and requirements of the University and College cores, degree candidates must complete program (17 credits), concentration (36 credits), and elective (27 credits) requirements for a total of 120 credits.

Code	Title	Hours
Health Sciences Administration & Management Concentration *		
IPCI 2530	Foundations of Health Science Management for Health Professionals	3
IPCI 2532	Introduction to Health Policy and Pharmacoeconomics	3
IPHA 2535	Advanced Healthcare Systems	3
IPHA 3535	Healthcare Quality and Outcomes Management Fundamentals	3

IPHA 4035	Healthcare Leadership and Team Dynamics	3
IPHA 4536	Planning for Healthcare Delivery and Operations	3
BMGT 2503	Organizational Behavior	3
BMKT 2601	Principles of Marketing	3
BACC 2103	Financial Accounting	3
BACC 2104	Managerial Accounting	3
ECON 1411	Introduction to Economics	3
IPCI 4575	Capstone for Interprofessional Health Sciences	3
Total Hours		**36**

* *The program does not allow electives with the prefix BMGT, BMKT, BACC and ECON.*

Exercise Science Concentration

For the student who chooses the Exercise Science concentration, the student will meet the standards and requirements of the University and College cores, degree candidates must complete program (17 credits), concentration (36 credits), and elective (27 credits) requirements for a total of 120 credits.

Code	Title	Hours
Exercise Science Concentration		
BIOL 1122	Human Anatomy and Physiology I	3
BIOL 1123	Human Anatomy and Phys I Lab	1
BIOL 1133	Human Anatomy and Phys II	3
BIOL 1134	Human Anatomy and Phys II Lab	1
CHEM 1123	General Chemistry I	3
CHEM 1125	General Chemistry Lab I	1
IPES 3565	Biomechanics	3
IPES 3555	Care and Prevention of Athletic Injuries	3
IPES 3557	Exercise Physiology	3
IPES 4650	Exercise Prescription for Special Populations	3
IPES 3567	Exercise Program Design	3
IPES 4850	Internship for Exercise Science *	3
IPES 2550	Musculoskeletal Anatomy for Healthcare Professionals	3
IPES 4645	Nutrition Across the Lifespan for Healthcare Professionals	3
Total Hours		**36**

* *An internship is required of all students in the Exercise Science concentration.*

Pharmaceutical and Health Sciences Marketing Concentration

For the student who chooses the Pharmaceutical & Healthcare Marketing concentration, the student will meet the standards and requirements of the University and College cores, degree candidates must complete program (17 credits), concentration (36 credits), and elective (27 credits) requirements for a total of 120 credits.

Code	Title	Hours
Pharmaceutical and Health Sciences Marketing Concentration *		
IPCI 2530	Foundations of Health Science Management for Health Professionals	3
IPCI 2532	Introduction to Health Policy and Pharmacoeconomics	3
IPPM 3535	Marketing and Sales Application of Clinical Pharmacology	3
IPPM 4536	Pharmaceutical and Clinical Promotion Research	3
IPPM 4025	Finance for Healthcare and Pharmaceutical Professionals	3
IPPM 4035	Health Consumerism: Promotion of Prescription, Products, and Digital Applications for Health Profess	3
ECON 1411	Introduction to Economics	3
BMKT 2601	Principles of Marketing	3
BACC 2103	Financial Accounting	3
BACC 2104	Managerial Accounting	3
IPCI 4575	Capstone for Interprofessional Health Sciences	3
Total Hours		**33**

* *The program does not allow electives with the prefix BMGT, BMKT, BACC and ECON).*

Planner

Concentrations:

- Health Sciences Administration & Management Concentration (p. 2)
- Exercise Science Concentration (p. 3)
- Pharmaceutical and Health Sciences Marketing Concentration (p. 4)

Health Sciences Administration and Management Concentration

Course	Title	Hours
First Year		
First Semester		
CORE 1101	Journey of Transformation	3
CORE 1001	University Life	1
BIOL 1211	General Biology- Organisms	3
BIOL 1212	General Biology-Organisms Lab	1
ENGL 1201	Core English I	3
MATH 1015	Pre Calc Math Alg and Trig	4
	Hours	**15**
Second Semester		
IPHS 2510	Introduction to Health Sciences and Health Careers	3
BIOL 1222	General Biology-Cell	3
BIOL 1223	General Biology-Cell Lab	1
ENGL 1202	Core English II	3
Foreign Language		3
Elective		3
	Hours	**16**
Second Year		
First Semester		
IPCI 2530	Foundations of Health Science Management for Health Professionals	3
BACC 2103	Financial Accounting	3
CORE 2101	Christianity and Cult in Dial.	3

