## Purpose and Focus

The Division of Health Sciences was established to provide academic programs leading to professional specialization within the health care industry. Successful completion of the student's chosen academic program will provide the graduate with the knowledge and skills necessary to compete in the health care industry in a variety of settings. Curricular offerings within the division provide the student with a foundation in the liberal arts and sciences. Each health science discipline emphasizes the development of professional competence through course work that stresses the theoretical as well as the clinical aspects of the chosen field. Each of the curricular offerings within the division provides students the opportunity to practice their chosen discipline in a wide variety of clinical agencies in the Las Vegas community. The dynamic growing health care industry in Southern Nevada is receptive to the students and to UNLV graduates.

## Accreditation

Accreditation Board for Engineering and Technology
American Association of Colleges of Nursing
Northwest Commission on Colleges and Universities
Joint Review Committee on Educational Programs in Nuclear Medicine Technology
Commission for the Accreditation of Athletic Education
The Accreditation Council for Education in Nutrition and Dietetics (ACEND)
Council on Accreditation of Allied Health Education Programs
Joint Review Committee on Education in Radiologic Technology
Commission on Accreditation of Medical Physics Educational Programs

## School of Allied Health Sciences

Department of Health Physics and Diagnostic Sciences
Comprehensive Medical Imaging - Bachelor of Science
Health Physics - Bachelor of Science
Nuclear Medicine - Bachelor of Science
Radiography — Bachelor of Science
Department of Kinesiology and Nutrition Sciences
Athletic Training - Bachelor of Science
Kinesiological Sciences - Bachelor of Science
Nutrition Sciences - Bachelor of Science
Didactic Program in Dietetics
Dietetic Internship (Post Baccalaureate Supervised Practice)

## School of Nursing

Nursing — Bachelor of Science

## School of Community Health Sciences

Health Care Administration - Bachelor of Science
Public Health — Bachelor of Science

## Graduate Degree Programs

Doctor of Dental Medicine
Doctor of Radiochemistry
Master of Science in Exercise Physiology
Master of Science in Health Physics

Master of Science in Kinesiology
Master of Science in Nursing
Master of Education in Health Promotion
Master of Public Health
Master of Health Care Administration
Ph.D. in Public Health
Ph.D. in Nursing
Doctor of Physical Therapy
Doctor of Nursing Practice

## Minors

Health Physics
Kinesiology
Public Health: two minors
Public Health
Sustainability and Health

## Advisement

All undergraduate academic advising is done through the Division of Health Sciences Advising Center in MPE 308. Program requirements are available in the Division of Health Sciences Advising Center. It is the student's responsibility to maintain contact with advisors as changes in departmental policies and programs may occur. Phone: 702-895-5448.

## Health Sciences

## HSC 100 - Inquiry and Issues in Health Sciences

Formerly Listed as CLS 100.
This First Year Experience course examines scientific research methods, ethics and communication in the Health Sciences. Disciplines within health science are explored. Global and multicultural issues are identified related to health care delivery, policy and research. 2 credit(s)

## HSC 310 - Patient Education in the Health Sciences

Techniques to improve healthful behavior of patients via education. Theories and principles of learning, assessment of patient's needs, and processes of implementation and evaluation of appropriate teaching/learning strategies. Prerequisite(s): NURS 120. 3 credit(s)

## HSC 320 - Patient-Provider Relationships in the Health Sciences

Examination of health care-related issues and concepts with emphasis on communication between patient and practitioner. Prerequisite(s): ENG 101 and 102; NURS 120. 3 credit(s)

## HSC 400 - Research Methodologies in the Health Sciences

Examination of the issues involved in planning, conducting, and evaluating research. Emphasis on qualitative and quantitative research methodologies appropriate to the allied health professions. Prerequisite(s): KIN 300. 3 credit(s)

## HSC 405 - Ethical Issues in Health Care

Study of the philosophical basis of ethics and ethical decision-making practices in contemporary health care with an examination of the differences between "masculine" and "feminine" ethical decision-making patterns. Includes an analysis of current ethical issues such as abortion, right to die, euthanasia, organ transplants, and individual versus collective rights of persons. 3 credit(s)

## HSC 410 - Management Principles in the Health Sciences

Introduction of concepts that influence the role of the manager or administrator in a health care setting. Prerequisite(s): HSC 320.3 credit(s)

## HSC 420 - Information Technology for the Health Sciences

Computer applications for the allied health professions. Overview of issues and trends pertaining to the implementation of computer-based innovations in the clinical or practice setting. Emphasis on communications, information management, and information retrieval. Prerequisite(s): CS 115.3 credit(s)

## HSC 490 - Professional Paper in the Health Sciences

Discussion of the components of a professional paper, conducting in-depth literature review, and writing a professional paper. Prerequisite(s): Senior standing in B.S. in Health Sciences program. 3 credit(s)

## HSC 492 - Holistic Health Care: The Art and Science of Caring and Healing

Examines and evaluates scientific evidence of holistic modalities that can be implemented into health care practices of daily life. Emphasizes the meaning of a holistic perspective for practice implications and daily life. Prerequisite(s): PSY 101. 3 credit(s)

HSC 499 - Special Topics in Health Sciences
Specialized instruction in special topics in health sciences designed to develop understanding of current health sciences issues. Prerequisite(s): Consent of instructor. May be repeated to a maximum of six credits. 1-6 credit(s)

## School of Allied Health Sciences

## Purpose and Focus

The School of Allied Health Sciences provides undergraduate and graduate education to students in the health sciences. The curricula are designed to prepare students for entry-level health-related positions and further graduate or professional studies. Educational experiences include rigorous classroom instruction, laboratory/ clinical practice, research, and mentoring. It is a goal of the School of Allied Health Sciences faculty to produce graduates who are professionally competent, capable of critical thinking, and highly sought after by employers. Graduates will exhibit high ethical professional standards; be devoted to lifelong learning; and be prepared to respond to local, regional, or national level demands in their fields of study.

## Departments, Majors, and Undergraduate Degrees

Department of Health Physics and Diagnostic Sciences
Comprehensive Medical Imaging - Bachelor of Science
Health Physics - Bachelor of Science
Nuclear Medicine - Bachelor of Science
Radiography -Bachelor of Science
Department of Kinesiology and Nutrition Sciences
Athletic Training — Bachelor of Science
Kinesiology - Bachelor of Science
Nutrition Sciences - Bachelor of Science
Didactic Program in Dietetics
Dietetic Internship (Post Baccalaureate Supervised Practice)

## Minors

Health Physics
Kinesiology

## Admission to the School

Minimum GPA: 2.50
Admission Policies: Students failing to meet the entrance requirement GPA may appeal in writing to the School of Allied Health Sciences Academic Standards Committee for consideration of any extenuating circumstances affecting their admission.

Individual departments and programs within the school may have cumulative GPA requirements that are higher than those required for admission into the school. Students must satisfy department or program GPA requirements before being admitted to the major. Students failing to meet department GPA entrance requirements may appeal in writing to the department chair or program director for consideration of any extenuating circumstances affecting their admission.

Admission to some programs offered by the school is limited. Programs require fulfillment of selective admission criteria as contained in this catalog and in other appropriate School of Allied Health Sciences or program documents. Continuation in limited enrollment programs is contingent upon fulfillment of conditions specified by UNLV and contained in official school documents.

Transfer Policies: Transfer students are accepted provided they meet the stated requirements for admission. The school, through individual departments, is sensitive to the needs of students who hold associate degrees and/or certificates. Students interested in entering a baccalaureate degree program should contact the specific department offering the desired major. Articulation agreements with selected community college(s) may be obtained from the department offering the desired major.

School Policies: General university requirements for the baccalaureate degree include the completion of a minimum of 124 credits. Students earning a degree in any major within the School of Allied Health Sciences must complete all required courses for the designated major plus the Nevada System of Higher Education (NSHE) and UNLV general education core requirements. The student is referred to the individual departments for progression, probation, and suspension policies specific to their major of interest.

## Advisement

All undergraduate academic advising is done through the Division of Health Sciences Advising Center in MPE 308. Program requirements are available in the Division of Health Sciences Advising Center. It is the student's responsibility to maintain contact with advisors as changes in departmental policies and programs may occur. Phone: 702-895-5448.

## Health Physics and Diagnostic Sciences

## PEX 100 - Archery

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 101 - Backpacking and Camping

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 102 - Badminton

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 103 - Bicycling

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 104 - Billiards

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 104C - Billiards (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 105 - Bowling

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 106 - Canoeing

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 107-Golf

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 107A - Golf (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 109 - Handball

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 110 - Fitness Walking

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 111 - Jogging

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 112-0lympic Sport Judo

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 112B - Self-Defense Judo

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 113 - Tae Kwon Do (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 113B - Tae Kwon Do (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 114 - Self Defense

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 115 - Aikido (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 115B - Aikido (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 116A - Scuba Diving

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 116B - Scuba Diving (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 117-Okinawan Karate

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 118A - Skiing

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 118B - Skiing (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 119 - Shotokan Karate

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 120A - Swimming (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 120B - Swimming (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 120C - Advanced Swimming and Lifesaving

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 120D - Swim Instructor Training (WSI)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 120E - Lifeguard Training

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 121 - Synchronized Swimming

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 122A - Tennis

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 122B - Tennis (Intermediate/Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 123 - Racquetball

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 123B - Racquetball (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 123C - Racquetball (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 124A - Table Tennis (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 124B - Table Tennis (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 126 - Desert Hiking and Survival Skills

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 127 - Water Aerobics

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 128 - Low Back Care Through Gentle Yoga

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 129 - Circuit Training

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 130 - Step Aerobics

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 132 - Weight Training

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 133 - Aqua-Dynamics

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 134 - T'ai Chi Cu'uan

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 134A - T'ai Chi Ch'uan (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 134B - Hatha Yoga

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 134C - Hatha Yoga (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 135 - Martial Arts Cross Training

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 136X - Cardio-Kickboxing

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 137 - Ice Skating Skills (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 137B - Ice Skating Skills (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 138 - Ice Hockey Skills (Beginning)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 143 - Rock Climbing

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 143A - Rock Climbing (Intermediate)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 146 - Softball

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 147 - Soccer

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 148A - Volleyball

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 148B - Volleyball (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 152 - Total Body Conditioning for Women

This course is designed to teach women exercise methods that will help them improve their cardiovascular fitness, muscle strength and agility. The class will incorporate a variety of workout environments including weights, body weight exercises and other cardiovascular exercises including running. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 153 - Weight Training for Women

Students taking this course will participate in exercise using dumbbells, selectorized equipment and free weight exercises. Other subjects that could be address are toning muscles, building muscles, program design, exercises for different muscle groups, flexibility, and proper nutrition. The class instruction will be specific to women. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 154 - Indoor Cycling

Students taking this course will participate in exercise using a stationary bicycle. They will learn basic cycling techniques, and breathing and heart rate awareness. This exercise is aimed at improving cardiovascular health and burning calories. Student will also learn about the benefits of exercise and fitness.May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 155 - Basketball

This course will teach students the rudiments of passing, dribbling and shooting. Students will also learn offsensive and defensive sets. Students will have the opportunity to develop these skills through in-class competition. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 156 - Body Weight Bootcamp

This course is designed to demonstrate to students efficient ways to burn fat at high rates in short amounts of time through exercises that rely upon the body weight of the student. The workouts will be aimed at improving strength and endurance. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 157 - Dance Conditioning

May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 158 - Flag Football

This course introduces the fundamentals and rules of flag football. The basic fundamentals of flag football, such as offensive and defensive tactics, blocking, tackling, and running with the ball, as well as more advanced concepts such as Co-Recreational differences and rule intricacies will be covered. The emphasis will be on learning the rules of flag football, practicing the various skills, and having fun. Skills tests, drills/practices, games will be conducted during the semester. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 159 - Floor Hockey

This course introduces the fundamentals and rules of floor hockey. The basic fundamentals of floor hockey, such as stick handling, passing, shooting, etc. as well as more advanced concepts such as face-offs, goal tending, offensive and defensive tactics will be covered. The emphasis will be on learning the rules of floor hockey, practicing the various skills, and having fun. Skills tests, drills/practices, games will be conducted during the semester. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 160 - Latin Nightclub Dance

This course is designed to introduce students to a variety of Latin Dance techniques such as Salsa, Rumba, Cha Cha Cha, Merengue and East Coast Swing. The class will help students to develop their rythem, timing, movements and lead-follow connection. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 161 - Pilates

To introduce students to a mind-body form of exercise that will help to increase body awareness and mindfulness, as well as build strength and flexibility through classic Pilates mat training. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 162 - Sports Officiating

This course will teach the basic concepts of sports officiating. This course has been developed for students with the intent to pursue sports officiating at the High School level and will be taught using information from the National Federation of High Schools (NFHS) and National Association of Sports Officials (NASO). May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 163 - Triathlong Training

This course will teach the necessary elements of training for a triathlon. The course will cover appropriate methods of training in long distance running, swimming and cycling. With the goal of developing a personal training triathlon program for each student, the class will prepare the student for a metric triathlon. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 164 - Body Building and Contouring

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 164C - Body Building and Contouring (Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 165 - Aerobic Conditioning

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 166 - Calisthenics and Floor Exercise

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 167 - Ultimate Frisbee

This course is designed to introduce students to ultimate frisbee. The class will focus on basic throwing technique, as well as offensive and devensive sets, and allow students to scrimmage. The class will introduce students to the official rules of ultimate frisbee according to the governing body of USA Ultimate. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 168 - Adult Fitness-Principles and Practices

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 169 - Back Country Camping and Travel

This introductory back country and camping course is an experientially-based excursion focusing on the skills necessary to plan, prepare, and embark on short-stay overnight trips to wild lands where emergency medical care can be delayed. Safe travel, camping skills, equipment selection and operation, Leave No Trace principles will be taught. May be repeated up to a maximum of 6 credits. 2 credit(s)

## PEX 170 - Winter Camping and Travel

This course will focus on how to successfully travel in winter terrain (Snowshoeing), while backpacking/camping in winter conditions. Students will learn about calorie needs during winter conditions, how to pack a pack, layering for conditions, how to stay warm, winter shelters, basic map and compass, and making a winter camp. May be repeated up to a maximum of 6 credits. 2 credit(s)

## PEX 171 - Boxing Aerobic Conditioning

This course will focus on techniques utilized by boxing professionals to achieve a high level of aerobic conditioning. Students will participate in and learn a variety of techniques that develop cardiovascular endurance, agility, power, speed, timing and footwork. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 172 - Team Handball

This course will introduce students to the sport of Team Handball. Students will learn the rules of team handball, as well as offensive and defensive srategy. Students will also be taught proper safety techniques to use when playing Team Handball. Students will participate in drills, as well as scrimmages. May be repeated up to a maximum of 3 credits. 1 credit(s)

## PEX 184 - Fencing

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 184B - Fencing, (Intermediate/Advanced)

An activity class may be repeated for credit up to four times and may be audited. May be repeated for a maximum of four credits. 1 credit(s)

## PEX 195 - Specific Topics in Physical Education

Introduction to a variety of individual and team sports, fitness, and recreational activities. Emphasis on PE and sports skill knowledge and time devoted to skill practice. Specific sports, fitness, and recreational activities are designated in parentheses by section number to specify each course section's content. May be repeated to a maximum of 12 credits. 1 credit(s)

## PEX 201 - Fundamentals of Coaching

This course provides students a foundational understanding of athletecentered coaching. The class will focus on building a coaching philosophy, administrative duties, teaching strategies, motivational techniques, and organizational skills needed to be an effective coach. Upon completion of course students will meet NFHS level 1 coaching education requirements. 3 credit(s)

# Department of Health Physics and Diagnostic Sciences 

## Purpose and Focus

The Department of Health Physics and Diagnostic Sciences educates students in the applied, interdisciplinary sciences of radiation protection and medical imaging. All degree programs in the department have a strong foundation in mathematics and the physical and life sciences. Graduates of the programs are prepared for entry-level employment as radiation safety, clinical laboratory, or medical imaging professionals. Graduates also meet many of the prerequisites for advanced graduate or professional studies.

## Accreditation

Accreditation Board for Engineering and Technology (ABET) Commission on Accreditation of Medical Physics Educational Programs
Commission on Accreditation of Medical Physics Educational Programs
Joint Review Committee on Educational Programs in Nuclear Medicine Technology
Joint Review Committee on Education in Radiologic Technology
Northwest Commission on Colleges and Universities

## Undergraduate Majors

Comprehensive Medical Imaging
Health Physics
Nuclear Medicine
Radiologic Sciences

## Certification and Licensure Programs

Graduates of the B.S. in Nuclear Medicine are eligible to write both the ARRT (American Registry of Radiological Technologists) and NMTCB (Nuclear Medicine Technologists Certification Board) national registries in nuclear medicine. Graduates of the B.S. in Comprehensive Medical Imaging are eligible to take the ARRT (American Registry of Radiological Technologists) national registry in magnetic resonance imaging, provided they are certified in radiography or nuclear medicine. Graduates may take the national registry in computed tomography only if they are certified in radiography.

## Admission to the Major

Minimum GPA: 3.00 entering freshmen; 2.75 transfer and UNLV students with a minimum of 30 credits

Admission Policies: Admission to the university does not guarantee admission to academic programs within the health physics department.

Students must fulfill the following admission requirements: a cumulative high school GPA of 3.00 or above or a cumulative GPA of 2.75 or above in 30 credits taken at UNLV or accepted in transfer by the university. Normally, the last 30 credits establish the GPA.

Applicants not meeting these requirements may be admitted on a probationary status. Students admitted on probation must complete 30 credits in the specified program and/or university- required courses at UNLV, with a cumulative GPA of 2.50 or above in order to remain in the program. Previous course work will be evaluated for adequacy.

Students in the B.S. in Comprehensive Medical Imaging must have also successfully completed a nationally accredited radiography program of study prior to admission into the CT/MRI track of the program. Students not meeting this admission requirement may be admitted into the degree program on a case-by-case basis with approval from the department chair.

Applicants for the B.S. in Nuclear Medicine program must fulfill the following admission requirements: a cumulative high school GPA of at least 3.00 or a cumulative GPA of 2.75 or higher in 60 credits taken at UNLV or accepted in transfer by the university and submission of a program application by noon on the last Friday in February for possible entrance the following fall. Completion of the above does not guarantee acceptance to the program as admission is limited.

Transfer Policies: Transfer students need a cumulative GPA of 2.75 or above in credits accepted for transfer by the university for admission into the CMI, HPS or NUC programs. Previous course work will be evaluated for adequacy.

Students in the B.S. in Comprehensive Medical Imaging must have also successfully completed a nationally accredited radiography program of study prior to admission into the CT/MRI track of the program.

Department Policies: Progression Requirements
Students must:

1. Maintain a cumulative GPA of 2.50 or higher each semester enrolled and have no negative grade point averages,
2. Receive a grade of C or better in all required RAD, HPS, CMI, or NUC courses,
3. Not register for the same RAD, HPS, CMI, or NUC course more than two times (except HPS 411, CMI 490, RAD 490, and CMI 485).
4. Students who have successfully completed a nationally accredited radiography program prior to their admission to the CT/MRI track of Comprehensive Medical Imaging degree program must pass a national registry in radiography prior to graduation.
5. Student progression into RAD, CMI, and NUC clinical course work may be limited based upon the availability of clinical sites.
6. Additional policies for each program are published in the appropriate program policy manual.
7. All students accepted to a clinical program must be able to pass a national background check and a drug screening test.

## Advisement

Each student is assigned an academic advisor from the Department of Health Physics and Diagnostic Sciences faculty. It is the responsibility of the student to contact the advisor periodically, at least once each semester. The advisor will assist and advise the student in course selection and progression in program advancement.

## Comprehensive Medical Imaging Major

Comprehensive medical imaging employs advanced imaging modalities to make diagnostic evaluations of the body. The CMI program at UNLV is an innovative academic program designed to educate students in a foundation of mathematics and the sciences applicable to the interdisciplinary and applied science of diagnostic medical imaging. The program offers theoretical and clinical course work in the advanced-level modalities of magnetic resonance imaging, ultrasound, and computed tomography. Graduates of the program help meet the demand for professional personnel to perform patient imaging procedures on state-of-the-art advanced imaging systems, process and enhance computer images, prepare and administer contrast agents, maintain strict quality control guidelines, and conduct research in the comprehensive medical imaging area. The specific program objectives are that, upon graduation, the graduate should:

1. Apply theoretical and practical diagnostic medical imaging concepts in the workplace.
2. Support their aspirations for obtaining professional certifications.
3. Demonstrate an understanding of the research process and its relationship to current and future diagnostic medical imaging activities.
4. Continue to acquire knowledge and experiences required to assume leadership roles in the diagnostic medical imaging profession.
5. Function collaboratively with members of other health care disciplines.
6. Become involved with national and local medical imaging-related professional societies.
7. Have a solid academic foundation to allow entry into graduate programs.
8. Conduct themselves in an ethical and professional manner.

