KINESIOLOGY (KIN)

KIN 131. INTRODUCTION TO KINESIOLOGY. (1 Credit)
Overview of the field; career opportunities in exercise and sport science and other professions dealing with the discipline of human movement; orientation to support services. Graded P/N.

KIN 132. INTRODUCTION TO THE ALLIED HEALTH PROFESSIONS. (1 Credit)
Overview of allied health professions including physical and occupational therapy, physician assistant, nursing, athletic training and others. Discuss job responsibilities, employment opportunities and educational requirements.

KIN 160. INTRODUCTION TO INJURY MANAGEMENT FOR THE PHYSICALLY ACTIVE. (3 Credits)
Introduction to management of physical activity-related injury for the non-healthcare provider (e.g., coaches, physical educators and fitness professionals).

KIN 194. PROFESSIONAL ACTIVITIES. (1-2 Credits)
Basic movement skills, basic rhythms, track and field.

KIN 199. SPECIAL TOPICS. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 230. INTRODUCTION TO ADVENTURE PROGRAMS. (3 Credits)
Foundation course for leadership opportunities in the Adventure Leadership Institute (ALI). Provides overview of history, theoretical foundations, and utilization of adventure programs in education, recreation, and therapy.

KIN 231. HUMAN GROUP DYNAMICS. (3 Credits)
Provides students with the fundamental concepts and theories essential for understanding dynamics that occur in groups in recreation, leisure, and everyday settings.

KIN 232. BACKCOUNTRY LEADERSHIP. (3 Credits)
Prepares students to be leaders in outdoor settings by building the practical and logistical skills needed in the effective delivery of courses and/or trips. Covers the teaching skills and essentials for trip leaders in the wilderness, including trip planning, logistics, risk management, and group interaction in the backcountry.

Prerequisites: (EXSS 230 with C or better or KIN 230 with C or better) and PAC 301 [C] and PAC 303 [C] and PAC 329 [C]

KIN 233. TEACHING TECHNIQUES FOR OUTDOOR ACTIVITIES. (3 Credits)
Gateway course for students pursuing the Level Three Adventure Leadership Certificate. Emphasizes teaching outdoor activities at a professional level. Students work individually with the course instructor to develop, plan and implement an activity course (land or water based) for the Adventure Leadership Institute.

Prerequisites: EXSS 232 with C or better or KIN 232 with C or better

KIN 299. SPECIAL TOPICS. (1-3 Credits)
This course is repeatable for 24 credits.

KIN 301. RESEARCH AND SCHOLARSHIP. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 305. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 306. PROJECTS. (1-16 Credits)
This course is repeatable for 36 credits.

KIN 307. SEMINAR. (1-3 Credits)
Section 2: Seminar Pre-Internship (1 credit).
This course is repeatable for 36 credits.

KIN 311. MOTOR BEHAVIOR. (4 Credits)
Underlying mechanisms and factors affecting movement function, skill acquisition, and changes in movement behavior across the lifespan.
Prerequisites: BI 232 with C- or better or BI 332 with C- or better

KIN 312. *SOCIOCULTURAL DIMENSIONS OF PHYSICAL ACTIVITY. (3 Credits)
Physical activity in contemporary society. Relationships with the social processes; interrelationships between physical activity and cultural institutions. (Bacc Core Course)
Attributes: CPSI – Core, Pers, Soc Proc & Inst; CPWC – Core, Pers, West Culture

KIN 314. INTRODUCTION TO ADAPTED PHYSICAL ACTIVITY. (3 Credits)
Overview of cognitive, neuromuscular, sensory and orthopedic disabilities; understanding accessible physical activity programs for individuals with disabilities.

KIN 321. BIOMECHANICS OF HUMAN MOVEMENT. (4 Credits)
Integration of the physical laws and anatomical structures governing human movement; qualitative analytical processes emphasized.
Prerequisites: ((BI 231 with C- or better and BI 241 [C-]) or (BI 331 [C-] and BI 341 [C-])) and (MTH 112 [C-] or MTH 251 [C-])

KIN 324. EXERCISE PHYSIOLOGY. (4 Credits)
Physiological effects of acute and chronic exercise; factors affecting human performance; exercise training principles.
Prerequisites: (BI 233 with C- or better or BI 333 with C- or better) and (BI 231 [C-] or BI 331 [C-] and (CH 121 [C-] or CH 231 [C-] or CH 231H [C-]) and (CH 122 [C-] or CH 232 [C-] or CH 232H [C-]) and (CH 123 [C-] or CH 233 [C-] or CH 233H [C-] or CH 130 [C-])

KIN 325. FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION. (3 Credits)
Introduction to lab- and field-based physical fitness assessments and the skills needed to design safe and effective exercise programs for apparently healthy adults. Lec/lab.
Prerequisites: KIN 324 with C- or better or EXSS 324 with C- or better

KIN 333. KINESIOLOGY PRACTICUM. (2 Credits)
Field experience in kinesiology under professional supervision.