ECON 1411	Introduction to Economics	3
PSYC 1101	Introduction to Psychology	3
	Hours	**15**
Second Semester		
IPHS 2511	Professionalism, Practice and Ethics for Healthcare Professionals	2
IPHA 2535	Advanced Healthcare Systems	3
BACC 2104	Managerial Accounting	3
SOCI 1101	Introduction to Sociology	3
Elective		3
	Hours	**14**
Third Year		
First Semester		
IPHS 3550	Statistics and Research in the Health Sciences	3
IPCI 2532	Introduction to Health Policy and Pharmacoeconomics	3
BMKT 2601	Principles of Marketing	3
CORE 3		3
Elective		3
	Hours	**15**
Second Semester		
IPHS 4510	Social Determinants of Health for the Health Sciences	3
BMGT 2503	Organizational Behavior	3
IPHA 3535	Healthcare Quality and Outcomes Management Fundamentals	3
PHIL 1130	Biomedical Ethics	3
Elective		3
	Hours	**15**
Fourth Year		
First Semester		
IPHA 4035	Healthcare Leadership and Team Dynamics	3
IPHA 4536	Planning for Healthcare Delivery and Operations	3
Elective		3
Elective		3
Elective		3
	Hours	**15**
Second Semester		
IPHS 3510	Promotion of Health and Wellness in the Health Sciences	3
IPHS 4520	Legal Concepts for Healthcare Delivery	3
IPCI 4575	Capstone for Interprofessional Health Sciences	3
Elective		3
Elective		3
	Hours	**15**
	Total Hours	**120**

Exercise Science Concentration

Course	Title	Hours
First Year		
First Semester		
CORE 1101	Journey of Transformation	3
CORE 1001	University Life	1
BIOL 1211	General Biology- Organisms	3
BIOL 1212	General Biology-Organisms Lab	1
ENGL 1201	Core English I	3
MATH 1015	Pre Calc Math Alg and Trig	4
	Hours	**15**
Second Semester		
IPHS 2510	Introduction to Health Sciences and Health Careers	3
BIOL 1222	General Biology-Cell	3
BIOL 1223	General Biology-Cell Lab	1
ENGL 1202	Core English II	3
PSYC 1101	Introduction to Psychology	3
Foreign Language		3
	Hours	**16**
Second Year		
First Semester		
BIOL 1122	Human Anatomy and Physiology I	3
BIOL 1123	Human Anatomy and Phys I Lab	1
CHEM 1123	General Chemistry I	3
CHEM 1125	General Chemistry Lab I	1
CORE 2101	Christianity and Cult in Dial.	3
Elective		3
	Hours	**14**
Second Semester		
IPHS 2511	Professionalism, Practice and Ethics for Healthcare Professionals	2
SOCI 1101	Introduction to Sociology	3
BIOL 1133	Human Anatomy and Phys II	3
BIOL 1134	Human Anatomy and Phys II Lab	1
IPES 2550	Musculoskeletal Anatomy for Healthcare Professionals	3
Elective		3
	Hours	**15**
Third Year		
First Semester		
IPHS 3550	Statistics and Research in the Health Sciences	3
IPHS 3550	Statistics and Research in the Health Sciences	3
IPES 3555	Care and Prevention of Athletic Injuries	3
CORE 3		3
Elective		3
	Hours	**15**
Second Semester		
PHIL 1130	Biomedical Ethics	3
IPHS 4510	Social Determinants of Health for the Health Sciences	3
IPES 3565	Biomechanics	3
IPES 4850	Internship for Exercise Science	3
Elective		3
Elective		3
	Hours	**18**
Fourth Year		
First Semester		
IPES 4650	Exercise Prescription for Special Populations	3
IPES 4645	Nutrition Across the Lifespan for Healthcare Professionals	3
IPES 4850	Internship for Exercise Science	3
Elective		3
Elective		3
	Hours	**15**
Second Semester		
IPHS 3510	Promotion of Health and Wellness in the Health Sciences	3
IPHS 4520	Legal Concepts for Healthcare Delivery	3
Elective		3
Elective		3
Elective		3
	Hours	**15**
	Total Hours	**123**