## Degree Requirements

## General Education Requirements

First-Year Seminar Total Credits: 2-3
English Composition $\qquad$ Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second - Year Seminar.
Total Credits: 3
Constitutions Total Credits: 4
Mathematics Total Credits: 5

- MATH 128 - Precalculus and Trigonometry

Distribution Requirement: Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts .......................................Total Credits: 9
Social Science.
Total Credits: 9
Multicultural and International
(see note 1 below)

## Additional Degree Requirements

Sciences $\qquad$ Total Credits: 24

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- CHEM 110 - Chemistry for the Health Sciences I
- PHYS 151 - General Physics I
- PHYS 152 - General Physics II

Comprehensive Medical Imaging Core. $\qquad$ Total Credits: 26-35

- RAD 100 - Introduction to Medical Imaging
- RAD 117 - Patient Care in Medical Imaging and Radiation Therapy
- HPS 102 - Radiation Science
- HPS 420 - Radiation Biology
- CMI 376 - Sectional Anatomy in Medical Imaging
- CMI 490 - Comprehensive Medical Imaging Clinical Education (three - five time; see note 2 below)
- CMI 485 - Imaging Case Reviews (twice)

Advanced Modality Studies Total Credits: 12-20
Students select one of the following tracks
CT/MRI Track:

- CMI 330 - Introduction to Magnetic Resonance Imaging
- CMI 332 - Magnetic Resonance Imaging Pathology
- CMI 360 - Principles of Computed Tomography
- CMI 361 - Computed Tomography Pathology or

Ultrasound Track:

- CMI 350 - Ultrasound Physics and Instrumentation
- CMI 351 - Abdominal Ultrasound
- CMI 352 - Obstetric Ultrasound
- CMI 353 - Gynecologic Ultrasound
- CMI 354 - Vascular Ultrasound
- CMI 355 - Ultrasound Practicum
or
Radiography Track:
- RAD 330 - Radiography Clinical Education I
- RAD 331 - Radiography Clinical Education II
- RAD 332 - Radiography Clinical Education III
- RAD 333 - Radiography Clinical Education IV
- RAD 334 - Radiography Clinical Education V
- RAD 350 - Physics of X-Ray Production
- RAD 351 - Physics of X-Ray Production Laboratory
- RAD 354 - Radiographic Quality Assurance and Techniques
- RAD 370 - Radiographic Procedures I
- RAD 371 - Radiographic Procedures Skill Laboratory I
- RAD 372 - Radiographic Procedures II
- RAD 373 - Radiographic Procedures Skills Laboratory II
- RAD 474 - Radiographic and Special Imaging Pathology
- RAD 484 - Principles of Digital Imaging
- RAD 486 - Ethics and Medical Law in Radiology

Electives.
..Total Credits: 5-21
Must be approved by the student's advisor
Up to 5 credits of lower-division RAD courses may be used as electives in the ultrasound track.
CT/MRI and Ultrasound Tracks may use up to 20 credits upper division RAD courses may be used as electives (note: they are required in the RAD Track).
Up to six additional credits of CMI 490 (beyond the required nine) may be used for electives in the CT/MRI track.
Total Credits: 120

## Notes

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.
2. Students in the Ultrasound track may take CMI 490 four times for a total of 12 credits.

## Health Physics Major

Health Physics is the profession devoted to protection of the individual, population, and environment from the potentially harmful effect of ionizing and nonionizing radiation. The Health Physics program at UNLV is designed to train students for entry-level positions in health physics. Graduates also meet many of the prerequisites required for postgraduate studies in areas such as health physics, radiation therapy, pharmacy or medicine. The specific program objectives are that, upon graduation, the graduate should:

1. Apply theoretical and practical health physics in the workplace.
2. Demonstrate an understanding of the research process and its relationship to current and future health physics activities.
3. Continue to acquire knowledge and experiences requisite to assuming a leadership role in the health physics profession.
4. Function collaboratively with members of the health physics community and representatives from related health and safety professions.
5. Have a solid academic foundation for graduate study.
6. Conduct themselves in an ethical and professional manner.

## Degree Requirements

First-Year Seminar .Total Credits: 2-3
English Composition $\qquad$ .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ..............................................TTotal Credits: 3
Constitutions .Total Credits: 4
Mathematics.
.Total Credits: 4

- MATH 181 - Calculus I

Distribution Requirement Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts .......................................Total Credits: 9

Social Science. $\qquad$ Total Credits: 9
Multicultural and International
(see notes below)
Additional Degree Requirements
Mathematics............................................................Total Credits: 4

- MATH 182 - Calculus II

Biology $\qquad$ Total Credits: 12

- BIOL 189 - Fundamentals of Life Science
- BIOL 196 - Principles of Modern Biology I
and
- BIOL 197 - Principles of Modern Biology II
or
- BIOL 223 - Human Anatomy and Physiology I
and
- BIOL 224 - Human Anatomy and Physiology II

Chemistry.
Total Credits: 12

- CHEM 121 - General Chemistry I
- CHEM 122 - General Chemistry II
- CHEM 241 - Organic Chemistry I

Physics. $\qquad$ Total Credits: 12

- PHYS 180 - Physics for Scientists and Engineers I
- PHYS 180L - Physics for Scientists and Engineers Lab I
- PHYS 181 - Physics for Scientists and Engineers II
- PHYS 181L - Physics for Scientists and Engineers Lab II
- PHYS 182 - Physics for Scientists and Engineers III
- PHYS 182L - Physics for Scientists and Engineers Lab III Health Physics .Total Credits: 27
- HPS 300 - Physics of Ionizing Radiation
- HPS 301 - Principles of Health Physics
- HPS 402 - Radiation Detection
- HPS 403 - Radiation Physics and Instrumentation Laboratory
- HPS 411 - Health Physics Seminar (see note 1 below)
- HPS 416 - Advanced Health Physics
- HPS 420 - Radiation Biology
- HPS 470 - Environmental Health Physics
and
- HPS 495 - Health Physics Research

Science, Math or Engineering Electives $\qquad$ Total Credits: 15-16 STAT 491, CS 117, Additional Electives (must be approved by the student's advisor)
Total Credits: 120

## Notes

1. HPS 411, must be taken for four semesters.
2. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Health Physics Major - Preprofessional Concentration

Health Physics is the profession devoted to protection of the individual, population, and environment from the potentially harmful effect of ionizing and nonionizing radiation. The Health Physics program at UNLV is designed to train students for entry-level positions in health physics. Graduates also meet many of the prerequisites required for postgraduate studies in areas such as health physics, radiation therapy, pharmacy or medicine. The specific program objectives are that, upon graduation, the graduate should:

1. Apply theoretical and practical health physics in the workplace.
2. Demonstrate an understanding of the research process and its relationship to current and future health physics activities.
3. Continue to acquire knowledge and experiences requisite to assuming a leadership role in the health physics profession.
4. Function collaboratively with members of the health physics community and representatives from related health and safety professions.
5. Have a solid academic foundation for graduate study.
6. Conduct themselves in an ethical and professional manner.

## Degree Requirements <br> General Education Requirements

First-Year Seminar .Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ...............................................Total Credits: 3
Constitutions ..........................................................Total Credits: 4
Mathematics...........................................................Total Credits: 4

- MATH 181 - Calculus I

Distribution Requirement: Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts ........................................Total Credits: 9
Social Science.........................................................Total Credits: 9
Multicultural and International (see note 1 below)

## Additional Degree Requirements

Mathematics...........................................................Total Credits: 4

- MATH 182 - Calculus II

Biology $\qquad$ .Total Credits: 20

- BIOL 189 - Fundamentals of Life Science
- BIOL 196 - Principles of Modern Biology I
- BIOL 197 - Principles of Modern Biology II
- BIOL 251 - General Microbiology
- BIOL 300 - Principles of Genetics

Chemistry
.Total Credits: 16

- CHEM 121 - General Chemistry I
- CHEM 122 - General Chemistry II
- CHEM 241 - Organic Chemistry I
- CHEM 241L - Organic Chemistry for Life Sciences Lab I
- CHEM 242 - Organic Chemistry II
- CHEM 242L - Organic Chemistry for Life Sciences Laboratory II

Physics. $\qquad$ Total Credits: 12

- PHYS 180 - Physics for Scientists and Engineers I
- PHYS 180L - Physics for Scientists and Engineers Lab I
- PHYS 181 - Physics for Scientists and Engineers II
- PHYS 181L - Physics for Scientists and Engineers Lab II
- PHYS 182 - Physics for Scientists and Engineers III
- PHYS 182L - Physics for Scientists and Engineers Lab III
- HPS 300 - Physics of Ionizing Radiation
- HPS 301 - Principles of Health Physics
- HPS 402 - Radiation Detection
- HPS 403 - Radiation Physics and Instrumentation Laboratory
- HPS 411 - Health Physics Seminar (see note 1 below)
- HPS 416 - Advanced Health Physics
- HPS 420 - Radiation Biology
- HPS 470 - Environmental Health Physics
and
- HPS 495 - Health Physics Research (1 credit)

Science, Math or Engineering Electives $\qquad$ Total Credits: 9

- STAT 491 - Statistics for Scientists I
- CS 117 - Programming for Scientists and Engineers
- CHEM 474 - Biochemistry I

Total Credits: 120

## Notes

1. HPS 411 must be taken four semesters.
2. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Nuclear Medicine Major

Nuclear medicine is the medical specialty that utilizes radioactive materials to make diagnostic evaluations of the anatomic and/ or physiologic conditions of the body and provides therapy with unsealed radioactive sources. The nuclear medicine program at UNLV is designed to train students for entry-level positions in nuclear medicine. Additionally, graduates will meet many of the prerequisites required for post-graduate studies in health related areas. The specific program objectives are, that upon graduation, the graduate should:

1. Apply theoretical and practical applications of nuclear medicine in the workplace.
2. Find gainful employment locally, or regionally, as a staff or chief technologist.
3. Continue to acquire knowledge and experiences requisite to assuming a leadership role in the field of nuclear medicine.
4. Have learned many diverse aspects of nuclear medicine from routine to experimental through a wide range of clinical experiences.
5. Successfully write a national registry examination in nuclear medicine.
6. Have a sound academic foundation for graduate study.
7. Conduct themselves in an ethical and professional manner.

## Degree Requirements <br> General Education Requirements

First-Year Seminar .
.Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ...............................................Total Credits: 3
Constitutions ..Total Credits: 4
Mathematics. .. Total Credits: 5

- MATH 128 - Precalculus and Trigonometry

Distribution Requirement: Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts ........................................Total Credits: 9
Social Science.. ..Total Credits: 9
Multicultural and International
(see note 1 below)

## Additional Degree Requirements

Computer Science.
.Total Credits: 3
Statistics
.Total Credits: 3
Sciences ...............................................................Total Credits: 24

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- CHEM 121 - General Chemistry I
- CHEM 122 - General Chemistry II
- PHYS 151 - General Physics I

Nuclear Medicine Science Core $\qquad$ .Total Credits: 49-51

- NUC 300 - Introduction to Nuclear Medicine Imaging (or RAD 100)
- RAD 117 - Patient Care in Medical Imaging and Radiation Therapy
- HPS 102 - Radiation Science (or RAD 102)
- HPS 420 - Radiation Biology
- CMI 376 - Sectional Anatomy in Medical Imaging
- CMI 479 - Advanced Topics and Management
- CMI 490 - Comprehensive Medical Imaging Clinical Education (see note 2 below)
- NUC 315 - Nuclear Medicine Instrumentation
- NUC 320 - Radiopharmaceuticals
- NUC 350 - Nuclear Medicine Procedures I
- NUC 360 - Nuclear Medicine Procedures Laboratory
- NUC 387 - Nuclear Cardiology and EGG Interpretation
- NUC 450 - Nuclear Medicine Procedures II
- NUC 480 - Positron Emission Computerized Tomography (PET)
- NUC 494 - Advanced Practice in Nuclear Medicine

Electives. ..Total Credits: 0-3
Must be approved by student's advisor.
Total Credits:

## Notes

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.
2. CMI 490 is to be taken three times for a total of 9 credits.

## Minor

Health Physics Minor
Courses Include $\qquad$ Total Credits: 18

- HPS 300 - Physics of Ionizing Radiation
- HPS 301 - Principles of Health Physics
- HPS 402 - Radiation Detection
- HPS 403 - Radiation Physics and Instrumentation Laboratory and nine additional HPS credits. Up to three credits of HPS 411 may be used.


## Certificate <br> Radiography Certificate <br> Program Requirements

English Composition/Literature $\qquad$ .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Mathematics .Total Credits: 3

- MATH 124 - College Algebra
or
- MATH 126 - Precalculus I

Computer Science. .Total Credits: 3
CS 115 or equivalent
Sciences. $\qquad$ .Total Credits: 12

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II

Radiography Courses $\qquad$ Total Credits: 49

- RAD 100 - Introduction to Medical Imaging
- RAD 102 - Radiation Science
- RAD 117 - Patient Care in Medical Imaging and Radiation Therapy
- RAD 330 - Radiography Clinical Education I
- RAD 350 - Physics of X-Ray Production
- RAD 351 - Physics of X-Ray Production Laboratory
- RAD 370 - Radiographic Procedures I
- RAD 371 - Radiographic Procedures Skill Laboratory I
- RAD 372 - Radiographic Procedures II
- RAD 373 - Radiographic Procedures Skills Laboratory II
- RAD 331 - Radiography Clinical Education II
- RAD 332 - Radiography Clinical Education III
- RAD 333 - Radiography Clinical Education IV
- RAD 334 - Radiography Clinical Education V
- RAD 354 - Radiographic Quality Assurance and Techniques
- RAD 474 - Radiographic and Special Imaging Pathology

Total Credits:

## Clinical Laboratory Sciences

## CLS 350 - Urinalysis and Body Fluid Analysis

Study of renal physiology and pathologies manifested in body fluids, such as urine, CSF, and synovial fluid. Case studies demonstrate clinical significance of body fluid analysis in the diagnosis of disease. Prerequisites CHEM 220 , BIOL 208 or BIOL 300. 1-2 credit(s)

CLS 351 - Urinalysis and Body Fluid Analysis Laboratory
Analysis of constituents of urine and other body fluids with emphasis on chemical, macroscopic, and microscopic methodologies used in the diagnosis of disease. Corequisite(s): CLS 350. 1 credit(s)

## CLS 352 - Introduction to Clinical Laboratory Science and Safety

Introduction to the role of clinical laboratory scientist in health care delivery systems. Laboratory safety issues with emphasis on the practice of CDC universal precaution guidelines. Application of basic educational methods for laboratory personnel. Prerequisite(s): Admission to the CLS program. 1 credit(s)

## CLS 353 - Laboratory Operations I

Examination and correlation of laboratory data through multi-disciplinary case study approach to patient care. Includes issues of patient confidentiality, professional ethics, and fundamental laboratory calculations. Prerequisite(s): CLS 352. 1 credit(s)

## CLS 399 - Independent Study I

Individualized clinical instruction in any area of clinical laboratory sciences after completing CLS 300-level courses. Prerequisite(s): Junior status in the CLS major. Consent of instructor and program director. May be repeated to a maximum of eight credits. 1-4 credit(s)

## CLS 402 - Principles of Laboratory Specimen Collection and Processing

Specimen collection and processing for medical diagnoses including: hospital and laboratory organizational structures; safety; infection control; patient rights; professionalism; medical terminology; cardiovascular system; POCT, CLIA waived testing: glucose, coag, Hct, slide prep, UA, ESR, Troponin, Preg. and Occ Bld. Emphasis on patient care, interpretation and problem solving. Prerequisite(s): BIOL 196. Lab/Lecture/Studio Hours Includes laboratory. 2 credit(s)

## CLS 403 - Specimen Collection Clinical Practicum

Supervised clinical practicum experience to develop competencies in laboratory equipment, specimen collection, processing and direct testing. Including: blood (arterial, venipuncture, capillary), non-blood, timed, chain-of-custody samples; POCT and CLIA waived testing (glucose, Coag, Hct, slide prep, UA, ESR, Troponin, Pregs, Occ Bld). Emphasis on patient management and problem solving. Prerequisite(s): BIOL 196. Note(s): S/F grading only. 1 credit(s)

## CLS 404 - Laboratory and Hospital Safety

Laboratory and hospital safety issues with emphasis on practice of universal precaution guidelines and HIPPA regulations. Topics include: MSDS; chemical storage, handling, and labeling; fire safety; infection control and isolation techniques; spill containment; safety equipment and personal protective attire; OSHA requirements and CDC recommendations, patient rights and confidentiality. Prerequisite(s): BIOL 224, CHEM 220 or CHEM 241. 1 credit(s)

## CLS 412 - Clinical Immunology

Principles of immunology and the immune response as applied to states of health and disease, immune function and pathology. Topics include antibodies and other antigen receptors, antigens, cell-cell communications, major histocompatibility complex interactions, effector mechanisms, immune regulation, hypersensitivity reactions, immunoproliferative and immuno deficiency disease, transplantation immunology, and cancer mechanisms. Prerequisite(s): BIOL 208 or BIOL 300, CHEM 474. 3 credit(s)

## CLS 413 - Clinical Immunology Laboratory

Immunologic and molecular techniques used to analyze antigen-antibody reactions in the diagnosis of health or disease. Including liquid and gel precipitation; direct agglutination, and hemagglutination; secondary indicator systems (RIA, ELISA, FA); bacterial and viral serology, Western Blot, DNA, fingerpainting, PCR, nucleic acid probes, flow cytometry and cellular analyses. Corequisite(s): CLS 412.1 credit(s)

## CLS 414 - Transfusion Medicine Immunohematology

Transfusion medicine stresses practical and theoretical aspects of the immunology of tissue antigens and blood group systems. Including ABO discrepancies, transfusion and compatibility testing, adverse reactions to transfusion, hemolytic disease of the newborn, hemotherapy, apheresis, immunomodulation, stem cell transplantation, donor selection and preparation. Prerequisite(s): CHEM 474, CLS 412.3 credit(s)

## CLS 415 - Transfusion Medicine Immunohematology Laboratory

Simulated clinical immunohematology laboratory designed to expose the student to the clinical practice of a modern blood bank service. Applied experiences in basic and advanced clinical testing related to common blood group antigens and their associated antibodies, compatibility testing, alloantibody identification, adsorptions/elutions, transfusion reactions and pre/postnatal studies. Corequisite(s): CLS 414. 1 credit(s)

## Comprehensive Medical Imaging

## CMI 330 - Introduction to Magnetic Resonance Imaging

Utilization of magnetic resonance imaging (MRI) in the medical environment. Topics include the physics of MRI, patient care, and safety. Includes site visits. Prerequisite(s): PHYS 151 and RAD 100. 3 credit(s)

## CMI 331 - Principles of Magnetic Resonance Imaging

Principles of magnetic resonance imaging (MRI) and its application in medical diagnostic imaging. Emphasis on imaging procedures, data acquisition and processing, quality control/management, gating, MRA, and spectroscopy. Prerequisite(s): CMI 330. 3 credit(s)

## CMI 332 - Magnetic Resonance Imaging Pathology

Study of magnetic resonance imaging pathology used with the majority of pulse sequences. Emphasis on the investigation of metastatic and benign tumors as well as structural anomalies. Prerequisite(s): CMI 331.3 credit(s)

## CMI 350 - Ultrasound Physics and Instrumentation

Principles of acoustical physics, Doppler ultrasound, and ultrasound instrumentation. Prerequisite(s): PHYS 151, RAD 100. 4 credit(s)

## CMI 351 - Abdominal Ultrasound

Recognition and identification of the sonographic appearance of normal anatomical structures, disease processes, pathology, and pathophysiology of the abdomen. Prerequisite(s): CMI 350 and RAD 117. 4 credit(s)

## CMI 352-Obstetric Ultrasound

Recognition and identification of the sonographic appearance of normal maternal, embryonic, and fetal anatomical structures and obstetric disease processes, pathology, and pathophysiology. Prerequisite(s): CMI 350 and RAD 117. 3 credit(s)

