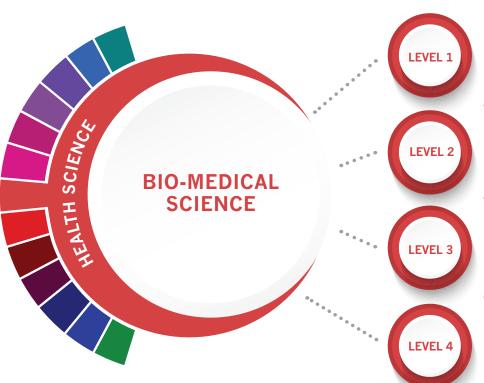


Local Implementation Considerations:

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal accountability reporting.

Proposed Indicator: Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal accountability reporting.





Principles of Biosciences Principles of Biomedical Science (PLTW)

Human Body Systems (PLTW) Medical Interventions (PLTW)

Biotechnology I Biomedical Innovation (PLTW) Medical Microbiology

Biotechnology II Pathophysiology Scientific Research and Design Practicum in Health Science

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Medical Laboratory Assistant	Medical and Clinical Laboratory Technologists	Histologic Technician	Molecular Biology	Genetic Counseling
Medical Laboratory Technician			Biomedical Engineers	Medical Scientist
		Clinical Labora Medical Te Techno	echnology/	Epidemiology

Additional industry based certification information is available from the TEA CTE website.

For more information on the postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Health Occupations Students of America (HOSA) Career Prep Activities: Lab internship or shadow a healthcare or medical professional

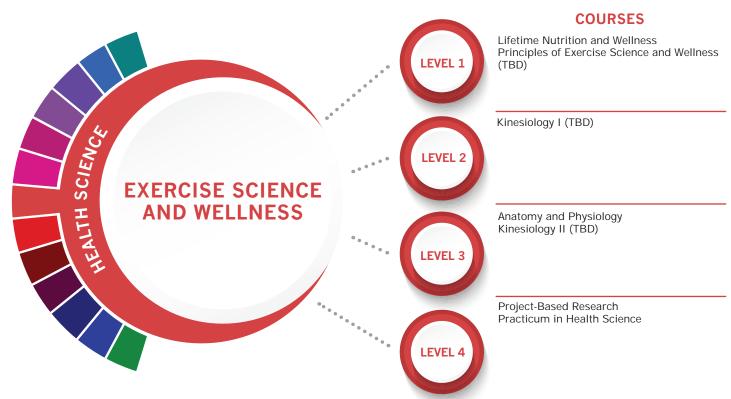
The Bio-Medical Science program of study focuses on the study of biology and medicine in order to introduce students to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing dieases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.







COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Principles of Biosciences	13036300	None	9-10
Principles of Biomedical Science (PLTW)	N1302092	None	11-12
Human Body Systems (PLTW)	N1302093	None	10-12
Medical Interventions (PLTW)	N1302094	None	10-12
Biotechnology I	13036400	PREQ: Biology RPREQ: Principles of Biosciences and Chemistry	11-12
Biomedical Innovation (PLTW)	N1302095	None	11-12
Medical Microbiology	13020700	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	10-12
Biotechnology II	130307200	PREQ: Biotechnology I and Chemistry and Biology	11-12
Pathophysiology	13020800	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	11-12
Scientific Research and Design	13037200	PREQ: Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics	11-12
Practicum in Health Science	13020500 (2 credits) 13020505 (3 credits)	PREQ: Health Science Theory	11-12



POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S Degree	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Personal Trainer	Physical Therapist Assistant		and Exercise ence	Exercise Physiology
	Physical Therapy Aides	Therapeutic Re	ecreation/ Recrea	ational Therapy
	Dietetic Technician	Athl	etic Training/ Tra	ainer
			Dietitians and Nutritionists	Physical Therapist
Additional indus	stry based certificat	ion information is a	vailable from the TI	EA CTE website

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Athletic Trainers	\$53,450	215	22%
Exercise Physiologists	\$41,662	33	33%
Coaches and Scouts	\$40,010	2,133	23%
Medical and Health Service Managers	\$57,762	428	24%
Recreational Therapists	\$45,906	74	24%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Health Occupation Students of America (HOSA)

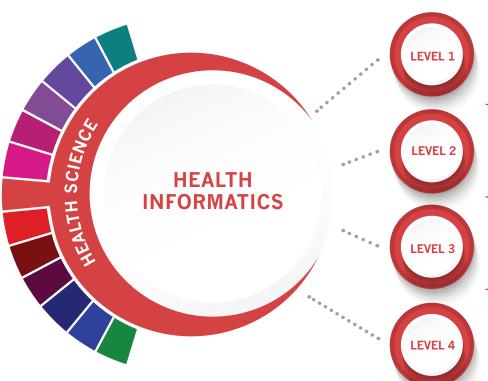
Career Prep Activities: Volunteer at a hospital or rehabilitation center; manage a school sports team

The Exercise Science and Wellness program of study introduces students to the fields that assist patients with maintaining physical, mental, and emotional health. Students will research diet and exercise needed to maintain a healthy, balanced lifestyle and learn about and practice techniques to help patients recover from injury, illness, or disease.





COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Lifetime Nutrition and Wellness	13024500	RPREQ: Principles of Human Services, Principles of Hospitality and Tourism, or Principle of Health Science	9-12
Principles of Exercise and Wellness	TBD	TBD	TBD
Kinesiology I	TBD	TBD	TBD
Anatomy and Physiology	13020600	PREQ: Biology and a second science credit; RPREQ: a course from the Health Science cluster	10-12
Kinesiology II	TBD	TBD	TBD
Project-Based Research	12701500	None	11-12
Practicum in Health Science	13020500 (2 credits) 13020505 (3 credits)	RPREQ: a course from the Health Science cluster PREQ: Health Science Theory and Biology	11-12



Medical Terminology Principles of Health Informatics (TBD)

Business Information Management I Medical Intervention Evaluation and Research (TBD)

Health Informatics Healthcare Information Systems and Management (TBD)

World Health Research Project-Based Research

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Coding Associate	Certified Professional in Informatics	Health Information/ Medical Records Technology/ Technician	Medical and F Mana	
Medical Coding and Billing Specialist	Medical Transcript- ionist			

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Records and Health Information Technicians	\$35,922	1,588	24%
Medical and Health Service Managers	\$57,762	428	24%
Billing and Posting Clerks	\$35,485	5,775	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Health Occupations Students of America (HOSA) Career Prep Activities: Volunteer at a community wellness center, hospital, assisted living center, or nursing home Shadow a healthcare or medical professional

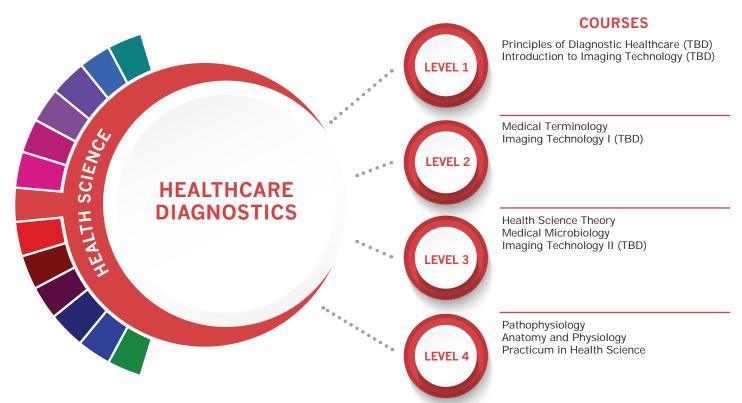
t information in the

The Health Informatics program of study focuses on exposing students to the management and use of patient information in the healthcare field. Students may learn about and research recent modifications of computerized healthcare and the process of creating and maintaining hospital and patient records in accordance with regulatory requirements of the healthcare system. Students may also practice writing and interpreting medical reports.





COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Medical Terminology	13020300	None	9-12
Principles of Health Informatics	TBD	TBD	TBD
Business Information Management I	13011400	RPREQ: Touch Data System Entry RCREQ: Business Lab	10-12
Medical Intervention and Evaluation	TBD	TBD	TBD
Health Informatics	13020960	PREQ: Business Information Management I and Medical Terminology	11-12
Healthcare Information Systems and Management	TBD	TBD	TBD
World Health Research	13020900	PREQ: Biology and Chemistry RPREQ: A course from the Health Science cluster	11-12
Project-Based Research	12701500	None	11-12



POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE S DEGREE	BACHELOR S DEGREE	MASTER S/ DOCTORAL PROFESSIONAL DEGREE
Limited Licensed Radiology Technologist	Medical Sonographer	Nuclear Medica Techno	55	Radiologist
EKG/ ECG Technician	Radiologic Technologist	Magnetic Resonance Imaging (MRI) Technology/ Technician	Medical Radiologic Technology/ Science Radiation Therapist	Radiologic Technology/ Science - Radiographer
Medical Laboratory Technician				
Phlebotomy Technician				

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Diagnostic Medical Sonographers	\$69,909	495	35%
Phlebotomists	\$30,597	1,442	36%
Nuclear Medicine Technologists	\$75,962	91	13%
Radiologic Technologists	\$55,494	1,196	19%
Magnetic Resonance Imaging Technologists	\$68,661	217	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