Pharmaceutical and Health Sciences Marketing Concentration

Course	Title	Hours
First Year		
First Semester		
CORE 1101	Journey of Transformation	3
CORE 1001	University Life	1
BIOL 1211	General Biology- Organisms	3
BIOL 1212	General Biology-Organisms Lab	1
ENGL 1202	Core English II	3
MATH 1015	Pre Calc Math Alg and Trig	4
	Hours	**15**
Second Semester		
IPHS 2510	Introduction to Health Sciences and Health Careers	3
BIOL 1222	General Biology-Cell	3
BIOL 1223	General Biology-Cell Lab	1
ENGL 1201	Core English I	3
Foreign Language		3
Elective		3
	Hours	**16**
Second Year		
First Semester		
IPCI 2530	Foundations of Health Science Management for Health Professionals	3
BACC 2103	Financial Accounting	3
CORE 2101	Christianity and Cult in Dial.	3
ECON 1411	Introduction to Economics	3
Elective		3
	Hours	**15**
Second Semester		
IPHS 2511	Professionalism, Practice and Ethics for Healthcare Professionals	2
PSYC 1101	Introduction to Psychology	3
BACC 2104	Managerial Accounting	3
SOCI 1101	Introduction to Sociology	3
BMKT 2601	Principles of Marketing	3
	Hours	**14**
Third Year		
First Semester		
IPHS 3550	Statistics and Research in the Health Sciences	3
IPCI 2532	Introduction to Health Policy and Pharmacoeconomics	3
TBA		3
CORE 3		3
Elective		3
	Hours	**15**
Second Semester		
PHIL 1130	Biomedical Ethics	3
IPHS 4510	Social Determinants of Health for the Health Sciences	3
IPPM 3535	Marketing and Sales Application of Clinical Pharmacology	3
Elective		3
Elective		3
	Hours	**15**
Fourth Year		
First Semester		
IPPM 4025	Finance for Healthcare and Pharmaceutical Professionals	3
IPPM 4536	Pharmaceutical and Clinical Promotion Research	3
IPPM 4035	Health Consumerism: Promotion of Prescription, Products, and Digital Applications for Health Profess	3
Elective		3
Elective		3
	Hours	**15**
Second Semester		
IPHS 4520	Legal Concepts for Healthcare Delivery	3
IPHS 3510	Promotion of Health and Wellness in the Health Sciences	3
IPCI 4575	Capstone for Interprofessional Health Sciences	3
Elective		3
Elective		3
	Hours	**15**
	Total Hours	**120**

IPCI 2530 Foundations of Health Science Management for Health Professionals (3 Credits)
This course is designed for diverse health professionals, including future health practitioners with clinical backgrounds, whose responsibilities include health management for various health organizations. Applications of traditional health management skills and competencies are tailored to emphasize the role of clinicians, highly educated workforces, safety, and risks for health employees, and managing health delivery personnel services that are complex and are offered in disparate settings from emergency rooms to assisted care facilities.

IPCI 2532 Introduction to Health Policy and Pharmacoeconomics (3 Credits)
This course introduces the fundamentals of Pharmacoeconomics. The course compares the cost and outcomes of therapies from an economic perspective. Various techniques are applied to the decision-making approaches to determine the value of the therapies under investigation. These techniques are applied in the selection of patient treatment and formulary evaluation. Quantitative techniques as they impact health policy on quality-of-life issues is discussed.

IPCI 4575 Capstone for Interprofessional Health Sciences (3 Credits)
The Capstone project is a formative and summative assessment of the student's knowledge and competencies in their interprofessional health science concentration. The Capstone course runs like a seminar although the student has a project advisor to guide the work. The outcome measures of the Capstone are a written product, either a paper or poster presentation, and/or an oral presentation of the work to the department, school or elsewhere. The individual Capstone project to showcase the student's interest will be decided upon by the advisor and student. The Capstone project can be research-related, direct work experience or other application. The main criterion is that the advisor and student agree that the Capstone project reflects the student's knowledge and skills in or related to their interprofessional health science concentration.