## CMI 353-Gynecologic Ultrasound

Recognition and identification of the sonographic appearance of normal anatomical structures of the female pelvis and gynecological disease processes, pathology, and pathophysiology. Prerequisite(s): CMI 350 or RAD 117. 3 credit(s)

## CMI 354 - Vascular Ultrasound

Recognition and identification of the sonographic appearance of normal appearance of normal anatomical structures, disease processes, pathology, pathophysiology and hemodynamics of the peripheral vascular system and carotid arteries. Prerequisite(s): CMI 350 and RAD 117. 3 credit(s)

## CMI 355- Ultrasound Practicum

To recognize and utilize the functions of Ultrasound equipment and demonstrate knowledge of Ultrasound scanning protocols when performing scans on patients. Prerequisite(s): CMI 350. Note(s): S/F grading only. 3 credit(s)

## CMI 360 - Principles of Computed Tomography

Study of physics, techniques, and procedures that produce radiographic images of human structures using computed tomography. Prerequisite(s): PHYS 151 and RAD 100. 3 credit(s)

## CMI 361 - Computed Tomography Pathology

Trauma, body, and skeletal pathology as viewed by computed tomography (CT) investigated. New applications such as quantitative CT, spiral scanning, and CT angiography addressed.Prerequisite(s): CMI 360. 3 credit(s)

## CMI 376 - Sectional Anatomy in Medical Imaging

Transverse, coronal, and sagittal anatomy of the head, neck, thorax, abdomen, pelvis, and extremities. Areas of discussion include: skeletal, muscular, circulatory, nervous, lymphatic, and visceral anatomic relationships. Prerequisite(s): BIOL 224. 3 credit(s)

## CMI 479 - Advanced Topics and Management

Examination of recent trends, research, and technological advances in medical imaging and the health care environment. Various administrative aspects of a medical imaging facility. Explores the humanistic, ethical, legal, and professional considerations of medical care. Prerequisite(s): Formal admission to the CMI or NUC program, CMI 310. 3 credit(s)

## CMI 481 - Digital Data Management

Processing and management of digital data obtained from medical diagnostic equipment. Topics include spacial imaging domains, k -space mapping and filling, Fourier transformation, maximum intensity projection, multiplanar and 3-D reconstruction, and quality assurance/management. Prerequisite(s): CMI 331 or CMI 360. 3 credit(s)

## CMI 485 - Imaging Case Reviews

Comprehensive case review of diagnostic imaging studies from multiple modalities. Presentations focus on individual case histories, techniques, pathology, and review of current literature. Prerequisite(s): Consent of instructor. May be repeated to a maximum of two credits. 1 credit(s)

## CMI 490 - Comprehensive Medical Imaging Clinical Education

Clinical applications of instrumentation, quality control, patient care, and performance of diagnostic imaging procedures. Prerequisite(s): Consent of department. May be repeated to a maximum of 15 credits. Note(s): S/F grading only. 3 credit(s)

## Health Physics

## HPS 102 - Radiation Science

(Same as RAD 102.) Principles of radiation science and safety including interactions of radiation with matter, radiation quantities and protection standards, dosimetry, radioactive decay, and biological effects of radiation. Prerequisite(s): MATH 124. 3 credit(s)

HPS 210 - Fundamentals of Radiation Protection Technology
Radiation protection technology practices and regulations associated with DOE and NRC facilities. Topics include the types, sources and interactions of radiation, radiation surveys and inspections, emergency preparedness, biological effects of radiation, and radiation terminology and units. Calibration and use of radiation detectors and dosimeters also examined. Prerequisite(s): MATH 124. 2 credit(s)

## HPS 300 - Physics of Ionizing Radiation

Atomic and nuclear structure, basic quantum theory, radioactivity and decay kinetics, charged-particle interactions, photon interactions, neutron interactions, and sources of ionizing radiation. Prerequisite(s): CHEM 121, PHYS 181. 3 credit(s)

## HPS 301 - Principles of Health Physics

Health physics as it pertains to medicine, industry, and the government. Topics include: radiation terms, quantities and units, radiation protection standards, radiation safety and protection, radiation biology, and regulations. Prerequisite(s): HPS 300. 3 credit(s)

## HPS 402 - Radiation Detection

Provides a basic understanding of dosimetry and radiation detection. Energy loss through the interaction of radiation with matter. Differing typed of spectroscopy, electronics, and instrumentation involved in radiation detection. Statistics, errors, and interpretation encountered in data collection. Prerequisite(s): HPS 300. 3 credit(s)

HPS 403 - Radiation Physics and Instrumentation Laboratory Laboratory experiments in basic radiation physics and detection. Includes operation and calibration of survey instruments and gas-filled counters. Theory and operation of alpha and gamma spectrometry equipment and liquid scintillation counters. Laboratories and discussions on counting statistics and basic electronics. Corequisite(s): HPS 402. Prerequisite(s): HPS 300. 3 credit(s)

## HPS 411 - Health Physics Seminar

Forum for students, faculty, and/or invited speakers to present research activities, current events, market issues, and new products in the area of health physics. May be repeated to a maximum of four credits. 1 credit(s)

## HPS 416 - Advanced Health Physics

Solutions to problems pertaining to radiation safety in the environment, industry, medical facilities, and nuclear reactors. Topics include shielding, accelerators, radon, non-ionizing radiation, and radiation dose-effect. Prerequisite(s): HPS 301, 402 and 420.3 credit(s)

## HPS 420 - Radiation Biology

Radiation biochemistry, radiation effects on cellular structure and function, organs and systems, organisms, and populations. Discussions include target theory, direct and indirect effects, cell survival kinetics, prompt effects including acute radiation syndrome, delayed effects, and dose-effect relationships. Prerequisite(s): BIOL 189 or BIOL 224, and RAD 102/HPS 102 or HPS 300. 3 credit(s)

## HPS 470 - Environmental Health Physics

Cosmic and terrestrial radiation sources. Emphasis on TENORM, radon and pathway modeling. Topics include environmental regulations, nuclear fuel cycle, nuclear weapons testing and accidents, geohydrology and geochemistry. Corequisite(s): HPS 301. Prerequisite(s): MATH 182. 3 credit(s)

## HPS 475 - Medical Health Physics

Role and responsibility of the health physicist in the medical environment. Prepares the student to support medical procedures using radioactivity to ensure compliance with state and federal standards. Prerequisite(s): HPS 301. 3 credit(s)

## HPS 491 - Health Physics Internship

Students apply knowledge of the bio-physical sciences and health physics to practical situations through an internship with practicing local radiation safety officers. Settings could include public or proprietary organizations depending upon the interest of the individual student. Prerequisite(s): HPS 301.3 credit(s)

## HPS 495 - Health Physics Research

Participation in a research project in radiation science selected by faculty and students to demonstrate research potential in the field. Project may be conducted at a radiation laboratory, clinic, hospital or at the university. Prerequisite(s): HPS 301. May be repeated to a maximum of six credits. 1-6 credit(s)

## HPS 499 - Directed Study

Directed study of selected health physics problems, including individual research, on related topics. Topic selected by student and approved by faculty. Prerequisite(s): Consent of instructor. 1-3 credit(s)

## Nuclear Medicine

## NUC 300 - Introduction to Nuclear Medicine Imaging

Introduction to nuclear medicine imaging with an emphasis on medical terminology, ethics and related aspects of medical imaging, including computed tomography (CT). Prerequisite(s): HPS 102, RAD 117, BIOL 189, 223, 224, CHEM 121, 122, PHYS 151, MATH 128, must be fully accepted as a student in the Nuclear Medicine Program. 3 credit(s)

## NUC 315 - Nuclear Medicine Instrumentation

Principles and application of radiation detection equipment and instrumentation employed in nuclear medicine procedures. Theory and laboratory application of the quality control procedures specific to each instrument. Laboratory application of imaging parameters, patient positioning, views and venipuncture techniques. Prerequisite(s): RAD 100 and formal program admission. Lab/Lecture/Studio Hours includes three hours laboratory each week. 4 credit(s)

## NUC 320 - Radiopharmaceuticals

Production, distribution, dose preparation, and imaging of radioactive tracers in medicine. Rationale of radiopharmaceutical choice and practical implications of radionuclide characteristics. Laboratory procedures including: handling of radionuclides, use of common equipment, radiopharmaceutical preparation, and aseptic technique. Prerequisite(s): NUC 315 and NUC 350. Lab/Lecture/Studio Hours includes three hours lecture and three hours laboratory each week. 4 credit(s)

## NUC 350 - Nuclear Medicine Procedures I

Preparation and performance of planar and SPECT nuclear medicine imaging procedures. Incorporation of all information necessary to perform liver, spleen, hepatobiliary, gastric reflux, Meckel's diverticulum, gastrointestinal bleeds, lung and skeletal imaging and/or functional studies. Use and principles of automated processing and various film types. Prerequisite(s): RAD 100 and formal program acceptance. 3 credit(s)

## NUC 360 - Nuclear Medicine Procedures Laboratory

Application of routine Nuclear Medicine imaging procedures including acquisition, processing, display, and analysis of data. Verbal communication and patient positioning relative to gastrointestinal, pulmonary, and skeletal studies will be emphasized. Corequisite(s): NUC 350. 1 credit(s)

## NUC 387 - Nuclear Cardiology and EGG Interpretation

Theory and principles of nuclear medicine cardiac imaging. Includes comprehensive examination of cardiovascular terminology and pathology and computer analysis. EGG interpretation and comprehension of life-threatening and dangerous cardiac rhythms. Prerequisite(s): NUC 350. 3 credit(s)

## NUC 450 - Nuclear Medicine Procedures II

Survey of in vivo nuclear medicine procedures and pathology related to the endocrine, ureterogenital, central nervous system, tumor/inflammatory, and bone marrow imaging. Principles of sensitivity, specificity, accuracy, and predictive values of diagnostic testing. Prerequisite(s): NUC 350. 3 credit(s)

## NUC 480 - Positron Emission Computerized Tomography (PET)

Presents the principles of PET imaging, including: instrumentation, quality control, reimbursement, radiation safety, procedures and diagnostic assessment in the areas of oncology, neurology and cardiology. Exploration of future trends also discussed. Prerequisite(s): NUC 450. 3 credit(s)

## NUC 494 - Advanced Practice in Nuclear Medicine

Examination of Nuclear Medicine Laboratory accreditation processes and state and federal regulatory guides for the preparation of a radioactive materials' application. Advanced practical application of PET/CT, SPECT/ CT, and PET/MRI imaging. Corequisite(s): NUC 480. 1-3 credit(s)

## Radiography

## RAD 100 - Introduction to Medical Imaging

Medical imaging in radiography, ultrasound, CT, MRI, nuclear medicine and angiography. Emphasis on medical terminology, medical ethics, jurisprudence, professional organizations, radiation protection, and medical terminology. 3 credit(s)

## RAD 102 - Radiation Science

(Same as HPS 102.) Principles of radiation science and safety including interactions of radiation with matter, radiation quantities and protection standards, dosimetry, radioactive decay, and biological effects of radiation. Prerequisite(s): MATH 124. 3 credit(s)

## RAD 117 - Patient Care in Medical Imaging and Radiation

 TherapyPatient care practices in medical imaging, including ethical, legal, professional and administrative issues. Demonstrates specific patient care techniques. 3 credit(s)

## RAD 330 - Radiography Clinical Education I

Formerly Listed as RAD 130.
Clinical practicum providing experience in patient care, film processing and management, legal and administrative responsibilities, and radiography of the thorax, and abdomen. Includes introduction to radiography of the skeleton. Prerequisite(s): RAD 100, RAD 117, RAD 350, RAD 370, RAD 371 as well as formal admission to the radiography program. Note(s): S/F grading only. 1-3 credit(s)

## RAD 331 - Radiography Clinical Education II

Formerly Listed as RAD 231.
Continued clinical practicum providing experience in radiography. Prerequisite(s): RAD 330, RAD 372, RAD 354. May be repeated to a maximum of six credits. Note(s): S/F grading only. 3 or 6 credit(s)

## RAD 332 - Radiography Clinical Education III

Formerly Listed as RAD 232.
Continued clinical practicum providing experience in radiography including fluoroscopy of the digestive tract. Prerequisite(s): RAD 331. Note(s): S/F grading only. 1-3 credit(s)

## RAD 333 - Radiography Clinical Education IV

Formerly Listed as RAD 233.
Continued clinical practicum providing experience in radiography including the cervical spine. Prerequisite(s): RAD 332. Note(s): S/F grading only. 1-3 credit(s)

## RAD 334 - Radiography Clinical Education V

## Formerly Listed as RAD 234.

Continued clinical practicum providing experience in radiography including operating room imaging. Prerequisite(s): RAD 332. May be repeated to a maximum of six credits. 3-6 credit(s)

## RAD 350 - Physics of X-Ray Production

Formerly Listed as RAD 150.
Study of x-ray machinery including the x-ray tube, transformers, recifiers, and circuits. There is an emphasis on the theory of $x$-ray production including the factors which contribute to image resolution. Prerequisite(s): MATH 124. 3 credit(s)

## RAD 351 - Physics of X-Ray Production Laboratory

Formerly Listed as RAD 151.
Three-hour laboratory course with experiments on magnetism, electromagnetism, x-ray circuitry, image resolution and processing factors. Corequisite(s): RAD 350. 1 credit(s)

RAD 354 - Radiographic Quality Assurance and Techniques Formerly Listed as RAD 254.
Detailed study of the factors contributing to image quality. Explanation of the various quality assurance tests used for radiographic equipment to maintain consistency in image quality. Corequisite(s): RAD 350. 3 credit(s)

## RAD 370 - Radiographic Procedures I

Formerly Listed as RAD 170.
Study of radiographic terminology related to body mechanics and positioning. Introduction to factors relating to image quality and radiation protection. Anatomical study of and radiographic positioning parameters of the appendicular skeleton, thoracic and abdominal viscera, as well as the digestive tract. Introduction to factors affecting film quality and radiation protection. Lectures include radiographic positioning and anatomy of the extremities including the shoulder and pelvic girdles and the thoracic viscera and digestive tract. Prerequisite(s): BIOL 189, BIOL 223, BIOL 224. Formal admission to the radiography program. 3 credit(s)

## RAD 371 - Radiographic Procedures Skill Laboratory I

Formerly Listed as RAD 171.
Introduction to exposure factors relating to image quality through phantom radiography. Peer positioning of the appendicular skeleton, thoracic and abdominal viscera, as well as the digestive tract. Analysis of film critique and anatomy recognition. Prerequisite(s): Formal admission to the radiography program. Note(s): Must be taken concurrently with RAD 370. 1 credit(s)

## RAD 372 - Radiographic Procedures II

Formerly Listed as RAD 172.
Study of iodinated contrast use and adverse effects. Anatomical study, radiographic positioning and procedures related to the urinary and biliary system. Anatomical study and radiographic positioning parameters related to the bony thorax, vertebral column, cranium, and facial bones. Introduction to advances modalities including CT, MRI, Mammography, and Interventional Radiology. Prerequisite(s): RAD 100, RAD 117, RAD 350, RAD 370. 3 credit(s)

## RAD 373 - Radiographic Procedures Skills Laboratory II

 Formerly Listed as RAD 173.Peer radiographic positioning of the urinary system, vertebral column, cranium, and facial bones. Practical application of C-arm operation. Analysis of film critique and anatomy recognition. Prerequisite(s): RAD 370 and RAD 371. Note(s): Must be taken concurrently with RAD 372. 1 credit(s)

## RAD 474 - Radiographic and Special Imaging Pathology

Formerly Listed as RAD 274.
Recognition of radiographic and special imaging pathology such as those seen on CT and MRI with an emphasis on etiology. Pathology subjects include skeletal, neuro, thoracic and abdominal viscera. Multiple radiologist lectures augment the textbook study of various pathological situations. Prerequisite(s): RAD 332. 3 credit(s)

## RAD 483 - Principles of Advanced Imaging

Introduction to some of the advanced modalities available in radiology. Modalities include CT, MRI, Interventional Radiology, and Radiation Therapy. Topics for each modality will include patient care, instrumentation, image processing, and application. Prerequisite(s): RAD 432, and CMI 376. Formal admission to the radiography program. 3 credit(s)

## RAD 484 - Principles of Digital Imaging

Detailed study of the production of digital radiographic images. Includes demonstration of equipment and proper utilization with an emphasis on radiation protection. Prerequisite(s): RAD 432, and CMI 376. Formal admission to the radiography program. Lab/Lecture/Studio Hours Six hours practicum, one hour lecture. 3 credit(s)

## RAD 486 - Ethics and Medical Law in Radiology

Lectures and classroom discussion on laws associated with medical imaging. Topics include liability, HIPPA, and malpractice. In addition, discussions about various scenarios which can challenge the ethical code for radiographers and how these scenarios should be handled. Prerequisite(s): RAD 432 and formal admission to the radiography program. Prerequisite(s): Consent of instructor. May be repeated to a maximum of six credits. 3 credit(s)

## RAD 490 - Independent Study in Radiography

Independent study and/or research in radiography or a related area. 1-3 credit(s)

## Kinesiology and Nutrition Sciences

## Purpose and Focus

The Bachelor of Science degrees offered by the Department of Kinesiology and Nutrition Sciences include courses of study in three major areas: Athletic Training, Kinesiology, and Nutrition Sciences. Students choosing to major in Athletic Training or Kinesiology pursue the study of human movement and performance in the context of both basic and applied science. They have the opportunity to explore the physiological, biomechanical, and social-psychological aspects of human movement and performance. Students majoring in Nutrition Sciences complete coursework in the areas of basic sciences, human nutrition, and clinical dietetics. Students majoring in Nutrition Sciences have the opportunity to earn the Registered Dietitian Credential. The degree programs are designed to integrate theory and practice to prepare the student for the application of the principles in public and private agencies as well as to prepare the student for advanced study in the field of Kinesiology and Nutrition Sciences.

## Undergraduate Majors

Athletic Training
Kinesiology
Nutrition Sciences

## Graduation Requirements

A minimum of 120 credit hours is required for graduation with 60 credits earned at a four-year institution. Students are required to complete all university core requirements for the baccalaureate degree. Graduates of baccalaureate degree programs from accredited colleges or universities who are seeking second baccalaureate degrees may need to fulfill some additional core education requirements.

## Advisement

Newly admitted students are assigned by the Office of the Registrar \& Admissions to the Division of Health Sciences Advising Center for advisement and counseling. Students should meet with their advisor each semester The advisor will assist the student in course selection and program advancement. Students will be made aware of other student services provided on campus as the need arises.

## Department Policies

## Progress Toward a Degree

Full-time students in are considered to be making progress towards a degree if they maintain a minimum enrollment of 12 credit hours in courses that apply toward their degree program. In addition, students must enroll in at least one required major course (KIN or SIM, or ATT, or NUTR prefix) each term in which they are enrolled until all of their major course requirements are completed. Failure to maintain minimum progress toward a degree may result in the student being placed on probation and may ultimately lead to suspension.

## Probationary Status

Students admitted on probationary status will be required to complete and sign a mandatory two-semester advisement contract prior to registering for any classes. During these two semesters, probationary students will be required to complete a minimum of 12 credits in
their degree program as designated by the department. Credits earned in summer session may be applied toward the 12 credits. Probationary students must achieve at least a 2.50 GPA in each of the two semesters. A review of the student's academic work will be conducted at the end of the first semester. Failure to achieve the minimum GPA may result in suspension. Extensions, amendments, or appeals of mandatory advising contracts will be made on a case-by-case basis with the recommendation of the department chair and the approval of the school Academic Standards Committee. Athletic Training majors may be placed on probationary status for either academic or behavioral reasons and will need to complete the probationary program as outlined in the ATEP student manual each student receives upon official acceptance into the program.

Any student who does not have an overall UNLV GPA of 2.50 or higher at the end of a given semester will be placed on probation for the next semester. Any student whose UNLV GPA falls below 2.00 or who shows a negative grade point balance of -1.00 to -14.90 will be placed on both school and university probation. Failure to earn a GPA of 2.50 or higher in each of two successive semesters may lead to department suspension. The department will suspend a student in accordance with the university suspension policy if the UNLV grade point balance falls to -15.00 or below after the student has received a probation warning.