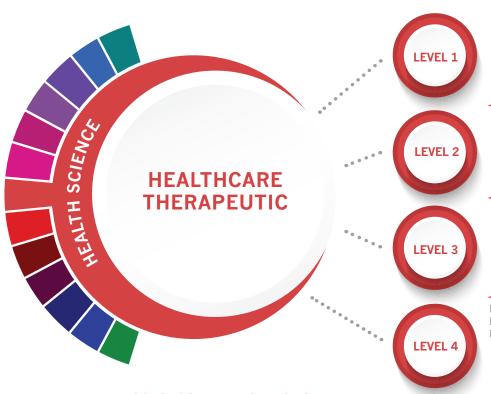
Exploration Activities: Health Occupation Students of America (HOSA) Career Prep Activities: Clinical rotations at a community wellness center, hospital, assisted living, nursing home Attend community health fairs or camps

The Healthcare Diagnostics program of study introduces students to occupations and educational opportunities related to performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with blood laboratories as well as radiologic technology, and ultrasonic technology.





COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Principles of Diagnostic Healthcare	TBD	TBD	TBD
Introduction to Imaging Technology	TBD	TBD	TBD
Medical Terminology	13020300	None	9-12
Imaging and Technology I	TBD	TBD	TBD
Health Science Theory	13020400 (1 credit) 13020410 (2 credits)	PREQ: Biology RCREQ: Health Science Clinical	10-12
Medical Microbiology	13020700	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	10-12
Imaging Technology II	TBD	TBD	TBD
Pathophysiology	13020800	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	11-12
Anatomy and Physiology	13020600	PREQ: Biology and a second science credit RPREQ: a course from the Health Science cluster	10-12
Practicum in Health Science	13020500 (2 credits) 13020205 (3 credits)	PREQ: Health Science Theory and Biology	11-12



Principles of Health Science Principles of Therapeutic Healthcare (TBD) Introduction to Pharmacy Science (TBD) Introduction to Dental Science (TBD)

Medical Terminology Dental Anatomy and Physiology (TBD) Pharmacy I (TBD)

Anatomy and Physiology Health Science Theory Medical Microbiology Pharmacy II (TBD) Medical Assistant (TBD) Dental Equipment and Procedures (TBD)

Pathophysiology Pharmacology Practicum in Health Science

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental F	lygienist	Dentist
Certified Occupational Therapy Assistant	Surgical Technologist			Physician Assistant
Certified Medical Assistant	Medical Assistant	Medical/ Clinical Assistant		Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$46, 310	1,150	21%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

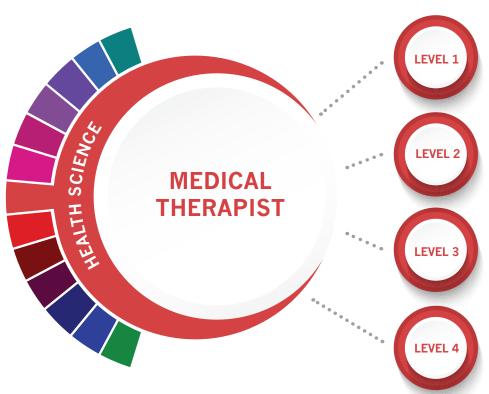
Exploration Activities: Skills USA Health Occupation Students of America Career Prep Activities: Volunteer at a community wellness center, hospital, assisted living, or nursing home.

The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.





COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Principles of Health Science	13020200	None	9-10
Principles of Therapeutic Healthcare	TBD	TBD	TBD
Introduction to Pharmacy Science	TBD	TBD	TBD
Introduction to Dental Science	TBD	TBD	TBD
Medical Terminology	13020300	None	9-12
Dental Anatomy and Physiology	TBD	TBD	TBD
Pharmacy I	TBD	TBD	TBD
Anatomy and Physiology	13020600	PREQ: Biology and a second science credit; RPREQ: a course from the Health Science cluster	10-12
Health Science Theory	13020400 (1 credit) 13020410 (2 credits)	PREQ: Biology RPREQ: Health Science Clinical	10-12
Medical Microbiology	13020700	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	10-12
Pharmacy II	TBD	TBD	TBD
Medical Assistant	TBD	TBD	TBD
Dental Equipment and Procedures	TBD	TBD	TBD
Pathophysiology	13020800	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	11-12
Pharmacology	13020950	Principles of Health Science	11-12
Practicum in Health Science	1302500 (2 credits) 13020505 (3 credits)	PREQ: Health Science Theory and Biology	11-12



Introduction to Speech Pathology and Audiology
Principles of Allied Health (TBD)

Medical Terminology Speech and Language Development Allied Health Therapeutic Services (TBD)

Speech Communication Disorder Physical Therapy I (TBD) Occupational Therapy I (TBD) Radiation Therapy I (TBD) Respiratory Therapy I (TBD)