IPES 2250 Musculosktl Anatmy for Health (3 Credits)
This course provides students with a solid foundation in bony and musculature structures of the body, and upper and lower extremities. A unit on the head and neck, and one on the major organs is also covered.

IPES 2550 Musculoskeletal Anatomy for Healthcare Professionals (3 Credits)
This course provides students with a solid foundation in bony and musculature structures of the body, and upper and lower extremities. A unit on the head and neck, and one on the major organs is also covered.

IPES 3555 Care and Prevention of Athletic Injuries (3 Credits)
#This course introduces students to the pathophysiology of the healing process. Topics include acute musculoskeletal pathologies commonly seen in active individuals and acute care, and prevention of common musculoskeletal injuries. Hands-on skills such as wound care, ace wraps and basic taping techniques are taught and practiced.

IPES 3557 Exercise Physiology (3 Credits)
#This course is designed to provide an in-depth understanding of the physiological responses to exercise. Time will be spent learning how body systems work and their individual responses to exercise. Focus will be placed on the integration of the body systems to understand the overall response to exercise. There will be both in class in lab-based experiences.

IPES 3565 Biomechanics (3 Credits)
Biomechanics is the science of how force affects the human body. Dynamic human movement is explained by rigid-body mechanics. This course analyzes how anatomical and mechanical factors influence motor activities. Kinematics and kinetics are explored.

IPES 3567 Exercise Program Design (3 Credits)
This course introduces students to exercise testing, prescription, and program development for active individuals across the lifespan. Students gain knowledge in exercise prescriptions for general exercise and for specific body regions. Special emphasis is placed on maintaining a safe exercise environment.

IPES 4645 Nutrition Across the Lifespan for Healthcare Professionals (3 Credits)
This course investigates how nutrition requirements change across the lifespan. Nutritional status and nutrient needs are explored in the context of normal growth and body development during childhood and across the lifespan. Special attention is given to the role nutrition plays in causing and preventing degenerative diseases, and to common health problems including obesity.

IPES 4650 Exercise Prescription for Special Populations (3 Credits)
This course addresses physical activity interventions for special populations, including but not limited to: older adults, children, obesity, diabetes, CVD, cancer, anxiety, depression, osteoporosis, multiple sclerosis, COPD, PAD, arthritis & musculoskeletal injuries. The course covers basic principles of exercise programming for optimal health of the general population and evidence-based, advanced programming methods, and population-specific considerations for those with specialized conditions and/or disease states.

IPES 4850 Internship for Exercise Science (3 Credits)
This internship provides the student experience in a setting related to exercise science. Internship locations are determined by the student and internship coordinator with a focus on the student's future career path.

IPHA 2535 Advanced Healthcare Systems (3 Credits)
This course expands students' understanding of the various healthcare system components as they relate to the United States and global healthcare industries. This semester's work will focus on health and pharmaceutical economics, managed care and population health models, political and governmental issues, lobbying and advocacy, and international health systems.

IPHA 3535 Healthcare Quality and Outcomes Management Fundamentals (3 Credits)
This course familiarizes the student with the concepts of quality and outcomes management with a special emphasis on the introduction of quality improvement processes across the healthcare continuum. The relationship of quality improvement to customer satisfaction is discussed in detail. Students will utilize databases from AHRQ and IOM to evaluate quality outcomes.

IPHA 4035 Healthcare Leadership and Team Dynamics (3 Credits)
#Organizations are rapidly adapting to change, with significant implications for leadership and organizations. Teams are essential to effective healthcare systems. Leaders find they must also be able to operate in a virtual environment. The course covers the essentials of successful human resources management illustrated through exercises in team dynamics and effective leadership in a team-based environment. The course has the goal of enhancing the teamwork skills of each participant.