## Program Descriptions

## Athletic Training

The Bachelor of Science degree in Athletic Training is designed for students interested in the treatment and prevention of athletic injuries. Students majoring in Athletic Training will follow a curriculum accredited by the Commission on Accreditation of Athletic Training Education CAATE. The Athletic Training Education program (ATEP) at UNLV is a rigorous and intense program that places specific requirements and demands on the students enrolled in it. In addition to completing core courses in kinesiology and the university general education requirements, students will complete course work in basic and advanced athletic training, therapeutic exercise and modalities, evaluation and rehabilitation of upper and lower extremities, and other athletic training-related topics. Successful completion of the curriculum prepares and qualifies the student to take the certification examination offered by the Board of Certification (BOC). In addition to classroom preparation, clinical experience is required. Athletic training majors must complete the five semesters of clinical experience which could be either at UNLV or in a local high school. Each student is assigned to an approved clinical instructor (ACI) for a minimum of 200 hours per semester during the final four semesters of the program.

The successful student must be willing to make the personal sacrifice and commitment to spending many hours working on educational competencies over the five semesters they are in the program. Upper-division students are assigned to an approved clinical instructor at UNLV or at a local high school, and each is responsible for assisting a clinical instructor in the medical care of student athletes.

There are several areas of employment for the certified athletic trainer, including professional and collegiate sports programs, high school sports, sports medicine clinics, private and/or hospital physical therapy clinics, and corporate and industrial settings. The Athletic Training degree program is competitive, and students must maintain a 2.75 cumulative GPA to remain in the Athletic Training major. For further information, students are encouraged to consult
www.unlv.edu/athletics/training. Students interested in applying should contact Tedd Girouard the Athletic Training Program Director at tedd.girouard@unlv.edu, phone 702-895-2457.

The technical standards set forth by the ATEP establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level Athletic Trainer, as well as meet the expectations of the program's accrediting agency (CAATE). The following abilities and expectations must be met by all students admitted to the Athletic Training Educational Program. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program.

Compliance with the program's technical standards does not guarantee a student's eligibility for the national BOC exam.

Candidates for selection to the Athletic Training Educational Program at UNLV must demonstrate:

- The mental capacity to assimilate, analyze, synthesize, integrate concepts, and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm.
- Sufficient postural and neuromuscular control, sensory function and coordination to perform appropriate physical examinations using accepted techniques and to accurately, safely, and efficiently use equipment and materials during the assessment and treatment of patients.
- The ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds; this includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice.
- The ability to record the physical examination results and a treatment plan clearly and accurately.
- The capacity to maintain composure and continue to function well during periods of high stress.
- The perseverance, diligence and commitment to complete the athletic training education program as outlined and sequenced. This includes reporting to campus on or about August 1 each year for orientation and to begin clinical experience (may include work during early mornings, late evenings, weekends and time outside of the academic calendar).
- Flexibility and the ability to adjust to changing situations and uncertainty in clinical situations.
- Effective skills and appropriate demeanor and rapport that relate to professional education and quality patient care.


## Admission to the Major

Athletic Training: GPA 2.75
Students must maintain a 2.75 cumulative GPA during their fivesemester program.

## Athletic Training Majors

The application process for the Athletic Training Educational Program takes place only during the fall semester. The application process for admission into the program is competitive, and merely completing the application process does not guarantee admission into the program. A maximum number of students will be accepted each year. To be eligible for admission to the Athletic Training Education Program, students must:

- Have successfully completed or be currently enrolled in SIM 101, Introduction to Athletic Training (or equivalent) and Anatomy (i.e., BIOL 223, KIN 245, or equivalent). Each class must be completed with a passing grade to be admitted into the program.
- Have a UNLV cumulative GPA of 2.75 or higher.
- Attend the clinical orientation meeting during the third week of fall semester to obtain information regarding the clinical application process and to set up an observation schedule in the UNLV athletic training facility. The actual date, time, and location will be available from the program director the first week of fall semester. All application materials will be provided at the orientation meeting.
- Complete 25 hours of observation in the UNLV athletic training facilities during the five-week observation period.
- Have two recommendation forms completed. The UNLV athletic training faculty and staff may not complete these forms.
- Complete and turn in application and recommendation forms to the program director by the posted deadline.
- Pass the written entrance examination in November. A passing grade is 70 percent or higher.
An application committee consisting of three to five clinical faculty and staff will score applications and interviews. The top 20 students will be invited for an interview with the athletic training faculty and staff. Selection for interviews will be based on GPA, written exam scores, and an application score (determined from letters of recommendation, previous clinical experience, and essays included in the application). Each of the three components will be scored on a scale of 100 , and the sum total will be used to rank candidates. The interview will be scored on a scale of 100 and will be added to the average score from the three criteria listed above. (This total score will be accepted into the Clinical Athletic Training Educational Program, which begins January of the following year. The remaining eight students will be alternates for the program). Students accepted into the program are required to declare Athletic Training as their major.


## Athletic Training Majors

Transfer students must contact the Athletic Training Education Program Director prior to the beginning of the summer session to initiate a transfer into the program. Transfer students are accepted only during the summer session.

Students may transfer to UNLV in the spring, summer or fall. Being accepted by the university does NOT automatically guarantee acceptance into the ATEP. A transfer student must apply for entry into the Athletic Training Education Program. There are two distinct methods of application to the UNLV ATEP and a transfer student can choose either if they meet the minimum qualifications of the method chosen.

- Fall application (with the majority of students at UNLV)
- Spring / Summer application


## Fall Application

The preferred method for students who want to transfer to UNLV and obtain a Bachelor of Science in Athletic Training degree would be to initiate the application process in the fall semester of the school year. The student must meet the prerequisites, which include:

1. completing the application, essays, and reference letters,
2. performing 25 hours of observation,
3. passing the entrance exam, and
4. completing an on campus interview,
5. completing the required coursework as outlined (SIM 101 and anatomy) and maintain an overall 2.75 grade point average.
The transfer student is eligible to complete the fall application process and if accepted, must start with the spring semester cohort. If the transfer student cannot document that they have been supervised by an ATC as an athletic training student for a minimum of 250 hours at the community college or university level prior to applying, they must follow the above outlined application procedure.

## Spring/Summer Application

The second method for the transfer student to enter the UNLV ATEP requires the documentation of a minimum of 250 contact hours directly supervised by an ATC at the community college, junior college, or university setting. If this requirement is met, the prospective transfer student must contact the Athletic Training Education Program Director to determine if there is room available in the cohort. By initiating the application process in the spring a student would be requesting a fall semester start in the UNLV ATEP. If there is space available in the UNLV ATEP, then the prospective transfer student must complete the following to be eligible for entry.

1. Apply for and be formally admitted to the University of Nevada Las Vegas

- Check the university deadlines for application and registration of classes.
- Meet with the School of Allied Health Sciences advisor to clarify all transfer course work.

2. Submit the UNLV ATEP application as posted on the web site to the program director no later than April 1
3. Successfully complete an on-site interview
4. Receive tentative approval from the Program Director for fall entry
Once these steps have been completed the transfer student must complete the following courses, at UNLV, the summer prior to the fall entry requested.

- SIM 101 Introduction to AT (3 credits)
(Upon passing this class with a 'C' or better an additional 100 point cumulative exam must be taken. A 70\% passing grade is required to complete the application process)
- SIM 102 Introduction to AT Clinical (1 credit)
(Students will be required to participate as an athletic training student during football camp in August)
- SIM 150 Management of Sport Trauma/Illness (3 credits)
- SIM 201 Exercise and Sport Injury (3 credits)
- KIN 245 Anatomical Kinesiology (3 credits)

By completing the above courses and requirements with a minimum UNLV GPA of 2.75, a student would arrive at UNLV during the summer session. The courses taken during the summer session would constitute the 1st of the required 5 semesters. The successful student would then be starting the fall semester with the same background as the other students in their cohort.

## Unsuccessful Candidates

If a student attempts one of the ATEP entry methods and is unsuccessful, the student can continue to take courses as a Kinesiology major (in one of two academic tracks) and can re-apply to the ATEP in a subsequent fall semester. Students will be encouraged to continue in the Kinesiology major and complete their degree program possibly with a double major in Kinesiology and Athletic Training (assuming they are successful in entering the ATEP in a subsequent year).

## Kinesiology Majors

## Kinesiology - Allied Health

The Allied Health specialization option provides education and training for students who wish to prepare for advanced study in medicine, physical therapy, or other health or allied health fields.

## Kinesiology - Comprehensive

The Comprehensive Specialization option provides students the opportunity to pursue basic and applied studies of the physiological, biomechanical, social-psychological aspects of human movement and performance education and training in the implementation and direction of physical fitness and conditioning programs in both the public and private sectors.

## Admission to the Major

Admission Policies: Students must meet the School of Allied Health Sciences minimum GPA requirement of 2.50 for admission into the department. A student with less than a 2.50 GPA may be admitted as a probationary student with the approval of the chair and/or the faculty.

Transfer Policies: Transfer students must meet the School of Allied Health Sciences minimum GPA requirement of 2.50 for admission into the department. Students wishing to transfer credit toward a Bachelor of Science degree in Kinesiology must schedule a formal meeting with a departmental faculty representative or the department chairperson

## Nutrition Sciences

The Bachelor of Science in Nutrition Sciences degree is designed to prepare students with an interest in human nutrition to enter the health care field. Programs within Nutrition Sciences are studentfocused with contact hours provided through lecture-based courses, laboratory courses, and field experiences with practitioners. Summer and part-time work or volunteer experiences in the profession are encouraged. Students have three concentration areas to choose from in Nutrition Sciences: (1) Dietetics (2) Sports Nutrition and (3) Pre-Professional studies. In addition to these concentrated areas of study, students may select from a number of nutrition specialty courses to further individualize their education.

## Programs

## Didactic Program in Dietetics (DPD)

Students pursuing the Registered Dietitian (RD) credential need to fulfill the requirements of the DPD. Students can simultaneously fulfill the degree requirements in Nutrition Sciences and the DPD requirements. The DPD was granted Initial Accreditation by The Accreditation Council for Education in Nutrition and Dietetics (ACEND) of The Academy of Nutrition and Dietetics in 2005. The contact information for ACEND is listed below.

## ACEND

120 S. Riverside Plaza, Suite 2000
Chicago, IL 60606-6995
Phone: 312-899-0040, ext. 5400
E-mail: education@eatright.org
Website: http://www.eatright.org/acend

In order to become a Registered Dietitian (RD) a student must:

1. Earn the B.S. degree in Nutrition Sciences.
2. Complete the DPD course requirements.
3. Apply for, become accepted into, and complete an ACENDAccredited Dietetic Internship.
4. Pass the National Registration Examination for Dietitians.

## Nutrition Sciences Concentrations

1. Dietetics: This general program prepares students for traditional positions in health care that utilize knowledge of nutrition for health promotion and wellness, disease prevention, knowledge of medical nutrition therapy, and the ability to educate clients and patients. Students completing this program meet the minimum academic requirements for the Didactic Program in Dietetics.
2. Sports Nutrition: This concentration is for students who have a combined interest in nutrition and exercise sciences. Students completing this program meet the minimum academic requirements for the Didactic Program in Dietetics.
3. Preprofessional: This area of specialization provides an excellent and well-rounded background for those interested in applying for graduate schools in nutrition-related fields and professional schools. Students completing this program do not meet the minimum academic requirements for the Didactic Program in Dietetics. Students may elect to complete the additional courses needed to fulfill the Didactic Program in Dietetics requirements.

## Program Objectives

Programs within the Department of Nutrition Sciences will:

1. Be student-focused. Experienced dietetics professionals will assist students with the acquisition of a strong foundation, knowledge base, and clinical skills and will facilitate students' integration of this knowledge into the practice setting.
2. Include a solid curriculum for entry-level practice in nutrition and dietetics.
3. Be science-based. The curriculum will emphasize evidence-based practice.
4. Foster leadership skills through faculty mentors and professional membership participation.
5. Encourage students to assume the responsibility for lifelong learning and continued professional development.
6. Allow for creativity and flexibility as the profession of dietetics evolves.

## Admission to the Major

Minimum GPA: 2.75

## Admission Policies

To be admitted into the major, students must complete the following admission requirements:

1. A cumulative high school GPA of 2.75 or higher, or
2. A cumulative GPA of 2.75 or higher in 30 transfer credits accepted by UNLV, or
3. A minimum of 24 semester credits in the core foundation courses with a minimum grade point average of 2.75 .
4. Completion of an advising interview with a Division of Health Sciences academic advisor.

## Transfer Policies

Students must meet a minimum GPA of 2.75 to transfer into the nutrition sciences major. Transfer students from an accredited institution may be granted up to 64 credits for equivalent prerequisite course work from prior programs. Course work is judged by curriculum content, not credit equivalency. Transfer students from community colleges must complete a minimum of 38 credits in upperdivision courses for graduation.

## Academic Policies

Upon admission to the sciences major, students must maintain a minimum cumulative GPA of 2.75 each semester and have no grade less than a C in all NUTR, FAB, and KIN courses.

## Athletic Training Major

## Degree Requirements

First-Year Seminar ...............................................Total Credits: 2-3
English Composition ................................................Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second - Year Seminar............................................Total Credits: 3
Constitutions ..........................................................Total Credits: 4
Mathematics............................................................Total Credits: 3
MATH 124 or higher
Distribution Requirement Life and

## Physical Sciences and Analytical Thinking

## Humanities

 .Total Credits: 6- COM 101 - Oral Communication

One additional Humanities course
Fine Arts ...Total Credits: 3
One additional Fine Arts course
Social Science. $\qquad$ Total Credits: 9

- PSY 101 - General Psychology required
- SOC 101 - Principles of Sociology recommended

One addtional Social Science course
Multicultural and International. ... Total Credits: 6 (see note below)

## Additional Degree Requirements

## Sciences

$\qquad$ .Total Credits: 15

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- KIN 300 - Statistics for the Health Sciences

Athletic Training Core Requirements. $\qquad$ .Total Credits: 43

- NUTR 340 - Introduction to Sports Nutrition
- SIM 101 - Athletic Training
- SIM 150 - Management of Sport Trauma and Illness
- SIM 201 - Exercise and Sport Injury
- SIM 386 - Assessment and Evaluation of Lower Extremity Injuries
- SIM 387 - Assessment and Evaluation of Upper Extremity Injuries
- SIM 390 - Therapeutic Modalities
- SIM 480 - Therapeutic Exercise
- SIM 495 - Sports Medicine
- KIN 245 - Anatomical Kinesiology
- KIN 346 - Biomechanics
- KIN 491 - Exercise Physiology

Athletic Training Specialization. $\qquad$ .Total Credits: 26

- SIM 102 - Introduction to Athletic Training Clinical
- SIM 370 - Clinical Experiences in Athletic Training I
- SIM 371 - Clinical Experiences in Athletic Training II
- SIM 456 - Organization and Administration of Athletic Training Programs
- SIM 470 - Advanced Clinical Experiences in Athletic Training I
- SIM 471 - Advanced Clinical Experiences in Athletic Training II
- SIM 481 - Advanced Athletic Training
- SIM 498 - Seminar in Athletic Training

Total Credits:

## Note

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Kinesiology - Allied Health <br> Degree Requirements

First-Year Seminar ...............................................Total Credits: 2-3
English Composition
.Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ..............................................Total Credits: 3
Constitutions ..........................................................Total Credits: 4
Mathematics..........................................................Total Credits: 3

- MATH 124 - College Algebra or higher

Distribution Requirement Life and
Physical Sciences and Analytical Thinking
Humanities
.Total Credits: 6

- COM 101 - Oral Communication

One additional Humanities course
Fine Arts $\qquad$ .Total Credits: 3
One additional Humanities course
Social Science. $\qquad$ .Total Credits: 9

- PSY 101 - General Psychology recommended
- SOC 101 - Principles of Sociology recommended

One additional Social Science course
Multicultural and International..
.Total Credits: 6

## (see note below)

## Additional Degree Requirements

## Sciences

$\qquad$ Total Credits: 12

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II

Kinesiology Major Requirements $\qquad$ .Total Credits: 38

- KIN 175 - Physical Activity and Health
- KIN 245 - Anatomical Kinesiology
- KIN 250 - Social Psychology of Physical Activity
- KIN 300 - Statistics for the Health Sciences
- KIN 312 - Motor Behavior
- KIN 316 - Motor Development Across the Lifespan or
- KIN 414 - Enhancing Mental and Motor Abilities
- KIN 346 - Biomechanics
- KIN 415 - Forensic Kinesiology
or
- KIN 446 - Sport and Exercise Biomechanics
or
- KIN 456 - Biomechanics of Endurance Performance
- KIN 491 - Exercise Physiology
- KIN 492 - Clinical Exercise Physiology
- NUTR 121 - Human Nutrition
- NUTR 340 - Introduction to Sports Nutrition

Allied Health Specialization
Total Credits: 29

- SIM 101 - Athletic Training
- SIM 150 - Management of Sport Trauma and Illness
- SIM 201 - Exercise and Sport Injury
- SIM 386 - Assessment and Evaluation of Lower Extremity Injuries
- SIM 387 - Assessment and Evaluation of Upper Extremity Injuries
- SIM 390 - Therapeutic Modalities
- SIM 480 - Therapeutic Exercise
- SIM 495 - Sports Medicine

Electives. Total Credits: 5
Total Credits: 120

## Note

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Kinesiology - Comprehensive <br> Degree Requirements

First-Year Seminar ...............................................Total Credits: 2-3
English Composition .
.Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ..............................................Total Credits: 3
English Literature...................................................Total Credits: 3

- ENG 231 - World Literature I
or
- ENG 232 - World Literature II

Constitutions .Total Credits: 4
Mathematics.. .Total Credits: 3
MATH 124 or higher
Distribution Requirement Life and Physical Sciences and Analytical Thinking
Humanities .............................................................Total Credits: 6

- COM 101 - Oral Communication

One additional Humanities course
Fine Arts ..Total Credits 3

## One Fine Arts course

Social Science $\qquad$ .Total Credits: 9

- PSY 101 - General Psychology recommended
- SOC 101 - Principles of Sociology recommended

Multicultural and International.
.Total Credits: 6 (see note below)

## Additional Degree Requirements

Sciences. $\qquad$ .Total Credits: 12

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II

Kinesiology Major Requirements $\qquad$ .Total Credits: 45

- KIN 175 - Physical Activity and Health
- KIN 245 - Anatomical Kinesiology
- KIN 250 - Social Psychology of Physical Activity
- KIN 300 - Statistics for the Health Sciences
- KIN 312 - Motor Behavior
- KIN 316 - Motor Development Across the Lifespan or
- KIN 414 - Enhancing Mental and Motor Abilities
- KIN 346 - Biomechanics
- KIN 415 - Forensic Kinesiology
or
- KIN 446 - Sport and Exercise Biomechanics
or
- KIN 456 - Biomechanics of Endurance Performance
- KIN 491 - Exercise Physiology
- KIN 492 - Clinical Exercise Physiology
- NUTR 121 - Human Nutrition
- NUTR 340 - Introduction to Sports Nutrition
- SIM 150 - Management of Sport Trauma and Illness
- KIN 490 - Internship in Fitness and Sport Management or
- KIN 499 - Specialized Problems in Kinesiology

Electives.
Total Credits: 27
Total Credits: 120

## Note

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Kinesiology — Fitness Management <br> Degree Requirements

First-Year Seminar
Total Credits: 2-3
English Composition Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar Total Credits: 3
Constitutions Total Credits: 4
Mathematics..........................................................Total Credits: 3
MATH 124 or higher
Distribution Requirement Life and Physical Sciences and
Analytical Thinking
Humanities $\qquad$ .Total Credits: 6

- COM 101 - Oral Communication One additional Humanities course
Fine Arts $\qquad$ .Total Credits 3
One Fine Arts course
Social Science. $\qquad$ .Total Credits: 9
One addtional Social Science course
- PSY 101 - General Psychology
and
- SOC 101 - Principles of Sociology are recommended
Multicultural and International. .Total Credits: 6 (see note below)


## Additional Degree Requirements

Sciences $\qquad$ Total Credits: 18

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- KIN 300 - Statistics for the Health Sciences
- NUTR 340 - Introduction to Sports Nutrition

Fitness Management Core $\qquad$ Total Credits: 20

- KIN 172 - Foundations of Kinesiology
- KIN 175 - Physical Activity and Health
- KIN 245 - Anatomical Kinesiology
- KIN 312 - Motor Behavior
- KIN 346 - Biomechanics
- KIN 491 - Exercise Physiology