KIN 334. KINESIOLOGY PRACTICUM. (2 Credits)
Field experience in kinesiology under professional supervision.

KIN 335. KINESIOLOGY PRACTICUM. (2 Credits)
Field experience in kinesiology under professional supervision.

KIN 341. NUTRITION FOR EXERCISE. (3 Credits)
Review of the interrelationship between nutrition and exercise, including macronutrient, micronutrient and fluid needs for active individuals.
CROSSLISTED as NUTR 341.
Prerequisites: (KIN 324 with C- or better or EXSS 324 with C- or better) and NUTR 240 [C-]

KIN 343. PRE-THERAPY/ALLIED HEALTH SEMINAR. (1 Credit)
Provides knowledge in professional school preparation and current issues related to the allied health professions.
Prerequisites: (KIN 132 with C or better or BI 109 with C or better) and BI 231 [C] and BI 232 [C] and BI 233 [C] and BI 241 [C] and BI 242 [C] and BI 243 [C]
KIN 344. PRE-THERAPY/ALLIED HEALTH PRACTICUM. (2 Credits)
Clinical field experiences under the supervision of a licensed professional in the allied health or related setting enhanced with classroom discussion.
Prerequisites: KIN 132 with C or better and BI 231 [C] and BI 232 [C] and BI 233 [C] and BI 241 [C] and BI 242 [C] and BI 243 [C]
Corequisites: KIN 343

KIN 345. ALLIED HEALTH PRACTICUM. (1-2 Credits)
Field experience under professional supervision in an allied health or related setting. Includes arranged consultations with the instructor to discuss current issues related to the allied health professions.
This course is repeatable for 2 credits.

KIN 353. PHYSICAL EDUCATION TEACHER EDUCATION PRACTICUM. (2 Credits)
Supervised K-12 physical education field experience with seminars. May include one instructor-approved coaching experience in school setting.

KIN 354. PHYSICAL EDUCATION TEACHER EDUCATION PRACTICUM. (2 Credits)
Supervised K-12 physical education field experience with seminars. May include one instructor-approved coaching experience in school setting.

KIN 355. PHYSICAL EDUCATION TEACHER EDUCATION PRACTICUM. (2 Credits)
Supervised K-12 physical education field experience with seminars. May include one instructor-approved coaching experience in school setting.

KIN 356. INJURY MANAGEMENT FOR THE PHYSICALLY ACTIVE. (3 Credits)
Introduction to management of physical activity-related injury for the non-healthcare provider (e.g., coaches, physical educators and fitness professionals) and pre-professional.

KIN 357. PSYCHOLOGY OF SPORT AND PHYSICAL ACTIVITY. (3 Credits)
Interaction between psychological variables and human motor performance.

KIN 370. THERAPEUTIC MODALITIES. (4 Credits)
Indications, contraindication, techniques, and effects of various physical agents used in the care and treatment of musculoskeletal injuries and diseases.

KIN 385. THERAPEUTIC EXERCISE. (4 Credits)
Principles and techniques of therapeutic exercise; rehabilitative activities and programs for musculoskeletal injuries, conditions, and diseases. Lec/lab.
Prerequisites: KIN 321 with C- or better or EXSS 321 with C- or better

KIN 394. PROFESSIONAL ACTIVITIES: RESISTANCE TRAINING PROGRAM DESIGN. (3 Credits)
 Presents the conceptual basis for optimizing resistance training program designs, exercise routines for all ages and fitness levels, correct exercise technique. Lec/lab.
Prerequisites: KIN 324 with C- or better and KIN 325 [C-]

KIN 395. PROFESSIONAL ACTIVITIES: GROUP FITNESS. (3 Credits)
Application of biomechanical, physiological, psychological and safety principles for the development of group exercise classes in a variety of modes and settings. Lec/lab.
Prerequisites: (KIN 324 with C- or better or EXSS 324 with C- or better) and (KIN 325 (may be taken concurrently) [C-] or EXSS 325 (may be taken concurrently) [C-])

KIN 396. PROFESSIONAL ACTIVITIES: AQUATICS. (3 Credits)
Aquatic overview; emphasis on underlying hydrodynamic principles; includes safety, survival, stroke mechanics, aquatic exercise, training, games. Lec/lab/activity.