Practicum in Health Science Occupational Therapy II (TBD) Physical Therapy II (TBD) Radiation Therapy II (TBD) Respiratory Therapy II (TBD)

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certification in Orthopedic Manual Therapy	Certified Respiratory Therapist	Occupational Therapy Assistant	Respiratory Therapists	Occupational Therapists
Limited Licensed Radiology Technologist	Certified Physical Therapy Assistant	Radiation Therapists		Speech Language Pathologist
		Respiratory Therapists		Physical Therapists
		Physical Therapy Assistant		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Speech Language Pathologists	\$73,070	1,068	25%
Respiratory Therapists	\$57,429	17,493	20%
Occupational Therapists	\$92,227	84	34%
Physical Therapy Assistants	\$70,200	1,268	44%
Radiation Therapists	\$70,658	101	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Health Occupation Students of America Career Preparation: Lab internship Job shadow Clinical rotations

The Medical Therapist program of study focuses on the study of biology and medicine in order to introduce students to the knowledge and skills necessary to be successful in the healthcare field in occupations such as, Respiratory, Occupational, Physical, or Speech Therapist. Students may also practice patient care and communication.

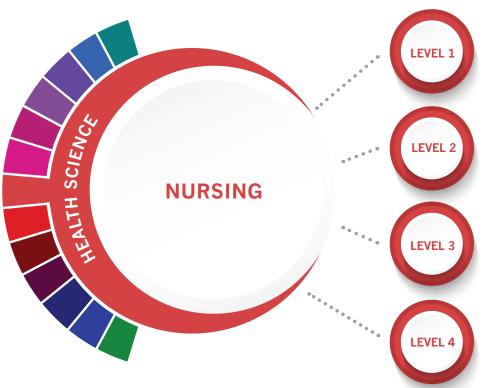




COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Introduction to Speech Pathology and Audiology	N1302098	None	9-12
Principles of Allied Health	TBD	TBD	TBD
Medical Terminology	13020300	None	10-12
Speech and Language Development	N1302098	None	11-12
Allied Health Therapeutic Service	TBD	TBD	TBD
Speech Communications Disorders	N1302099	None	11-12
Physical Therapy I	TBD	TBD	TBD
Occupational Therapy I	TBD	TBD	TBD
Radiation Therapy I	TBD	TBD	TBD
Respiratory Therapy I	TBD	TBD	TBD
Practicum in Health Science	13020500 (2 credits) 13020505 (3 credits)	PreReqs: Health Science Theory and Biology	11-12
Occupational Therapy II	TBD	TBD	TBD
Physical Therapy II	TBD	TBD	TBD
Radiation Therapy II	TBD	TBD	TBD
Respiratory Therapy II	TBD	TBD	TBD

Principles of Nursing (TBD)

Science of Nursing (TBD)



Medical Microbiology Anatomy and Physiology Clinical Ethics (TBD) Leadership and Management in Nursing (TBD)

Pathophysiology Pharmacology Practicum in Nursing (TBD)

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Medical Assistant	Licensed Vocational Nurse	Registered Nursing/ Registered Nurse	Informatics Nurse Specialists	Nurse Practitioner
Certified Nurse Aide/Assistant				Nursing Administration
Certified Patient Care Technician				Nurse Anesthesist

 $\label{lem:conditional} \mbox{Additional industry based certification information is available from the TEA CTE website.}$

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Licensed Vocational Nurses	\$45,178	7,186	21%
Registered Nurses	\$68,682	17,493	26%
Nurse Practitioners	\$107,827	977	50%
Informatics Nurse Specialists	\$88,270	4,610	15%
Nurse Anethesists	\$154,856	357	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities: Health Occupation Students of America (HOSA) Career Prep Activities: Volunteer at a community wellness center, hospital, assisted living center, or nursing home; attend community health fairs or camps

The Nursing Program of Study introduces students to knowledge and skills related to patient care. CTE concentrators may learn about or practice caring for patients, routine procedures such as monitoring vital signs, development and implementation of care plans, maintenance of medical records, and disease or pain management. Students may focus on the healthcare system and research system designs and make recommended modifications.





COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED PREREQUISITES (RPREQ) RECOMMENDED COREQUISITIES (CREQ)	GRADE
Principles of Nursing	TBD	TBD	TBD
Science of Nursing	TBD	TBD	TBD
Medical Microbiology	13020700	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	10-12
Anatomy and Physiology	13020600	PREQ: Biology and a second science credt; RPREQ: a course from the Health Science cluster	10-12
Clinical Ethics	TBD	TBD	TBD
Leadership and Management in Nursing	TBD	TBD	TBD
Pathophysiology	13020800	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	11-12
Pharmacology	13020950	PREQ: Biology and Chemistry RPREQ: a course from the Health Science cluster	11-12
Practicum in Nursing	TBD	TBD	TBD