Fitness Management Specialization $\qquad$ Total Credits: 32

- KIN 250 - Social Psychology of Physical Activity
- KIN 308 - Scientific Basis of Strength Development
- KIN 309 - Advanced Personal Training
- KIN 316 - Motor Development Across the Lifespan
- KIN 475 - Seminar in Sport and Fitness Management
- KIN 485 - Physical Activity and the Law
- KIN 490 - Internship in Fitness and Sport Management
- KIN 492 - Clinical Exercise Physiology
- SIM 101 - Athletic Training
- SIM 150 - Management of Sport Trauma and Illness

Electives.
.Total Credits: 32
Total Credits: 124

## Note

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Nutrition Sciences - Dietetics

## Degree Requirements

First-Year Seminar ...............................................Total Credits: 2-3
English Composition ...Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar . .Total Credits: 3
Constitutions .........................................................Total Credits: 4
Mathematics.................................................................tal Credits: 3
MATH 127 or higher
Distribution Requirement Life and Physical Sciences and
Analytical Thinking
Humanities and Fine Arts ........................................Total Credits: 9
Social Science.........................................................Total Credits: 9
Multicultural and International (see note below)

## Additional Degree Requirements

Foundations Courses.............................................Total Credits: 23

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- BIOL 251 - General Microbiology
- CHEM 108 - Introduction to Chemistry
- KIN 300 - Statistics for the Health Sciences

Required Nutrition Sciences
.Total Credits: 55

- FAB 101 - Food Service Sanitation I
- FAB 159 - Food Service Operations Fundamentals
- FAB 160 - Hospitality Purchasing
- FAB 361 - Principles of Food Science
or
- NUTR 326 - Principles of Food Science
- NUTR 271 - Introduction to Nutrition and Dietetics
- NUTR 223 - Principles of Nutrition
- NUTR 301 - Nutrition, Health and Ethnic Issues
- NUTR 311 - Nutrition Assessment
- NUTR 311L - Nutrition Assessment
- NUTR 370 - Nutrition in the Life Cycle
- NUTR 405 - Advanced Sports Nutrition
- NUTR 426 - Medical Nutrition Therapy I
- NUTR 427 - Medical Nutrition Therapy II
- NUTR 429 - Dietetics Business and Management Principles I
- NUTR 431 - Seminar in Nutrition
- NUTR 450 - Nutritional Pathophysiology
- NUTR 451 - Nutrition and Metabolism I
- NUTR 452 - Nutrition and Metabolism II
- NUTR 470 - Community Nutrition
- KIN 491 - Exercise Physiology

Nutrition Sciences Elective Courses $\qquad$ .Total Credits: 6

- NUTR 315 - Field Experience in Nutrition
- NUTR 407 - Complementary and Integrative MNT
- NUTR 408 - Nutrition, Food and Policy
- NUTR 430 - Dietetics, Business, and Management Principles II
- NUTR 466 - Nutritional Anthropology
- NUTR 475 - Undergraduate Research in Nutrition
- NUTR 491 - Independent Study in Clinical Nutrition
- NUTR 490 - Special Topics in Nutrition
- NUTR 495 - Practicum in Nutrition Education
- KIN 461 - Physical Activity in Aging
- KIN 462 - Adult Development in Aging
- KIN 492 - Clinical Exercise Physiology

Electives. Total Credits: 6
Total Credits: 120

## Note

1. NUTR 301 satisfies the General Education International Requirement. The General Education Multicultural Requirement may be simultaneously filled using another three-credit general education course, i.e., literature, fine arts, humanities, etc.

## Nutrition Sciences - Pre-Professional <br> Concentration <br> Degree Requirements

First-Year Seminar .
Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ...............................................Total Credits: 3
Constitutions .Total Credits: 4
Mathematics.. .Total Credits: 3

## MATH 127 or higher

Distribution Requirement Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts Total Credits: 9
Social Science .Total Credits: 9
Multicultural and International (see note below)

## Additional Degree Requirements

Foundation Courses . $\qquad$ .Total Credits: 38

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- BIOL 251 - General Microbiology
- CHEM 121 - General Chemistry I
- CHEM 122 - General Chemistry II
- CHEM 241 - Organic Chemistry I
- CHEM 241L - Organic Chemistry for Life Sciences Lab I
- CHEM 242 - Organic Chemistry II
- CHEM 242L - Organic Chemistry for Life Sciences Laboratory II
- CHEM 474 - Biochemistry I
- KIN 300 - Statistics for the Health Sciences

Required Nutrition Sciences. $\qquad$ .. Total Credits: 42

- KIN 491 - Exercise Physiology
- NUTR 223 - Principles of Nutrition
- NUTR 271 - Introduction to Nutrition and Dietetics
- NUTR 301 - Nutrition, Health and Ethnic Issues
- NUTR 311 - Nutrition Assessment
- NUTR 311L - Nutrition Assessment
- NUTR 370 - Nutrition in the Life Cycle
- NUTR 405 - Advanced Sports Nutrition
- NUTR 426 - Medical Nutrition Therapy I
- NUTR 427 - Medical Nutrition Therapy II
- NUTR 431 - Seminar in Nutrition
- NUTR 450 - Nutritional Pathophysiology
- NUTR 451 - Nutrition and Metabolism I
- NUTR 452 - Nutrition and Metabolism II
- NUTR 470 - Community Nutrition

Select from the following electives .. $\qquad$ .. Total Credits: 4

- NUTR 315 - Field Experience in Nutrition
- NUTR 407 - Complementary and Integrative MNT
- NUTR 408 - Nutrition, Food and Policy
- NUTR 466 - Nutritional Anthropology
- NUTR 475 - Undergraduate Research in Nutrition
- NUTR 490 - Special Topics in Nutrition
- NUTR 491 - Independent Study in Clinical Nutrition
- NUTR 495 - Practicum in Nutrition Education
- KIN 461 - Physical Activity in Aging
- KIN 462 - Adult Development in Aging
- KIN 492 - Clinical Exercise Physiology

Electives. .Total Credits: 4
Total Credits: 120

## Note

1. NUTR 301 satisfies the General Education International Requirement. The General Education Multicultural Requirement may be simultaneously filled using another three-credit general education course, i.e., literature, fine arts, humanities, etc.

## Nutrition Sciences - Sports Nutrition Concentration

## Degree Requirements

First-Year Seminar
.Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar . .Total Credits: 3
Constitutions .. Total Credits: 4
Mathematics. .. Total Credits: 3

## MATH 127 or higher

Distribution Requirement Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts $\qquad$ .Total Credits: 9

Social Science. $\qquad$ Total Credits: 9
Multicultural and International
(see note below)

## Additional Degree Requirements

Foundation Courses $\qquad$ Total Credits: 23

- BIOL 189 - Fundamentals of Life Science
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- BIOL 251 - General Microbiology
- CHEM 108 - Introduction to Chemistry
- KIN 300 - Statistics for the Health Sciences

Required Nutrition Sciences $\qquad$ .Total Credits: 55

- FAB 101 - Food Service Sanitation I
- FAB 159 - Food Service Operations Fundamentals
- FAB 160 - Hospitality Purchasing
- FAB 361 - Principles of Food Science
or
- NUTR 326 - Principles of Food Science
- KIN 491 - Exercise Physiology
- NUTR 223 - Principles of Nutrition
- NUTR 271 - Introduction to Nutrition and Dietetics
- NUTR 301 - Nutrition, Health and Ethnic Issues
- NUTR 311 - Nutrition Assessment
- NUTR 311L - Nutrition Assessment
- NUTR 370 - Nutrition in the Life Cycle
- NUTR 405 - Advanced Sports Nutrition
- NUTR 426 - Medical Nutrition Therapy I
- NUTR 427 - Medical Nutrition Therapy II
- NUTR 429 - Dietetics Business and Management Principles I
- NUTR 431 - Seminar in Nutrition
- NUTR 450 - Nutritional Pathophysiology
- NUTR 451 - Nutrition and Metabolism I
- NUTR 452 - Nutrition and Metabolism II
- NUTR 470 - Community Nutrition

Specialty Courses $\qquad$ .Total Credits: 6

- KIN 492 - Clinical Exercise Physiology and
- NUTR 407 - Complementary and Integrative MNT or
- NUTR 491 - Independent Study in Clinical Nutrition

Electives. .Total Credits: 6
Total Credits: 120

## Note

1. NUTR 301 satisfies the General Education International Requirement. The General Education Multicultural Requirement may be simultaneously filled using another three-credit general education course, i.e., literature, fine arts, humanities, etc..

## Minor

## Kinesiology Minor

Courses Include. $\qquad$ Total Credits: 21

- KIN 172 - Foundations of Kinesiology
- KIN 245 - Anatomical Kinesiology
- KIN 250 - Social Psychology of Physical Activity
- KIN 312 - Motor Behavior
- KIN 346 - Biomechanics
- KIN 491 - Exercise Physiology
- SIM 101 - Athletic Training


## Kinesiology and Nutrition Sciences

## KIN 172 - Foundations of Kinesiology

Examines and explores the field of kinesiology, as the academic study of human movement. Presents the knowledge of kinesiology as a comprehensive, cross-disciplinary synthesis of various academic approaches from a variety of subdisciplines. 3 credit(s)

## KIN 175 - Physical Activity and Health

Basic understanding of elementary exercise physiology as it applies to exercise and physical fitness. Principles of good nutrition and caloric values of common foods. Energy equation and factors in weight gain and weight loss. Practical assessment of fitness and body composition. 3 credit(s)

## KIN 191 - Exercise for the Overweight or Type II Diabetic

Development and implementation of physical fitness and weight control for the obese and/or Type II diabetic. Instruction on proper exercise techniques combined with regular fitness training classes to improve overall cardiovascular endurance, strength, body composition, and flexibility. All participants undergo a pre- and post-physical fitness assessment to monitor conditioning status. (Available for a letter grade option only once.) May be repeated to a maximum of six credits. 1 credit(s)

## KIN 242 - Theory of Pool/Spa Operation

(Same as RLS 242.) Prepares health, physical education, and recreation professionals, and hotel management personnel with the necessary fundamentals of pool/spa operation relative to a healthful and safe environment. 2 credit(s)

## KIN 245 - Anatomical Kinesiology

Anatomical analysis of human movement as a basis for teaching and adaptation of motor skills. Prerequisite(s): BIOL 189. 3 credit(s)

## KIN 250 - Social Psychology of Physical Activity

Introduction to current theories, research methodology, and practical concerns relating to the sociological/psychological perspectives of sport and physical activity. Prerequisite(s): SOC 101 or PSY 101. 3 credit(s)

## KIN 300 - Statistics for the Health Sciences

Introduction to quantitative methods in the analysis and interpretation of data from research in the health and human movement sciences. Emphasis on conceptual understanding, appropriate application of tests, and interpretation of results. Prerequisite(s): MATH 120 or higher. 3 credit(s)

## KIN 308 - Scientific Basis of Strength Development

For individuals interested in the design and assessment of strength and resistance training programs. Topics include: scientific and theoretical basis of strength; different types and systems of training; different types of equipment; designing training programs; myths and fallacies; and detraining. Prerequisite(s): KIN 245.3 credit(s)

## KIN 309 - Advanced Personal Training

Examination of the personal fitness training profession. Emphasis on developing skills for client education and motivation, and establishing criteria for designing and implementing personalized training programs for clients. Prerequisite(s): KIN 175.3 credit(s)

## KIN 310 - Advanced Strength Methods

Theory and principles of resistance exercise programs. Emphasis on mechanism of adaptation to resistance exercise; design and implementation of strength training programs for enhancement of athletic performance; and role of strength training in improving general health and fitness. Prerequisite(s): KIN 308. 3 credit(s)

## KIN 312 - Motor Behavior

Introduction to motor performance and learning, including biological foundations of motor control, information processing, learning theories, instructional and training procedures to enhance learning. Prerequisite(s): PSY 101. 3 credit(s)

## KIN 316 - Motor Development Across the Lifespan

Examination of motor and cognitive development throughout the lifespan. Special emphasis on skilled performance, learning theories, motor abilities, individual differences, developmental considerations, and instructional and training procedures for infants through older adulthood. 3 credit(s)

## KIN 346 - Biomechanics

Mechanical analysis of internal and external forces acting on the human body and the effects of those forces. Special emphasis on teaching motor skills in a physical education and athletic setting. Laboratory experience to enhance learning. Prerequisite(s): KIN 245; MATH 124. 4 credit(s)

## KIN 401 - History of Exercise and Sport Science

Historical concepts, systems, patterns, and traditions that have influenced American physical activity and sport, with emphasis on the evolution of kinesiology within the discipline of exercise and sport science. Prerequisite(s): KIN 172. 3 credit(s)

## KIN 414 - Enhancing Mental and Motor Abilities

Topics of mental and motor abilities including attention, arousal states, information processing, and practice schedules. Special emphasis on enhancing motor performance through mental strategies. Prerequisite(s): KIN 250 , KIN 312, or KIN 316. 3 credit(s)

## KIN 415 - Forensic Kinesiology

Survey of forensic investigation. Focus on personal injury and accident avoidance from an interdisciplinary perspective. Emphasis on humans and their interactions in the physical environment. Prerequisite(s): KIN 245. 3 credit(s)

## KIN 424 - Professional Development in Kinesiological Sciences

The course applies principles of cognitive neuroscience and psychomotor kinesiology to develop skills in professional communication and leadership as related to fields of Kinesiology. Topics include team cohesion, effective group and individual communication, strategies for professional goal setting, interview skills, networking, leading and managing self and organizations. Prerequisite(s): PSY 101 or SOC 101, junior standing. 3 credit(s)

## KIN 440 - Human Physiology

(Same as BIOL 440.) Principles of human physiology, normal functioning of human body as a whole, and interrelationships of organs and organ systems. Emphasis on physiological processes and their interrelationships. Prerequisite(s): BIOL 189. 3 credit(s)

## KIN 446 - Sport and Exercise Biomechanics

Mechanics applied to the analysis of human movement in sport and exercise activities. Emphasis on developing both qualitative and quantitative skills to assess and improve performance. Prerequisite(s): KIN 346. 3 credit(s)

## KIN 456 - Biomechanics of Endurance Performance

The primary objective of this course is to provide a study of endurance performance from a biomechanical perspective. At the conclusion of the course, the student will be able to apply biomechanical terminology to understand factors that influence endurance swimming, biking, and running performance. Prerequisite(s): KIN 346. 3 credit(s)

## KIN 461 - Physical Activity in Aging

Introductory course in adult fitness and maintenance. Objectives and components of physical fitness analyzed to meet the needs and capabilities of the older population. Specific programs of exercise and related physical activities explored. 3 credit(s)

## KIN 462 - Adult Development in Aging

Physical and psychophysiologic developmental patterns in adulthood and normal aging explored. Relationships of the physical and socio-environmental interactions to the adult physical life process with considerations to successful aging within life stages reviewed. 3 credit(s)

## KIN 475 - Seminar in Sport and Fitness Management

Bridges the professional sequence and the clinical experience of students enrolled in supervised on-site professional experiences. Prerequisite(s): Concurrent enrollment in KIN 490 and consent of instructor. 1 credit(s)

## KIN 485 - Physical Activity and the Law

Legal principles associated with physical activity professions. Emphasis on practical application of legal issues in risk management, safety procedures, negligence, liability, contracts, and professional ethics, as well as recognition and minimization of legal risk during physical activity. 3 credit(s)

## KIN 490 - Internship in Fitness and Sport Management

Supervised on-site professional experience in local settings that encompass all age groups including health clubs, YMCAs, industry, nursing homes, and senior activity centers. Prerequisite(s): Consent of instructor and upper division standing. 1-12 credit(s)

## KIN 491 - Exercise Physiology

Physiological changes in human organisms during physical exercise; physiological bases for planning physical education programs; observations of respiratory, circulatory, nervous, and metabolic adjustments to physical exercise. Laboratory experience to enhance learning. Prerequisite(s): BIOL 224. 4 credit(s)

## KIN 492 - Clinical Exercise Physiology

Pathophysiology of cardiovascular disease; role of exercise in treatment and prevention of coronary heart disease; exercise stress testing principles and procedures; prescribing exercise programs for healthy adults and patient populations. Prerequisite(s): BIOL 224. 3 credit(s)

## KIN 499 - Specialized Problems in Kinesiology

Specialized instruction and/or research designed to develop in-depth understanding of a current physical education problem. Prerequisite(s): Consent of instructor. May be repeated to a maximum of six credits. 1-6 credit(s)

## NUTR 121 - Human Nutrition

Emphasis on the classification, digestion, absorption, metabolism, and function of carbohydrates, lipids, proteins, water, vitamins, and minerals in the human body. Energy metabolism and nutrient needs during the lifecycle and for special populations will be discussed. A personal dietary assessment project will be required. Note(s): Not for NUTR majors. 3 credit(s)

## NUTR 223 - Principles of Nutrition

Nutrition functions and bases for nutrient requirement at the cellular level. Corequisite(s): NUTR 271 Prerequisite(s): NUTR major only. Note(s): This course is for Nutrition Sciences majors or approved Allied Health Sciences students only. 3 credit(s)

## NUTR 271 - Introduction to Nutrition and Dietetics

Formerly Listed as NUTR 201
Exposure to various areas of the field of dietetics, including clinical, community, management, and consultant paths. The nature of the work, the occupational outlook, ethics, networking and professionalism are covered. Corequisite(s): NUTR 223. Prerequisite(s): NUTR Major Only. 1 credit(s)

## NUTR 301 - Nutrition, Health and Ethnic Issues

Discussions of the historical, geographic, political and religious factors influencing the nutritional status, eating customs, and meal patterns of various ethnic groups. Fulfills the university international course requirement. Prerequisite(s): ENG 101. 3 credit(s)

## NUTR 311 - Nutrition Assessment

Computerized dietary analysis systems, growth charts, national health and nutrition surveys, biochemical parameters and physical signs of nutritional status, and anthropometric assessment techniques. Also includes a selfpaced interactive study of medical terminology. Prerequisite(s): MATH 127, NUTR 370, NUTR Major Only. Lab/Lecture/Studio Hours Three hours lecture and three hours laboratory. Laboratory fee required. 1-4 credit(s)

## NUTR 311L - Nutrition Assessment

Computerized dietary analysis systems, growth charts, national health and nutrition surveys, biochemical parameters and physical signs of nutritional status, and anthropometric assessment techniques. Also includes a selfpaced interactive study of medical terminology. Prerequisite(s): MATH 127, NUTR 370. Lab/Lecture/Studio Hours Three hours lecture and three hours laboratory. Laboratory fee required. 1-4 credit(s)

## NUTR 315 - Field Experience in Nutrition

Students participate in various community nutrition intervention projects aimed at improving eating habits and physical activity patterns of the participants. Students gain experience working with people from various stages in the life cycle (children through older adults) and they learn to provide appropriate nutrition education for age, educational level, and cultural background. Prerequisite(s): NUTR 223 and NUTR 201. May be repeated to a maximum of six credits. 1-3 credit(s)

## NUTR 326 - Principles of Food Science

The intent of this course will be the in depth study of food science. The course materials will concentration on the selection of foods and the chemical and physical properties of food that affect their preparation and acceptability. Basic fundamentals of food science and underlying technology associated with providing a safe, nutritious, and abundant supply of fresh and process foods to humans. Prerequisite(s): CHEM 108, FAB 101, FAB 159. 3 credit(s)

## NUTR 340 - Introduction to Sports Nutrition

Formerly Listed as NUTR 240
Evaluation of current concepts in sports nutrition. Findings translated into practical guidelines for fitness, dietary regimens supplementation, ergogenic aids, and food consumption. Not for NUTR majors. Prerequisite(s): NUTR 121. 3 credit(s)

## NUTR 370 - Nutrition in the Life Cycle

Changes in nutrient needs during reproduction, growth and development and aging discussed with consideration given to physiologic, social, economic, and life-style factors that influence nutrition status, food choices and specific life-stage concerns. Prerequisite(s): NUTR 223. 3 credit(s)

## NUTR 405 - Advanced Sports Nutrition

Popular nutrition practices utilized by competitive and recreational athletes focusing on dietary analyses, scientific support and efficacy. Emphasis on fuel, alterations in body composition, weight control, metabolic pathways, and ergogenic aids. Prerequisite(s): NUTR 311/311L. 3 credit(s)

## NUTR 406 - Food Microbiology

(Same as BIOL 470.) Microrganism classification, normal populations, gastrointestinal flora, food-borne illnesses, sanitation safety, and new technologies. Prerequisite(s): BIOL 251/251L. Lab/Lecture/Studio Hours Laboratory experiences offered twice a week to enhance lecture topics. Semester credit hours (3); 3 hour lecture; (2) 3 hour laboratory sessions. 3 credit(s)