KIN 399. SPECIAL TOPICS. (1-3 Credits)
Equivalent to: KIN 399H
This course is repeatable for 18 credits.

KIN 399H. SPECIAL TOPICS. (1-3 Credits)
Attributes: HNRS – Honors Course Designator
Equivalent to: KIN 399
This course is repeatable for 18 credits.

KIN 401. RESEARCH AND SCHOLARSHIP. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 402. THESIS. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 405. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 406. PROJECTS. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 407. SEMINAR. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 408. WORKSHOP. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 409. PRACTICUM. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 410. INTERNSHIP. (1-15 Credits)
Planned experiences at selected cooperating agencies, companies or institutions; supervised by university and - program personnel; supplementary conference, reports and appraisal required.
This course is repeatable for 20 credits.

KIN 422. FACILITATING PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH. (3 Credits)
Students learn skills for facilitating physical activity programs for children and youth in a variety of settings, including information on the benefits of physical activity, program design, implementation and management techniques.
Prerequisites: KIN 311 with C- or better or EXSS 311 with C- or better

KIN 423. QUALITATIVE MOVEMENT ANALYSIS. (3 Credits)
Develop observational skills to perform systematic qualitative analyses of selected physical activity performances and other human movements.
Prerequisites: (KIN 311 with C- or better or EXSS 311 with C- or better) and (KIN 321 [C-] or EXSS 321 [C-])

KIN 425. ANATOMICAL KINESIOLOGY. (4 Credits)
Anatomical aspects of human movement; actions of bones and muscles in motor activities. Application of physical principles to factors governing anatomical function in health and injury.
Prerequisites: EXSS 321 with C- or better or KIN 321 with C- or better

KIN 432. PHYSICAL ACTIVITY ASSESSMENT. (3 Credits)
Assessment of physical activity using subjective and objective measurement methods with focus on applications for individuals, communities, and special populations.

KIN 434. APPLIED MUSCLE PHYSIOLOGY. (3 Credits)
Skeletal muscle structure, function, and metabolism; applications to muscle fatigue, exercise training, inactivity, and aging.
Prerequisites: KIN 324 with C- or better or EXSS 324 with C- or better
KIN 435. PHYSICAL ACTIVITY PROMOTION. (3 Credits)
Application of behavioral science and public health research to the promotion of physical activity in individuals, groups, and communities.
Prerequisites: KIN 370 with C- or better

KIN 437. PHYSICAL ACTIVITY, AGING, AND CHRONIC DISEASE. (4 Credits)
Addresses the consequences of primary and secondary aging from an individual and public health perspective. Physiological changes associated with aging and chronic disease, functional assessment of older adults, and exercise prescription for older adults with and without chronic exercise will be emphasized.
Prerequisites: (KIN 324 with C- or better or EXSS 324 with C- or better) and (KIN 325 [C-] or EXSS 325 [C-])

KIN 444. ADVANCED ADAPTED PHYSICAL ACTIVITY. (3 Credits)
Discuss various disability models and perspectives; reinforce determinants of physical activity; design and implement different physical activity programs and curricula for individuals with disabilities. Lec/lab.
Prerequisites: (KIN 314 with C- or better or EXSS 314 with C- or better)

KIN 474. EXERCISE PHYSIOLOGY LAB METHODS. (3 Credits)
Practical experience and projects in exercise physiology lab methods, including measurement of submaximal and maximal oxygen consumption body composition, anaerobic power, and electrocardiography.
Prerequisites: (KIN 324 with C- or better or EXSS 324 with C- or better) and (KIN 325 [C-] or EXSS 325 [C-])

KIN 475. *POWER AND PRIVILEGE IN SPORT. (3 Credits)
Issues of power and privilege in sport including race, gender, sexual orientation, disability and aggression and the consequences of long held society norms and stereotypes. (Bacc Core Course)
Attributes: CPDP – Core, Perspective, Difference/Power/Discrimination
Prerequisites: (KIN 312 with C- or better or EXSS 312 with C- or better)