IPHA 4536 Planning for Healthcare Delivery and Operations (3 Credits)
This course introduces students to planning options and integrated delivery operating processes designed specifically for healthcare organizations. Building on the systems approach, students learn models appropriate for health delivery organizations regardless of site, size, and complexity (medical health complexes, community hospitals, urgi-care centers) and become familiar with best practices for clinical operations management. Applications of logistic theories to hospital-wide productivity metrics and ethical constraints in health care services supply and demand decisions are covered. Students apply the various decision tools used to assess impact of strategic alternatives appropriate for healthcare settings.

IPHS 2510 Introduction to Health Sciences and Health Careers (3 Credits)
#This introductory course is for students interested in pursuing a career in the healthcare profession. The purpose of the course is for students to gain a basic knowledge of the skills required for diverse health professions. The course provides students with an overview of careers in the health systems. Various health care professions and career opportunities are incorporated into this course. The collaborative and interprofessional nature of the health care team is emphasized in the modern health care arena. Students are encouraged to explore health professions through assignments, observations, guest lecturers and interviews.

IPHS 2511 Professionalism, Practice and Ethics for Healthcare Professionals (2 Credits)
This course addresses professional role development integrating concepts of multidimensional care and analysis to inform clinical decision making, professional judgment, and lifelong learning.

IPHS 3510 Promotion of Health and Wellness in the Health Sciences (3 Credits)
This course introduces the student to the concepts of the promotion of health and wellness. Topics include understanding the health consumer, personal health, relationships, disease prevention, and substance use.

IPHS 3550 Statistics and Research in the Health Sciences (3 Credits)
This course introduces statistical research methods in health science. This course provides students with the tools to collect and analyze data. Students will analyze peer-reviewed literature to improve critical thinking skills. Emphasis will be placed on concepts of data collection, data entry, data analysis and interpretation utilizing SPSS and Excel software programs.

IPHS 4510 Social Determinants of Health for the Health Sciences (3 Credits)
This course introduces students to the social determinants of health and population health in the United States. Students develop knowledge of behavioral and social factors that contribute to population health inequity and the impact of health disparity. Other topics include skill development in cultural humility, deliberative dialogue, and active listening to reduce health inequities.

IPHS 4520 Legal Concepts for Healthcare Delivery (3 Credits)
A review of the current national health care crisis and the impact on legal issues for reform. Topics include issues of health care access, cost and quality control, Medicare and Medicaid, and the impact of legal decisions on the roles of health institutions, health care contracts and claims, right to treatment, and federal health plans vs. private health coverage.

IPPM 3535 Marketing and Sales Application of Clinical Pharmacology (3 Credits)
This course addresses key considerations for how and why healthcare professionals make prescribing decisions across multiple therapeutic contexts and disease states in the United States. Evidence-based clinical decision-making criteria will be reviewed for select common diseases. Basic pathophysiology, pharmacology, disease state management, clinical treatment guidelines, and outcomes will be covered. In addition, this course outlines the evidentiary requirements to support marketing claims in U.S. pharmaceutical advertising.

IPPM 4025 Finance for Healthcare and Pharmaceutical Professionals (3 Credits)
This course provides an opportunity to examine factors affecting the unique financing of health care. Current systems used by pharmaceutical finance as well as health care organizations are discussed with special attention paid to ownership forms, governance, tax status, and budget and revenue cycles based on health payor mix (Medicaid, Medicare, commercial, self, charity care). Nonprofit status budgetary concepts are highlighted. Topics also include introduction to value-based care and alternative payment systems.

IPPM 4035 Health Consumerism: Promotion of Prescription, Products, and Digital Applications for Health Profess (3 Credits)
This course introduces the role of the health consumer and health practitioner decision-making when selecting diverse health prescriptions, product (medical devices), and digital applications. Based on solid models of promotion, pharmaceutical branding processes and health tailored communications, this course introduces applied topics such as direct-to-consumer health service strategies as well as the increasing role of wearable devices as health products.

IPPM 4536 Pharmaceutical and Clinical Promotion Research (3 Credits)
This course highlights the complex skills required for applying health research strategies to pharmaceutical and clinical products. Special focus on the unique role of pharma research & development decisions including the increasing complexity of advanced medicine, and escalating research and time investments to yield future return-on-investments. Basic research strategies are assessed for ethical considerations (discounting) and comparisons with direct to consumer (DTC) strategies to identify best-practice opportunities for the specialized healthcare and pharma market.