## NUTR 407-Complementary and Integrative MNT

Emphasis on research methods and science-based literature to evaluate the safety, standardization and efficacy of popular therapies, including herbals, botanicals, and dietary supplements for preventive and nontraditional medical nutrition therapies. Prerequisite(s): NUTR 311/311L. 3 credit(s)

## NUTR 408 - Nutrition, Food and Policy

Combination lecture and seminar course covering laws and policies related to health care, food, and nutrition, including, but not limited to, advertising, labeling, food assistance, and biotechnology. The role of federal and state regulations and agencies in these areas is also covered. Prerequisite(s): NUTR 370. 3 credit(s)

## NUTR 426 - Medical Nutrition Therapy I

In-depth exploration of the Nutrition Care Process, including relevant documentation, standardized language, comprehensive nutrition assessment, interpretation of laboratory values, food and medication interactions and individualized patient and client care planning. Prerequisite(s): NUTR 311/311L and BIOL 224/224L. 3 credit(s)

## NUTR 427-Medical Nutrition Therapy II

Medical Nutrition Therapy and nutrition support as applied to specific disease states. Conditions impacting weight management, bone health, eating disorders, diabetes, renal, hepatic, and gastrointestinal disorders are covered. Corequisite(s): NUTR 450 and NUTR 437. Prerequisite(s): NUTR 426. 3 credit(s)

## NUTR 429 - Dietetics Business and Management Principles I

Business and management theories and practices specific to dietetics professionals in clinical practice, food service management, community nutrition, and private practice. Prerequisite(s): FAB 160, FAB 361, or NUTR 326, NUTR 311, NUTR 311L , NUTR Major Only. 3 credit(s)

NUTR 430 - Dietetics, Business, and Management Principles II Case study approach to support theories and principles taught in NUTR 429. Prerequisite(s): NUTR 429. 3 credit(s)

## NUTR 431 - Seminar in Nutrition

Synthesizes knowledge of nutrition as a science and the role of nutrition and dietetics professionals in the future of the Nutrition Care Process. Corequisite(s): NUTR 427; NUTR 450. Prerequisite(s): NUTR 426.3 credit(s)

## NUTR 436 - Food Microbiology Laboratory

(Same as BIOL 469L.) Practical laboratory experiences in food microbiology; methodology for identification and quantification of microbes for food safety. Corequisite(s): NUTR 406. Prerequisite(s): BIOL 251. Note(s): Laboratory fee required. 2 credit(s)

## NUTR 437 - Medical Nutrition Therapy Practicum

Practicum sessions, on and off campus, with emphasis on application of the Nutrition Care Process. Corequisite(s): NUTR 427. Prerequisite(s): NUTR 426. 1 credit(s)

## NUTR 450 - Nutritional Pathophysiology

Investigation of pathophysiology of common human metabolic disorders. Develops an understanding of the role of nutrition in the etiology and treatment of these disorders through examination of case studies. Prerequisite(s): BIOL 224, CHEM 108, NUTR 311, NUTR 311L , NUTR Major Only. 3 credit(s)

## NUTR 451 - Nutrition and Metabolism I

Cellular metabolism of carbohydrates, lipids and proteins and related macronutrients, including energy transformation, digestion, absorption, transport and malnutrition with emphasis on food sources and current research. Prerequisite(s): BIOL 224, CHEM 108, NUTR 311, NUTR 311L, NUTR Major Only. 3 credit(s)

## NUTR 452 - Nutrition and Metabolism II

Cellular metabolism of vitamins, minerals and related micronutrients; including, digestion, absorption, transport, and malnutrition with emphasis on food sources and current research. Prerequisite(s): NUTR 451.3 credit(s)

## NUTR 466 - Nutritional Anthropology

(Same as ANTH 466.) Provides anthropological perspective on the multifaceted nature of human relationships to food, especially regarding health, disease, and malnutrition in the contemporary world. Variety of theoretical and methodological approaches explored. Prerequisite(s): NUTR 223. 3 credit(s)

## NUTR 470-Community Nutrition

Provides background and skill development on the organization, implementation and evaluation of community-based nutrition programs for individuals and communities. A field experience providing an opportunity to observe or assist with screenings, education programs or community events will be required out of class. Prerequisite(s): NUTR 271, NUTR 311, NUTR 311L, NUTR Major Only. 3 credit(s)

## NUTR 475 - Undergraduate Research in Nutrition

Participation in a research project in nutrition selected by faculty and students to demonstrate potential in the field. Project may be conducted as an integrated project or an independent activity. Prerequisite(s): NUTR 311/311L and consent of instructor. May be repeated to a maximum of six credits. 1-3 credit(s)

## NUTR 490 - Special Topics in Nutrition

Focuses on specific nutrition-related issue not covered in depth in other NUTR courses. Prerequisite(s): NUTR 311/311L. May be repeated to a maximum of six credits. Note(s): Offered for students who have a common interest in a nutrition topic. 1-3 credit(s)

## NUTR 491 - Independent Study in Clinical Nutrition

Formerly Listed as NUTR 480.
Independent study of selected nutrition topics. Assignments/projects designed by instructor to meet the needs of the student. Prerequisite(s): NUTR 311/NUTR 311L and consent of instructor. May be repeated to a maximum of nine credits. 1-3 credit(s)

## NUTR 495 - Practicum in Nutrition Education

Practical experiences for students to share information with populations of various ages and nutritional needs. Guidance provided for planning and implementing nutrition education sessions, program evaluation, and use of multimedia technologies. Prerequisite(s): NUTR 311/311L and consent of instructor. 1-3 credit(s)

## SIM 101 - Athletic Training

Basic principles in the prevention, recognition, and care of athletic injuries and the duties of an athletic trainer in the sports medicine program. 3 credit(s)

## SIM 102 - Introduction to Athletic Training Clinical

Provides an understanding of the practical settings within the athletic training profession. Includes training room procedures and operations and basic ankle taping skills. Prerequisite(s): Acceptance into the Athletic Training Educational Program. 1 credit(s)

## SIM 150 - Management of Sport Trauma and IIIness

Provides the athletic trainer with the knowledge and skills necessary to recognize and manage sport trauma and sports-associated illness. Prepares students to assist in sustaining life following traumatic injury, reducing pain, and minimizing the consequences of injury or sudden illness in the athletic environment. Prerequisite(s): SIM 101. 4 credit(s)

## SIM 180 - Introduction to Physical Therapy

Basic introduction to anatomical, physiological, and kinesiological concepts along with an introduction to physical therapy equipment. Includes discussion of relevant diseases and disabilities generally associated with physical therapy. 3 credit(s)

## SIM 201 - Exercise and Sport Injury

Provides knowledge to recognize and manage orthopedic injury as a result of exercise or sport participation. Topics include; Pathology Injury, Musculoskeletal conditions of the extremities, pelvis, spine, head and face, as well as General Medical Conditions. Prerequisite(s): SIM 101 and SIM 150. 3 credit(s)

## SIM 370 - Clinical Experiences in Athletic Training I

Formerly Listed as SIM 270
Clinical experience in athletic training provided in the athletic training treatment center. Emphasis on training room policies and procedures and the skills of taping, padding, and bracing. Prerequisite(s): SIM 102. 6 credit(s)

## SIM 371 - Clinical Experiences in Athletic Training II

Formerly Listed as SIM 271
Clinical experiences in athletic training provided in the athletic training treatment center. Emphasis on the application of modalities within the practical setting and basic principles of rehabilitation. Prerequisite(s): SIM 370. 4 credit(s)

## SIM 386 - Assessment and Evaluation of Lower Extremity Injuries

In-depth study of the anatomy and functional abilities of the lower extremity. Emphasis on the assessment techniques used for evaluating common athletic injuries. Prerequisite(s): SIM 201, BIOL 223/BIOL 224, KIN 245. Lab/ Lecture/Studio Hours Three hours lecture and two hours lab. 4 credit(s)

SIM 387 - Assessment and Evaluation of Upper Extremity Injuries In-depth study of the anatomy and functional abilities of the upper extremity. Emphasis on the assessment techniques used for evaluating common athletic injuries. Prerequisite(s): SIM 386. Lab/Lecture/Studio Hours Three hours lecture and two hours lab. 4 credit(s)

## SIM 390 - Therapeutic Modalities

Equips students with an understanding of the inflammatory process and pain. Includes the physiologic reactions, contraindications, and indications for: heat, cold, electricity, sound, and water. Prerequisite(s): SIM 101, BIOL 223-224. Lab/Lecture/Studio Hours Three hours lecture and two hours lab. 4 credit(s)

## SIM 396 - Seminar in Sports Injury Management

Prepares students for field experience placement, graduate school and full-time employment. Professional and ethical conduct discussed. Can be taken by all majors but must be taken by pre-professional studies majors. Prerequisite(s): SIM 386. 1 credit(s)

## SIM 456 - Organization and Administration of Athletic Training Programs

Organization and administration of athletic training programs in conventional and clinical settings including athletic training room management, budgeting, staffing, insurance, record keeping and data bases, emergency care planning, legal issues, design of new facilities, and public relations. Prerequisite(s): SIM 271.3 credit(s)

SIM 470 - Advanced Clinical Experiences in Athletic Training I Clinical experiences in athletic training provided in the athletic training treatment center. Emphasis on advanced techniques of evaluation used during assessment and rehabilitation of injuries to the lower extremity. Prerequisite(s): SIM 371.5 credit(s)

SIM 471 - Advanced Clinical Experiences in Athletic Training II Clinical experiences in athletic training provided in the athletic training treatment center. Emphasis on advanced techniques of evaluation used during assessment and rehabilitation of injuries to the upper extremity. Prerequisite(s): SIM 470. 4 credit(s)

## SIM 480 - Therapeutic Exercise

Physiology of trauma and the subsequent effects on tissues as the basis for rehabilitation. Techniques of therapeutic exercise, planning rehabilitation programs and manual muscle testing. Prerequisite(s): SIM 101 and SIM 386. Lab/Lecture/Studio Hours Three hours lecture and two hours lab. 4 credit(s)

## SIM 481 - Advanced Athletic Training

Advanced study in the prevention and specific care of athletic injuries. Focuses on sport nutrition, special athletes, professionals involved in the sports medicine team and other related topics. Preparation for national certification as an athletic trainer discussed. Prerequisite(s): SIM 271. 3 credit(s)

## SIM 495 - Sports Medicine

Pharmacological aspects of sports medicine. Basic drugs used to treat a variety of sports-related injuries and problems. Pathophysiology of athletic injury. Special topics in sports medicine discussed. Prerequisite(s): SIM 386, SIM 390, Kinesiology or Athletic Training major status. 3 credit(s)

## SIM 497 - Field Experiences in Athletic Training

Practicum for upper-division students to experience working in a traditional or non-traditional athletic training setting in the community.
Prerequisite(s): SIM 396, upper-division standing, and approval of instructor. May be repeated to a maximum of six credits. 1-6 credit(s)

## SIM 498 - Seminar in Athletic Training

Designed to prepare students for the BOC certification exam, graduate school application, and full time employment. Professional and ethical conduct will be discussed.Prerequisite(s): SIM 271. 1 credit(s)

## SIM 499 - Special Problems in Athletic Training

Specialized instruction and/or research designed to develop in-depth understanding of a current athletic training problem, trend, or issue. Prerequisite(s): Consent of instructor and upper-division standing. May be repeated to a maximum of six credits. 1-6 credit(s)

## School of Nursing

## Purpose and Focus

The baccalaureate program in nursing has a twofold purpose: to prepare competent nurses who will meet the needs of society and to develop the potential for leadership in nursing graduates.

## Degree Objectives

At the conclusion of the program of study, graduates will:

1. Use emerging patient care technologies and information systems to support safe and effective nursing practice.
2. Integrate leadership concepts, skills, and decision making in the provision of high quality nursing care delivery in a variety of settings.
3. Apply knowledge of health care policy, finance and regulatory environments, including local, state, national and global health care trends in nursing practice.
4. Integrate professional values, attitudes, knowledge, and behaviors into nursing practice.
5. Demonstrate sound clinical judgment in the planning, provision, and evaluation of evidence-based nursing care at the individual, group, and community levels.
6. Apply principles that enhance safety for patients and health care providers through both individual performance and system effectiveness.
7. Demonstrate effective inter- and intra-professional communication and collaboration for improving patient outcomes.
8. Use clinical prevention strategies to promote health and prevent disease across the life span at the individual and population levels.

## Accreditation

Northwest Commission on Colleges and Universities
Commission on Collegiate Nursing Education
Nevada State Board of Nursing

## Undergraduate Majors

Nursing

## Area of Concentration

B.S. in Nursing

Offers preparation for licensure as a registered nurse.

## RN to BSN Pathway (RN Completion)

Through a collaboration agreement with Nevada State College (NSC), registered nurses with an associate degree in nursing or diploma may elect to take three of their courses from UNLV School of Nursing (SON) MSN Program. This shortens the graduate pathway by six to nine credits. Contact Nevada State College School of Nursing for more information at 702-992-2000.

## Licensure Programs

Graduates of the BS in Nursing Program must successfully complete the NCLEX-RN examination to obtain licensure.

Admission Policies: Students are admitted each semester. Students utilize the admission criteria published within the Undergraduate Catalog in effect at the time of admission to UNLV pre-nursing (PRN) major. Once admitted to the nursing program, students are expected to maintain continuous full-time enrollment, thus allowing completion of the nursing course work in 16 months. Students may apply and be accepted only twice into the nursing program. Once a student has begun the nursing program, they may not reapply as a new student if they are unsuccessful in, or withdraw from, their nursing courses, except if the failure occurs in first semester. UNLV offers no part-time undergraduate B.S. nursing degrees.
B.S. in Nursing: Students must first be admitted into pre-nursing (NURPRE) and have a cumulative grade point average of 2.50 . Students with a GPA between 2.00 and 2.50 may be admitted as nursing probationary students.

Students are eligible for admission to the nursing major (NUR-4YR) when a UNLV GPA of 3.00 is established and the student has earned a B (3.00) in the following prerequisites: Fundamentals of College Mathematics (MATH 120) or higher, Anatomy and Physiology (BIOL 223/224), Microbiology (BIOL 251), Nutrition and Development Across the Lifespan (NURS 299) and has earned a minimum of a C (2.00) in all other general education and prerequisite courses. For acceptance into the nursing program, the B (3.00) grade in the identified courses must be earned in either the first or second enrollment, including a withdrawal or audit in the course. In addition, students will be required to complete the HESI A2 Entrance Exam prior to admission to the nursing program. Students must achieve a $75 \%$ average or higher on their first or second completion of the A2 exam to be eligible for admission. UNLV pre-nursing students are required to take only four HESI A2 sub-exams: Math, Grammar, Reading Comprehension and Anatomy \& Physiology. A 75\% average or higher must be obtained on the Math, Grammar and Reading Comprehension sub-exams to be eligible to apply. To be admitted into the School of Nursing, an applicant who is a non-native English speaker must provide proof of English language proficiency. A nonnative speaker is an individual whose primary language in the home was a language other than English (or a non-English language) or who received a K-12 (or equivalent) education in schools where English was not the medium of instruction. Admission will only be considered if the student scores a 100 or above on the TOEFL iBT (internet) language proficiency exam. This is the only proficiency exam the SON will accept. Students may formally apply three times a year. Eligibility is verified by a pre-nursing advisor in the Division of Health Sciences Advising Center MPE 308 during a mandatory in-person BSN signing appointment. Please call (702) 895-5448 to schedule an appointment. Students are rank ordered based on the GPA of their required science, math and NURS 299 courses, number of times courses are repeated, and the results of the HESI A2 Entrance Exam. Admission will be offered to those students achieving the highest rank scores first until all openings are filled. Refer to the admission ranking worksheet which is available online at http://nursing.unlv. edu or at the School of Nursing office. Students not accepted must reapply for admission in subsequent semesters. Policies regarding process for notification and response are also available on the School of Nursing website.

## Admission to the Major

Minimum GPA: 3.00

## Transfer Policies

B.S. in Nursing: Transfer students may gain admission eligibility into pre-nursing (NURPRE) via several routes. If the transfer GPA is 3.00 or above and the prerequisite course work has been completed with the required grades, the student will be admitted into the B.S. nursing program based on rank scoring as noted above. If the transfer GPA is 2.50-2.99, nine credits of UNLV core requirements or prerequisite course work at UNLV must be completed with a GPA of 3.00 . If the transfer GPA is $2.00-2.49$, students must complete a probationary contract in which 15 UNLV core requirements or prerequisite course work must be completed with a 3.00 GPA to remove the probationary status. Transferring into the program from another nursing program is considered on a case-by-case basis. Transfer students must present a letter of "good academic standing" from their School of Nursing Dean.

## School of Nursing Policies

Nursing Student Handbook: Students accepted into the B.S. in Nursing Program should obtain a copy of the Nursing Student Handbook from the School of Nursing website for identification of additional policies and procedures. Students are accountable for observing the policies in the handbook. Prior to beginning nursing courses, students will be asked to:

1. Sign a waiver releasing the School of Nursing and the University of Nevada, Las Vegas, from responsibility for injury or illness resulting from exposure to disease, medicines, or treatments while in the clinical setting.
2. Evidence of IGRA blood testing (QuantiFERON-TB Gold in tube (QFT)); or Evidence of chest x-ray and medical follow-up for those with past history of positive reactivity.
3. Provide documentation of measles, mumps, rubella, varicella diphtheria and tetanus immunizations according to the most recent CDC guidelines. While attending the program, the vaccinations must be within the 10 -year time frame.
4. Provide evidence of completion of the hepatitis B vaccine series, a titer indicating presumptive immunity, or a statement from a health care provider indicating that the vaccination is contraindicated for health reasons.
5. Provide documentation of physical examination within one year prior to admission to nursing program demonstrating the student's ability to perform the essential functions of the registered nurse, with or without reasonable accommodations (Essential functions can be found on the School of Nursing website.)
6. Provide evidence of a negative drug screen. Further information provided in the nursing orientation.
7. Provide certification of completion of BLS health care provider skills offered by the American Heart Association.
8. Complete a criminal background check as identified on the School of Nursing website.
9. Provide evidence of current health insurance. The student is responsible to determine that health insurance coverage includes provisions of a needle stick or other high-risk exposure in the clinical setting, as well as the cost of anti-HIV drugs if warranted. Proof of health insurance coverage is required each semester.

Credit: Clinical contact hour ratio: one credit $=$ three contact hours.

Progression: To progress in the B.S. in Nursing Program, students must achieve a minimum of a C (2.00) in each of the required nursing courses.

If a student receives less than a $\mathrm{C}(2.00)$ in a nursing class and it is the first occurrence, the student will be allowed to repeat the nursing course. (The student must renegotiate the nursing program contract and will be placed in the needed course at the next opportunity that class space is available.)

If a student is non-successful in an additional course with the NURS prefix (in the same semester or later semesters), the student will be dismissed from the school. Non-successful is defined as:

1. Dropping a class in which the student has an average below C at the date of withdrawal from classes.
2. Completion of the course with a grade average below $\mathrm{C}(2.00)$.
3. An F grade resulting from failure to withdraw from the class.
4. Having an average below $C(2.00)$ at the time of complete withdrawal from the university.
5. Failing the clinical portion of a clinical course.

Reinstatement to the baccalaureate program requires approval of the School of Nursing Student Affairs Council. If reinstatement is recommended, the recommendation may include stipulations. Reinstatement is not automatic and is dependent upon the student's total record of performance. The privilege of reinstatement is granted only once.

If the failed course in which the student was non-successful is a prerequisite or co-requisite (requiring concurrent enrollment) to other nursing courses, as identified in the current catalog, the student will not be allowed to progress. All prerequisite or co-requisites must be successfully completed prior to progression to any course scheduled in subsequent semesters. This policy would affect students as illustrated in the following example: NURS 320 identifies the following courses as prerequisites (NURS 305, 306, and 307). If the student has not completed all of those courses with a satisfactory grade, he or she could not enroll in NURS 320.

## Policies Specific to B.S. in Nursing

Incoming Student Orientation: Incoming students are required to attend a student orientation. At the orientation session, information concerning the program will be provided and student data collected.

Medication Calculation Policy: Students must demonstrate continuing and growing competence in medication calculation specific to various clinical areas. The student must demonstrate on a designated exam a grade of $100 \%$ in each course that has a clinical component. If $100 \%$ score is not obtained in three attempts, the student will not progress to the following semester.

Standardized Competency Exams: Undergraduate students participate in a standardized testing program throughout the nursing program. Selected tests are required each semester and are calculated as part of the student's final grade. See the BSN Student Handbook for procedural aspects of this policy. Students must achieve a score of 850 on the standardized comprehensive exit exam in the 4th semester. If the student does not achieve an 850 score within two attempts, he/she will not pass NURS 425 and will be required to repeat the course.

## Fees

Students will be assessed course fees each semester and a one-time NCLEX Review Course cost during their last semester.

## Advisement

After admission to the nursing program, all students will be assigned a nursing advisor from the undergraduate nursing faculty. Students are encouraged to meet with their advisor once a semester or as needed.

Nursing Program Contracts: All pre-nursing (NURPRE) and nursing majors (NUR4YR) are required to negotiate a program contract. Pre-nursing students meet with the Pre-nursing Advisor. The Pre-nursing program contract provides a semester-by-semester schedule identifying prerequisite classes needed to establish eligibility for admission to the nursing program. Nursing majors (NURS4YR) meet with the BSN Coordinator to sign nursing program contracts.

## Nursing Major

## Degree Requirements

First-Year Seminar $\qquad$ Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar Total Credits: 3
Constitutions $\qquad$ Total Credits: 4

- PSC 101 - Introduction to American Politics
or
- HIST 100 - Historical Issues and Contemporary Society

Mathematics...........................................................Total Credits: 3
MATH 120 or higher
Distribution Requirement Life and Physical Sciences and Analytical Thinking
Humanities and Fine Arts $\qquad$ Total Credits: 9
Humanities (student choice from listing $=3$ )
Humanities (Spanish preferred $=3$ )
Fine Arts (student's choice from listing $=3$ )
Social Science. Total Credits: 9

- PSY 101 - General Psychology
- SOC 101 - Principles of Sociology
plus 1 additional 3 credit class other than PSY or SOC courses
Multicultural and International
(see note below)


## Additional Degree Requirements

- ECON 261 - Principles of Statistics I
- KIN 300 - Statistics for the Health Sciences
- STAT 152 - Introduction to Statistics
- PSY 210 - Introduction to Statistical Methods
- SOC 404 - Statistical Methods in the Social Sciences

Sciences Total Credits: 24

- BIOL 189 - Fundamentals of Life Science
- BIOL 251 - General Microbiology
- BIOL 223 - Human Anatomy and Physiology I
- BIOL 224 - Human Anatomy and Physiology II
- CHEM 108 - Introduction to Chemistry
- NURS 299 - Nutrition and Development Across the Lifespan

Nursing Core Requirements ...................................Total Credits: 60

- NURS 305 - Patient Centered Care: Basic Principles
- NURS 306 - Foundations in Pharmacology
- NURS 307 - Health Assessment of Diverse Populations
- NURS 320 - Pharmacology and Pathophysiology Across the Lifespan
- NURS 325 - Professional Communication in Diverse Health Care Settings
- NURS 329 - Physical Assessment Skills
- NURS 342 - Fundamentals of Nursing Lab
- NURS 350 - Population Focused Nursing in the Community
- NURS 401 - Nursing Care of Older Adults
- NURS 405 - Nursing Care of Women and Childbearing Families
- NURS 406 - Nursing Care of Childrearing Families
- NURS 419 - Care of Individuals and Their Family Experiencing Emotional or Mental Health Disruptions
- NURS 420 - Evidence Based Practice and Research in Nursing
- NURS 425 - Managing Complex Nursing Care in Diverse Populations
- NURS 427 - Nursing Leadership and Transition into Practice

Total Credits:

## Note

1. Every student must complete a three-credit multicultural course (NURS 299 meets this requirements) and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements except one course cannot satisfy both the multicultural and the international requirements.

## Nursing

## NURS 100 - Exploration in Nursing

Assists the undergraduate student in exploration of nursing as a major field of study. Includes examination of career and career advancement opportunities, lifestyle issues, academic preparation, professional issues. 2 credit(s)

## NURS 139 - Fundamentals of Medical Calculations for Health Professions

Covers all four major drug calculation methods used in health professions today. Ratio \& proportion, formula, fractional equation, and dimensional analysis are presented. A variety of realistic practice problems are addressed. Drug administration techniques and devices are included. 2 credit(s)

## NURS 140 - Medical Terminology

Study of word derivation and formation with emphasis upon the understanding of common usage in the field of health care. 3 credit(s)

## NURS 220 - Basic Nursing Informatics

Basic understanding of how automation and technology are used to manage information in nursing practice settings. Focuses on the use of computers as a tool to aid nurses to perform patient care in a variety of settings. Prerequisite(s): PRN or NURS major. 3 credit(s)

## NURS 299 - Nutrition and Development Across the Lifespan

Focuses on application of health promotion and normal growth and development principles and the science of nutrition in health across the lifespan, emphasizing sociocultural factors within the United States. Theory $=3$ credits. Prerequisite(s): BIOL 189. 3 credit(s)

## NURS 305 - Patient Centered Care: Basic Principles

Introduction to nursing practice emphasizing application of the nursing process, critical thinking, psychomotor skills, communication skills, and documentation. Provides content on selected common disorders. Explores historical and theoretical perspectives of nursing as a profession, with introduction of ethical-legal decision-making. Emphasizes need for evidencebased practice and use of informatics in nursing. Theory $=4$ credits, clinical $=2$ credits. Corequisite(s): NURS 342. Prerequisite(s): NURS 299 and program contract. 4 credit(s)

## NURS 306 - Foundations in Pharmacology

Introduces the student to basic pharmacokinetics, pharmacodynamics, pharmacoeconomics, and the relationship between pathophysiology and pharmacologic management. Emphasis on introductory principles and nursing management of drug therapy related to NURS 305. Theory $=3$ credits.Prerequisite(s): NURS 299 and program contract. 3 credit(s)

## NURS 307-Health Assessment of Diverse Populations

Acquisition of skills to perform a holistic patient assessment - including sociocultural, spiritual, family, and complete physical assessment. Normal assessment findings emphasized; however, health risk factors and common abnormalities discussed. Theory $=3$ credits. Corequisite(s): NURS 329. Prerequisite(s): NURS 299 and program contract. 3 credit(s)

## NURS 313R - Nursing Care of the Adult Medical-Surgical Patient

Focus on development of professional, patient-centered care for acutely ill patients. Emphasis is placed on applying sound clinical judgment in the planning, provision, and evaluation of evidence-based nursing care. Clinical experience will occur in acute settings with acutely ill adults. Theory $=4$ credits, clinical $=3$ credits. Prerequisite(s): NURS 305, NURS 306, NURS 307, NURS 329, NURS 342.7 credit(s)

## NURS 320 - Pharmacology and Pathophysiology Across the Lifespan

Examines the pathologies from selected body systems across the lifespan. Pharmacology appropriate to the pathologies will be studied. Content will expand upon knowledge learned from NURS 306. Theory $=2$ credits. Prerequisite(s): NURS 305, NURS 306, NURS 307, NURS 329, NURS 342. 2 credit(s)

## NURS 322 - Identification and Assessment in Addictions

(Same as COU 427.) How to identify and assess individuals with addictions. Epidemiological, pathological, physiological and cultural basis of addictions across the life-span examined. Includes assessment/screening tools, motivational interviewing, the family system, enabling and resource and referral system. Prerequisite(s): COU 320. 3 credit(s)

## NURS 325 - Professional Communication in Diverse Health Care Settings

Explores issues related to professional communication within diverse health care settings. Considers innovative and evidence-based strategies that enhance communication and relationship building skills for nurses. Develops abilities to effectively communicate with patients and other health care professionals. Theory $=2$ credits. Prerequisite(s): NURS 305, NURS 306, NURS 307, NURS 329, NURS 342.2 credit(s)

## NURS 329 - Physical Assessment Skills

Acquisition of skills (inspection, palpation, percussion, and auscultation) needed to perform a comprehensive physical assessment. Interviewing techniques and documentation skills will be developed. Normal assessment findings emphasized; however, health risk factors and common abnormalities discussed. Corequisite(s): NURS 307. 1 credit(s)

## NURS 342 - Fundamentals of Nursing Lab

Formerly Listed as NURS 388.
Learner directed skills course where students come prepared to practice and perform designated nursing skills in a safe environment. Students apply collaboration, critical thinking, problem solving, peer and self-evaluation, and documentation as they practice the designated nursing skills. Corequisite(s): NURS 305. 1 credit(s)

NURS 350 - Population Focused Nursing in the Community
Concepts of population-focused health care used to promote health across diverse groups of persons defined by socio-demographic and geographic boundaries. Content is focused on partnering with communities to assess health data within a community health model of care. Clinical experience occurs in laboratory and community settings with culturally diverse populations. Theory $=2$ credits, clinical $=2$ credits. Prerequisite(s): NURS 305, NURS 306, NURS 307, NURS 329, NURS 342.4 credit(s)

## NURS 398 - Assessment of Medical-Surgical Foundational Knowledge

Students who have completed either an associate degree in nursing or a diploma in nursing may be awarded credit for knowledge and experience based on credit by examination, portfolio review, oral examination and/or national standardized testing equivalent to credits medical surgical nursing courses in current baccalaureate of nursing program. Prerequisite(s): Completion of associate degree or diploma in nursing. 1-1 4 credit(s)

## NURS 399 - Assessment of Foundational Knowledge in Maternal/Child Nursing and Psychiatric Nursing

Students who have completed either an associate degree in nursing or a diploma in nursing may be awarded credit for knowledge and experience based on credit by examination, portfolio review, oral examination and/or national standardized testing equivalent to credits in Maternal-Child and Psychiatric Nursing courses in current baccalaureate of nursing program. Prerequisite(s): Completion of associate degree or diploma in nursing. 1-16 credit(s)

## NURS 401 - Nursing Care of Older Adults

Formerly Listed as NURS 319.
Apply theories, concepts, and evidence-based practices in care for older adults. Recognize personal and societal attitudes regarding aging and their impact on delivery and quality of health care and the impact of age-related changes and morbidity on illness, treatment, and rehabilitation. Clinical experiences in health care and community settings.Theory $=3$ credits, clinical $=3$ credits. Prerequisite(s): NURS 313R, NURS 320, NURS 325, NURS 350. 6 credit(s)

## NURS 405 - Nursing Care of Women and Childbearing Families

The examination and application of the theories of maternal-child centered nursing care from pregnancy to labor and delivery, postpartum and newborn nursery. Emphasis is on acute care and health promotion in the maternalchild clinical setting. Clinical experience will be primarily in the acute care inpatient setting. Theory $=1.5$ credits, clinical $=1.5$ credits. Prerequisite(s): NURS 313R, NURS 320, NURS 325, NURS 350. 3 credit(s)

## NURS 406 - Nursing Care of Childrearing Families

This course focuses on the examination and application of the theories of family centered nursing care from infancy through adolescence. Emphasis is on health promotion. Clinical experience will be primarily in the acute care inpatient setting and community. Theory $=2$ credits, clinical $=2$ credits. Prerequisite(s): NURS 313R, NURS 320, NURS 325, NURS 350. 4 credit(s)

## NURS 408 - Transitions in Nursing

Examination of concepts utilized within the baccalaureate program. Topics include nursing as a profession, nursing theory, roles in nursing and issues in nursing. Prerequisite(s): Baccalaureate Program Contract. 2 credit(s)

## NURS 410 - Physical Assessment

Skills for obtaining an accurate health history and physical assessment for adults and children, including the ability to differentiate between the norm and variations requiring referral. Prerequisite(s): Enrollment in NSC Collaborative Program. Lab/Lecture/Studio Hours Three hours of laboratory practice included. 3 credit(s)

## NURS 411 - Nursing Practice With Groups and Families

Examination of internal and external factors which influence group process and function. Study of the family as a group with focus on family dynamics during health/illness. Application of nursing assessments/interventions appropriate for groups and families. Prerequisite(s): NURS 408.3 credit(s)

## NURS 415 - Nursing Care of Acutely III Populations

Focus on development of professional, patient-centered care for acutely ill populations in diverse settings. Emphasis placed on providing evidencebased nursing care, applying critical thinking skills in the management of patient care. Clinical experience will occur in acute settings with acutely ill populations. Theory $=4$ credits, clinical $=3$ credits. Prerequisite(s): NURS 401, NURS 3207 credit(s)

## NURS 419 - Care of Individuals and Their Family Experiencing Emotional or Mental Health Disruptions

Implement holistic, patient centered care based on an understanding of human growth and development, pathophysiology, behavioral health regimens, pharmacology, communication skills and nursing interventions with children, adolescents and adults experiencing major emotional or mental health disruptions. Theory $=2$ credits, clinical $=2$ credits. Prerequisite(s): NURS 401, NURS 405, NURS 406, NURS 420. 4 credit(s)

NURS 420 - Evidence Based Practice and Research in Nursing Formerly Listed as NURS 418.
Evidence-based Practice and Research is the study of the foundations upon which scientific investigations of health are based. Emphasis is on evidence-based practice, including research methodologies, processes and critical appraisal of the health care literature. This course is on-line and/or a combination of on-line and traditional in-person classroom formats. Theory $=3$ credits. Prerequisite(s): Undergraduate statistics, NURS 313R, NURS 320, NURS 325, NURS 350. 3 credit(s)

## NURS 422 A - IDS: An Interdisciplinary Perspective

(Same as HED 422 and SWK 422.) Interdisciplinary survey of various issues surrounding AIDS (Acquired Immune Deficiency Syndrome) as viewed from several conceptual, professional, and experiential disciplines. Offers the most current cognitive information about AIDS and provides an affective awareness of major issues related to the disease. 3 credit(s)

## NURS 423 - Population-Focused Care in the Community

Concepts of population focused healthcare used to promote/preserve health across diverse groups of persons in the U.S. defined by socio-demographics, geographic boundaries, and populations faced with health or illness states. Content is focused on partnering with communities to assess and analyze health data within a community health model of care. Clinical experience occurs in community settings with culturally diverse populations. Theory $=$ 3 credits, clinical $=2$ credits. 5 credit(s)

## NURS 425 - Managing Complex Nursing Care in Diverse Populations

This course focuses on the provision of professional nursing care to patients with complex health problems. Emphasis is placed on use of the nursing process with individuals and families in primary, secondary and/or tertiary settings. Theory $=3$ credits, clinical $=4$. Prerequisite(s): NURS 401, NURS 405, NURS 406, NURS 420.7 credit(s)

## NURS 426 - Pathophysiological Processes in Secondary Prevention

Discusses the complex health pattern variations across the adult life span, in an acute care environment. Outcomes of therapeutic nursing interventions of diverse client systems emphasized. Prerequisite(s): NURS 410 and enrollment in NSC Collaborative Program. 3 credit(s)

NURS 427 - Nursing Leadership and Transition into Practice Apply leadership concepts, skills, and decision making in implementing high quality nursing care, healthcare team coordination, and the oversight and accountability for care delivery in a variety of settings. Explore the pathway to licensure, job preparation and succeeding in practice settings. Theory $=$ 3 hours, clinical = 1 hour. Corequisite(s): NURS 425. Prerequisite(s): NURS 401, NURS 405, NURS 406, NURS 420. 4 credit(s)

NURS 451 - Leadership and Management in Nursing Practice Examination of concepts which facilitate effectiveness in the nurse manager role. Study, observation, critique and practice of selected formal managerial strategies and informal managerial processes. Includes three hours of clinical practice weekly. Prerequisite(s): NURS 411. 1-4 credit(s)

## NURS 473 - Health and Disease in Antiquity

(Same as ANTH 467.) Covers paleopathology, or, the study of disease in ancient populations. It provides an overview of morbidity over the last 20,000 years for many different populations from around the globe. Information on disease is drawn from human skeletal and mummified remains, as well as from archaeological reconstructions of lifestyle and diet. Prerequisite(s): Any one of the following: ANTH 102, BIOL 100, BIOL 121, BIOL 189 or BIOL 223, or NURS 299 or equivalent. 3 credit(s)

## NURS 474 - Medical Anthropology

(Same as ANTH 426.) Provides a broad overview of medical anthropology, covering such biocultural topics as disease and human evolution and ecology of disease, as well as culturally centered approaches in the field, including ethnomedicine (culture-specific conceptions of health and illness), healers in cross-cultural perspective, and medical anthropology practiced in clinical and public health settings. Prerequisite(s): ANTH 101 or ANTH 102.3 credit(s)

## NURS 486 - Gerontology

Study of age-related changes of the elderly relevant to their needs and delivery of health care. Prerequisite(s): Upper-division standing. 3 credit(s)

## NURS 490 - Special Topics in Nursing

Information related to broad topic areas. Separate units focus on aspects of a) Medical Nursing, b) Surgical Nursing, c) Psychiatric Nursing, d) Obstetrical Nursing, e) Pediatric Nursing, f) Gerontological Nursing, g) Research in Nursing, i) The Profession of Nursing, j) Specialty Areas in Nursing, k) Preventative Aspects of Health Care. Other specific topic areas published in class schedules. Prerequisite(s): Upper-division standing. 1-3 credit(s)

## NURS 498 - Independent Study

Independent research projects under faculty supervision. May be repeated to a maximum of nine credits. 1-3 credit(s)

## School of Community Health Sciences

## Purpose and Focus

The purpose of the School of Community Health Sciences (SCHS) is to prepare individuals to become effective public health practitioners, health care managers and administrators, and other health professionals who will competently identify public health problems and needs, develop effective mechanisms to address those needs, and promote appropriate services for the protection of human health. The SCHS is actively involved in educational, research, and outreach programs in public health with the expectation to be nationally recognized as innovative, comprehensive in nature and scope, cooperative in character, and ensure that graduates can serve as catalysts to promote population health in Nevada, the nation and the world.

The School of Community Health Sciences offers undergraduate preparation programs in Health Care Administration and Policy (Bachelors of Science) and Public Health (Bachelors of Science).

## Accreditation

Northwest Commission on Colleges and Universities Association of University Programs in Health Administration

## Health Care Administration Major

Students in the undergraduate Health Care Administration program gain a broad view of the health care delivery system and health care management practices. They develop skills through the curriculum and internships to prepare them primarily for entry level management positions in the organization, financing, and delivery of health care services.

## Admission Policies

A cumulative grade point average of 2.50 and completion of nine credits of department prerequisite courses is required for admission to the major.

Pre-requisite courses to be taken before applying for admission to the health care major include: MATH 124 or higher; PSY 101 or SOC 101, or ECON 102; HCA 175 or HCA 201.

## Public Health Major

The public health degree program provides students with a comprehensive program of study in preparation for careers and advanced degrees in public health. Public health majors take a set of core classes that span the broad scope of health promotion, disease prevention, and eliminating health disparities. Students will also complete a set of classes in one of four areas of emphasis: environmental health, social/behavioral health, epidemiology, or public health generalist. All students will complete their studies with a culminating experience of either a public health practicum or a senior thesis.

## Admission to the Major

A cumulative grade point average of 2.75 and completion of general education math and science requirements.

## Advisement

Students are encouraged to seek advisement in the Advising Center regarding general education and program requirements. Enrollment caps may apply. Program of study sheets are available in the College of Health Sciences Advising Center. It is the student's responsibility to obtain current information relative to departmental policies and program of study.

## Health Care Administration Major Degree Requirements

First-Year Seminar ..Total Credits: 2-3
English Composition $\qquad$ Total Credits: 6

- ENG 101 - Composition I
- ENG 102 - Composition II

Second-Year Seminar ...............................................Total Credits: 3
Constitutions .Total Credits: 3-6
Mathematics...........................................................Total Credits: 3
Distribution Requirement Social Science
Humanities and Fine Arts $\qquad$ .Total Credits: 9
Life and Physical Sciences and
Analytical Thinking . $\qquad$ ..Total Credits: 9-10

- PHIL 102 - Critical Thinking and Reasoning
and two courses from life and physical sciences category; at least one must be a lab.
Multicultural and International (see notes below)


## Additional Degree Requirements

Health Care Administration Foundation Courses ... Total Credits: 24

- ACC 201 - Financial Accounting
- ACC 202 - Managerial Accounting
- IS 101 - Introduction to Information Systems
- ECON 103 - Principles of Macroeconomics

3 credits of statistics (e.g. STAT 161, ECON 261, PSY 210, SOC 403)

- ECON 102 - Principles of Microeconomics

Two social science courses (6 credits) to be approved by a Division of Health Sciences advisor.
Health Care Administration Core
Requirements
Total Credits: 33-39

- HCA 175 - U.S. Health Care System
- HCA 201 - Health Care Law
- HCA 202 - Epidemiological Concepts for Health Care Administration
- HCA 300 - Management of Health Services Organizations
- HCA 302 - Health Care Finance
- HCA 330 - Strategic Planning and Marketing for Health Care Organizations
- HCA 399 - Pre-Practicum in Health Care Administration
- HCA 400 - Health Care Administration Practicum
- HCA 402 - Quantitative Management for Health Care Organizations
- HCA 403 - Managed Care

Guided Electives. $\qquad$ .Total Credits: 12

- HCA 203 - Multicultural Diversity and the US Health Care System
- HCA 404 - Human Resources Management for Health Care Organizations
- HCA 452 - Health Politics and Policy
and
- HCA 480 - Organization and Management of Long-Term Care Services
are the preferred guided elective courses. See Division of Health Sciences academic advisors and/or website ( http://hca.unlv.edu) for a list of other approved guided elective courses.
Other Electives.
..Total Credits: 6-16
Total Credits: 124


## Notes

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements if they appear on the approved lists. However, one course cannot satisfy both the multicultural and the international requirements.
2. Specific restrictions on courses fulfilling this requirement exist. See the UNLV General Education Core Requirement Section of this catalog for additional information.

## Community Health Sciences

## HCA 175 - U.S. Health Care System

Survey of the U.S. Health Care System. Meets general education requirements for first year experience including writing and research resources. Provide introduction to the health care system and gain exposure to the local health care envirnment. 3 credit(s)

## HCA 201 - Health Care Law

Examination of the concepts of tort and administrative laws applicable to health care situations. Prerequisite(s): ENG 101. 3 credit(s)

## HCA 202 - Epidemiological Concepts for Health Care

## Administration

Introduction to epidemiology as the study of distributions and determinants of health and disease in a population. Application of epidemiological information and approaches in health care administration practice.Note(s): (Same as EAB 202). 3 credit(s)

## HCA 203 - Multicultural Diversity and the US Health Care System

Examines role of race and ethnicity in need for, access to, and delivery of health care in US. Special emphasis on role discrimination may play in health care disparities. Also examines role of cultural diversity and competency in health care delivery. Focus on diversity programs in Southern Nevada. 3 credit(s)

## HCA 300 - Management of Health Services Organizations

Theories and practices of management of health services organizations. Application of organizational behavior, administrative processes and techniques in health services organizations. Prerequisite(s): HCA major status. 3 credit(s)

## HCA 302 - Health Care Finance

Covers principles of financial accounting, managerial accounting, and managerial finance for health care organizations. Prerequisite(s): ECON 102, HCA 175, ACC 201, ACC 202, IS 101.3 credit(s)

## HCA 308 - Management of Health Information Systems

Introduces the fundamental knowledge and tools for managing information effectively in health care organizations. Examines different health information systems. Discusses principles, methods, and applications to provide access to timely and high quality health information. Explores how to effectively adapt information technology to improve organizational performance in health care settings. Prerequisite(s): Must be an HCA major. 3 credit(s)

## HCA 330 - Strategic Planning and Marketing for Health Care Organizations <br> Integrates all functional areas of health care organizations. Covers principles

 of accounting, marketing, operations management, human resource management, and finance. Utilizes case studies to illustrate concepts. Prerequisite(s): ECON 102, HCA 175, ACC 201, ACC 202, IS 101.3 credit(s)
## HCA 399 - Pre-Practicum in Health Care Administration

Preparatory seminar emphasizing interviewing skills, listening skills, selfassessment, time management, professional behavior, resume preparation, technical writing skills, and medical terminology. Participation in site visits and lectures at selected healthcare organizations. Introduction to practicum requirements. Prerequisite(s): HCA 175, 201, 202, 300, 302, 330.3 credit(s)

## HCA 400 - Health Care Administration Practicum

Application of health care administration theories in a practice setting; sites approved by faculty. On-site supervision provided by preceptor and on-campus faculty. Written assignments and reports. Prerequisite(s): HCA 300, HCA 302, HCA 330, HCA 399, HCA 402, HCA 403, 2.5 GPA or higher. 3-6 credit(s)

## HCA 402- Quantitative Management for Health Care Organizations

Introduces concepts of operations management for managers of health care organizations with an emphasis on service issues. Develops skills in quantitative and statistical analysis. Prerequisite(s): HCA 175, IS 101. 3 credit(s)

## HCA 403 - Managed Care

Overview of the coordinated care approach to health care. Includes risk/ return theory applied to managed care rates, managed care in the public sector, major stakeholders in managed care, and health management issues. Present managed care environment critically examined in the context of past and present health policy and its impact on the health care delivery system. Prerequisite(s): HCA 175 or HCA 201; PSY 101, SOC 101 or ECON 102; MATH 124 or higher. 3 credit(s)

## HCA 404 - Human Resources Management for Health Care Organizations

Covers concepts and principles of human resources management in the context of the health care industry. Prerequisite(s): HCA 175. 3 credit(s)

## HCA 452 - Health Politics and Policy

Role of politics and policy-making as an external environmental impact on health care. Describes the political process in health care policy-making at all government levels. Interest group politics introduced in the context of the roles that these groups play in health care policy development and how these forces and health care organizations react to shape health care policy. Prerequisite(s): HIST 100, PSC 100, or PSC 101.3 credit(s)

HCA 480-Organization and Management of Long-Term Care Services
Examination of health and social services for the elderly with emphasis on structure and function of the long-term care industry. Focuses on management of nursing home services. Includes analysis of reimbursement, regulatory, and other social, economic, political and legal factors affecting health and social services for the elderly. 3 credit(s)

## HCA 490 - Independent Study in Health Care Administration

Supervised individual research on a topic related to health care administration selected by the student. Prerequisite(s): HCA major status and consent of instructor. May be repeated for a maximum of six credits. 1-6 credit(s)

## HCA 491 - Special Topics in Health Care Administration

Analysis of selected issues with special significance for health services administration. Prerequisite(s): HCA major status and consent of instructor. May be repeated for maximum of six credits. 1-6 credit(s)

## Public Health Major

Degree Requirements
First-Year Seminar ..Total Credits: 2-3
English Composition .Total Credits: 6

- ENG 101 - Composition I
and
- ENG 102 - Composition II

Second-Year Seminar .Total Credits: 3
Constitutions Total Credits: 4

- PSC 101 - Introduction to American Politics

Mathematics. $\qquad$ .Total Credits: 6

- MATH 126 - Precalculus I
- STAT 152 - Introduction to Statistics

Distribution Requirement: Social Science
Humanities and Fine Arts .Total Credits: 9
Humanities electives - 6 credits
Fine Arts elective - 3 credits
Life and Physical Sciences and
Analytincal Thinking .Total Credits: 10

- PHIL 102 - Critical Thinking and Reasoning
- BIOL 189 - Fundamentals of Life Science

One chemistry, physics or earth science electives - 3 credits
Multicultural and International
(see note 1 below)

- PBH 200 - Multicultural Health - 3 credits
(see note 2 below)
International requirement (see note 3 below)


## Additional Degree Requirements

Social Science Requirement ..Total Credits: 3-4
One Antohroplogy or Sociology course
Public Helath Core Requirements. .Total Credits: 36

- ENV 101 - Introduction to Environmental Science
- HCA 175 - U.S. Health Care System
- PBH 165 - Personal Health Across the Lifespan
- PBH 202 - Introduction to Epidemiology
- PBH 205 - Introduction to Public Health
- PBH 210 - Principles of Health Promotion
- PBH 225 - History of Public Health
- PBH 330 - Global Health
- PBH 360 - Research Methods for Public Health

Plus two (2) upper division public health courses

Minor Area of Study. .Total Credits: 24
All public health majors will minor in a field of study complementary to their interests. Please see your advisor for more guidance concerning your minor. Students may choose from the list below or other approved minor:

- Environmental Studies
- Biological Sciences
- Anthropology
- Sociology

Culminating Experience. .Total Credits: 3

- PBH 495 - Public Health Practicum
- PBH 499 - Senior Thesis in Public Health

Electives:..........................................................Total Credits: 9-11
Total Credits: 120

## Notes:

1. Every student must complete a three-credit multicultural course and a three-credit international course. Courses satisfying other requirements may simultaneously satisfy the multicultural and international requirements if they appear on the approved lists. However, one course cannot satisfy both the multicultural and the international requirements. Specific restrictions on courses fulfilling this requirement exist. See the UNLV General Education Core Requirement Section of this catalog for additional information.
2. PBH 200 is required for the major and satisfies the Multicultural requirement.
3. It is recommended that students satisfy the International requirement with a 3-credit Humanities or Fine Arts elective.

## Public Health

## PBH 165 - Personal Health Across the Lifespan

Formerly Listed as HED 165.
Study of health principles as they apply to college and adult life, including mental health, sexuality, substance abuse, nutrition, health care, and environmental health. Increases understanding of underlying causes of, and cultural, social, and personal influences on these principles, and helps move students toward optimal physical, emotional, social and mental health. Note(s): (Satisfies UNLV general education social science requirement.) 3 credit(s)

## PBH 170 - Advanced First Aid

Formerly Listed as HED 170.
Various emergency health problems and their management by the application of emergency first aid and cardiopulmonary resuscitation (CPR). No previous First-aid training is needed to enroll. 3 credit(s)

## PBH 200 - Multicultural Health

Formerly Listed as HED 200.
Equips students with a working knowledge of the influence of socio-cultural factors upon health status and health-related behaviors. Health-related cultural components and myths related to a variety of ethnic and cultural groups explored. Note(s): Meets UNLV general education multicultural requirement. 3 credit(s)

## PBH 202 - Introduction to Epidemiology

Formerly Listed as EAB 202.
(Same as HCA 202.) Provides an introduction to epidemiological techniques and strategies. The investigation of infectious disease outbreaks will be discussed and contemporary epidemics will be highlighted. Other foci will be uses, strengths and weaknesses of epidemiological study designs and the appropriate interpretation of results. Note(s): (Same as HCA 202). 3 credit(s)

## PBH 205 - Introduction to Public Health

Formerly Listed as EOH 200.
Epidemics, chronic disease, workplace hazards, bioterrorism, pollution, second hand smoke, violence -- are all public health problems. This course will introduce students to the growing field of public health with a focused look at the core areas of environmental health, epidemiology, population health, and health promotion. 3 credit(s)

## PBH 210 - Principles of Health Promotion

Introduces students to the concepts of health promotion and the tools of health education. Topics will include social and behavioral determinants of health, goals of Healthy People 2020, levels of prevention, philosophies of health education, the relationship between health behavior, health education, and health promotion, and behavioral models in planning, implementing, and evaluating health promotion programs. 3 credit(s)

## PBH 225 - History of Public Health

Surveys the history of public health from early societies through today. An emphasis will be placed on major diseases and public health issues that drove public health policy and the design of our current system. The course will introduce some of the pioneers of public health and development of the different sub-disciplines in the field. Prerequisite(s): PBH 205. 3 credit(s)

## PBH 275 - Injury Prevention and Control

This course considers the causes and consequences of injury and challenges in injury research and prevention from a public health perspective. Injuries associated with transportation, violence, and the home and occupational environments are included. Prerequisite(s): PBH 205, PBH 210. 3 credit(s)

## PBH 280 - Experential Learning in Public Health

Formerly Listed as HED 280.
Introduction to public schools and community health agencies through field visits, volunteering, and in-class activities. 3 credit(s)

## PBH 305-Consumer Health

Formerly Listed as HED 305.
Analysis of factors which influence the selection of health products and services and of agencies concerned with the control of these products and services, and the evaluation of quackery and health misconceptions. 2 credit(s)

## PBH 320 - Public and Community Health

Formerly Listed as HED 320.
Community health programs and theories: the need for them, problems and issues involved, and possible theoretical solutions. Emphasis on comprehensive and comparative health theories, and their use in governmental, voluntary, and public health environments. Prerequisite(s): PBH 165. 3 credit(s)

## PBH 330 - Global Health

Introduces the principal health problems of the world's populations, and the major challenges to improving health at a global level. It is an interdisciplinary exploration of the factors that account for these health patterns, ranging from their physiological basis to their economic, social and political context. Topics include: infectious diseases, injuries, risk factors, health system performance, and the role of international agencies in shaping the landscape of global health policy. Throughout the course, a heavy emphasis is placed on what we know and how we know about global health problems. Prerequisite(s): PBH 205. 3 credit(s)

## PBH 340 - Built Environment and Health

Examines the built environment and its impact on health and discuss sustainable solutions with an emphasis on public health. The US and other nations are facing increasingly lethal and costly epidemics of acute and chronic diseases related to land use and built environment decisions. While the hazards presented by air and water pollution are well recognized there is only now increasing recognition of the hazards presented by building and community designs that fail to recognize human health. Built environment and health issues range from motor vehicle trauma to obesity, cancer, heart disease and are based on economic, financial, insurance, housing and other factors. This class will focus on environmental health, health threats of the built environment and creating healthy built environments. Prerequisite(s): ENV 101, PBH 205. 3 credit(s)

## PBH 360 - Research Methods for Public Health

Prerequisite(s): PBH 205, PBH 210.3 credit(s)

## PBH 407 - Stress Management

Formerly Listed as HED 407.
(Same as PED 407.) Explores such things as the meaning of stress, its effects, how it manifests itself physically, mistakes made in handling stress, and strategies for self-care in managing stress. Particular emphasis on the role of physical activity in controlling stress and the development of a controlled lifestyle that provides a balance between work and play and rest and exercise. 3 credit(s)

## PBH 422 - AIDS: An Interdisciplinary Perspective

Formerly Listed as HED 422.
(Same as NURS 422 and SWK 422.) Interdisciplinary survey of various issues surrounding AIDS (Acquired Immune Deficiency Syndrome) as viewed from several conceptual, professional, and experimental disciplines. Designed to offer the most cognitive information about AIDS and provide an effective awareness of major issues related to the disease. 3 credit(s)

## PBH 424 - Teaching Elementary School Health

Formerly Listed as HED 424.
Prepares elementary school teachers in the selection and instruction of health topics relevant to elementary school children. Emphasis on curriculum planning, innovative teaching methods, and the screening of common health problems of elementary school students. Prerequisite(s): Completion of the last 30 credits in uninterrupted residence at UNLV, passing scores on PRAXIS I series (Pre-Professional Skills Test). 3 credit(s)

## PBH 425 - Injury Prevention and Control

Formerly Listed as HED 325.
Study of the causes of accidents, development of preventative programs, and safety consciousness. 2 credit(s)

## PBH 427 - Methods in Health Education

Formerly Listed as HED 427.
Gives the prospective health educator a foundation in health education, including curriculum planning, teaching methods, and materials. Prerequisite(s): PPST scores RP 174, WP 172, MP 172 or PPST scores RC 321, WC 318 and HEDSCH major. 3 credit(s)

## PBH 429 - Education for Sexuality

Formerly Listed as HED 429
Physical, mental-emotional, and social aspects of sexuality including sexual communication, relationships, gender, decision making and sexual pleasure and function. Structured to prepare individuals to conduct meaningful learning experiences in personal and family life sex education. Note(s): (Satisfies UNLV general education social science requirement.) 3 credit(s)

## PBJ 430 - Nutrition

Formerly Listed as HED 430.
Practical application of nutrition principles to diet, exercise, and weight control, food selection, and the overall health of the individual. Nutritional needs throughout the life cycle emphasized. 3 credit(s)

## PBH 435 - Health Studies on Dangerous Drugs

Formerly Listed as HED 435.
Analysis and evaluation of scientific data on effects of tobacco, alcohol, narcotics, and other dangerous drugs. Current problems relating to control of use and abuse of these drugs and the role of education in preventing substance abuse. Note(s): (Satisfies UNLV general education social science requirement.) 3 credit(s)

## PBH 440 - Program Planning and Evaluation

Formerly Listed as HED 440.
Assists health educators in developing, implementing, and evaluating effective health promotion and wellness programs in the school, community, and work-site setting. Emphasis placed on establishing and marketing model lifestyle programs related to nutrition, exercise, stress reduction, and health/ safety awareness. 3 credit(s)

## PBH 445 - Food Access and Health

Provides students with the knowledge and skills to understand and navigate the built environment and industrial food complex with regard to the availability of healthy food and clean water. Topics will include the concept of food deserts, access to safe and healthy foods, obesity, malnutrition, and critical public health problems associated with food and water consumption. Sustainable solutions and strategies for working with community partners from city planners to health educators will be an important focus of the class content. Prerequisite(s): PBH 205, PBH 340. 3 credit(s)

## PBH 450 - Supervised Teaching-Health Major

Formerly Listed as HED 450.
Provides opportunities for supervised teaching in an assigned class situation in health education. Prerequisite(s): Required professional education courses; HED 427 and within six credits of completing all course work. Note(s): Must be taken concurrently with HED 470.6 or 12 credit(s)

## PBH 451 - Supervised Teaching-Health Minor

Formerly Listed as HED 451.
Provides opportunities for supervised teaching in an assigned class situation in health education. Prerequisite(s): Required professional education courses; HED 427 and within six credits of completing all course work. Note(s): Must be taken concurrently with HED 470. 6 credit(s)

## PBH 455 - Active Transport, Physical Activity and Health

Examines the public health benefits of active transport and physical activity and concepts relevant to the built environment that facilitate or hinder participation in active transport and physical activity. Class topics will include: land use and travel behavior; the built environment and public health; transportation demand management; bicycle and pedestrian planning; design of bicycle and pedestrian facilities; retrofitting existing urban areas; safety issues for pedestrians and bicyclists; the transportation needs of special populations (elderly, children, disabled and immigrants); and innovative solutions. Prerequisite(s): PBH 205, PBH 340. 3 credit(s)

## PBH 460 - Health Ecology and Sustainability

Examines ways human populations are using land, energy, food and water resources and the related impacts on global climates, ecosystem degradation and biodiversity. Provides students with an understanding of how human consumption and standards of living are exceeding the carrying capacity of the planet and how human and ecosystem health are affected locally and globally. Prerequisite(s): ENV 101, PBH 205, PBH 340. 3 credit(s)

## PBH 470 - Clinical Teaching Seminar in Health Education

Formerly Listed as HED 470.
Bridges the professional sequence and clinical experience of specific applications of teaching methods and techniques. Prerequisite(s): Must be taken concurrently with either HED 450 or HED 451. 2 credit(s)

## PBH 480 - Field Experience

Formerly Listed as HED 480.
Practicum for extended professional service in community health education at occupational, medical, or volunteer agency work sites. Prerequisite(s): 29 credits in PBH course work and consent of instructor. 1-11 credit(s), majors must take a total of 11

## PBH 481 - Field Experience Seminar

Formerly Listed as HED 481.
Provides a process link between the professional course sequence and the concurrently taken practicum. Prerequisite(s): Must be taken concurrently with PBH 480. 1 credit(s)

## PBH 490 - Workshop in Health Education

Formerly Listed as HED 490.
Designed to provide opportunities for study on current topics in the field of health education. For teachers and others interested in gaining further understanding of relevant health issues and the implications for education. May be repeated to a maximum of six credits.1-3 credit(s)

## PBH 495 - Public Health Practicum

This course is the practicum option, culminating experience for Public Health majors. In partnership with the SCHS faculty and community partner agencies, students will establish a real-world public health experience. The practicum enables students to contribute to the solution of public health problems, while developing practical skills and personal confidence as a public health professional. The practicum is as an important first step in a public health career, providing an introduction to the practical skills and experience necessary for a productive and fulfilling career. The practicum provides the opportunity to hone skills and gain new experience in a specific area of specialization. Prerequisite(s): Senior status, permission of instructor. 3 credit(s)

## PBH 497 - Special Problems in Health Education

Formerly Listed as HED 499.
Specialized instruction and/or research designed to develop in-depth understanding of a current health education problem. Prerequisite(s): Consent of instructor and upper-division standing. May be repeated to a maximum of six credits. 1-6 credit(s)

## PBH 499 - Senior Thesis in Public Health

This course is the thesis option, culminating experience for Public Health majors. Students will design an independent research project and prepare a prospectus and a high quality final paper. The Senior Thesis challenges students to develop their scholarly interests and to evolve as independent thinkers and to pursue original research and scholarship on a topic of their choosing. Students work one-on-one with a faculty member who guides the development of the project. Prerequisite(s): Senior status, permission of instructor. 3 credit(s)