KIN 481. *ANALYSIS OF CRITICAL ISSUES IN KINESIOLOGY. (3 Credits)
Practical experience and projects in exercise physiology lab methods, including measurement of submaximal and maximal oxygen consumption body composition, anaerobic power, and electrocardiography.
Prerequisites: (KIN 324 with C- or better or EXSS 324 with C- or better) and (KIN 325 [C-] or EXSS 325 [C-])

KIN 483. TISSUE INJURY AND REPAIR. (3 Credits)
Mechanics of tissue injury and the body's response and repair following injury of bone, muscle, tendon, ligament, cartilage and nervous system tissue.
Prerequisites: (BI 231 with C- or better or BI 331 with C- or better) and (BI 241 [C-] or BI 341 [C-]) and (BI 232 [C-] or BI 332 [C-]) and (BI 242 [C-] or BI 342 [C-]) and (BI 233 [C-] or BI 333 [C-]) and (BI 243 [C-] or BI 343 [C-]) or ((Z 331 [C-] and Z 332 [C-] and Z 333 [C-] and Z 341 [C-] and Z 342 [C-] and Z 343 [C-])

KIN 490. SCIENTIFIC INQUIRY IN KINESIOLOGY. (4 Credits)
Principles and techniques of organization, administration, interpretation and evaluation of exercise science-related data. Includes human subjects training and certification, research design, and statistical analysis using SPSS and Excel including central tendency, correlation and regression, probability, and inferential statistics (t-tests and ANOVA). Lec/lab.
Prerequisites: KIN 325 with C- or better and MTH 112 [C-]

KIN 499. SELECTED TOPICS. (1-5 Credits)
Impact of human movement development on people, their movement behavior, and environment. Topics vary from term to term and year to year. May be repeated for credit when topics differ.
This course is repeatable for 24 credits.

KIN 501. RESEARCH AND SCHOLARSHIP. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 503. THESIS. (1-16 Credits)
This course is repeatable for 999 credits.

KIN 505. READING AND CONFERENCE. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 506. PROJECTS. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 507. SEMINAR. (1-16 Credits)
Section 1: Seminar (1). Graduate research seminar that emphasizes student oral presentations of current research topics in exercise and sport science. One credit required for all graduate students. Section 2: Current Developments (1). Discussion of contemporary issues in the exercise and sport science literature. Topics vary by term. Two credits required of all doctoral students. Section 9: International Aspects (1). Discussion of international aspects of study in exercise and sport science. Required of all doctoral students. Graded P/N. This course is repeatable for 16 credits.

KIN 508. WORKSHOP. (1-16 Credits)
This course is repeatable for 16 credits.

KIN 509. PRACTICUM. (1-16 Credits)
This course is repeatable for 35 credits.

KIN 510. INTERNSHIP. (1-16 Credits)
Planned experiences at selected cooperating agencies, companies or institutions; supervised by university and program personnel; supplementary conference, reports and appraisal required. This course is repeatable for 26 credits.

KIN 511. INTRODUCTION TO ATHLETIC TRAINING. (4 Credits)
Practice domains include injury and illness prevention and wellness protection, clinical evaluation and diagnosis, immediate and emergency care, treatment and rehabilitation, and organizational and professional health and well-being. Lec/lab.

KIN 512. APPLIED MOTOR LEARNING. (3 Credits)
Application of research and theory to the teaching of motor skills with emphasis on development of instructional strategies related to modeling, knowledge of results, practice, and motivational aspects of learning.

KIN 515. MOTOR CONTROL AND MOVEMENT DYSFUNCTION. (3 Credits)
Contemporary motor control theories and their application to the development of instructional and training programs for individuals with movement disorders caused by neurological disease and/or trauma.

KIN 520. ORTHOPEDIC ASSESSMENT OF UPPER EXTREMITY INJURIES. (4 Credits)
Prevention, assessment and management of upper extremity injuries and conditions commonly encountered by the athletic trainer. Lec/lab.
Prerequisites: KIN 511 with C or better

KIN 521. ORTHOPEDIC ASSESSMENT OF LOWER EXTREMITY INJURIES. (4 Credits)
Prevention, assessment and management of lower extremity injuries and conditions commonly encountered by the athletic trainer. Lec/lab.
Prerequisites: KIN 511 with C or better

KIN 522. ORTHOPEDIC ASSESSMENT OF SPINE. (4 Credits)
Prevention, assessment and management of spinal injuries and conditions commonly encountered by the athletic trainer. Lec/lab.
Prerequisites: KIN 520 with C or better and KIN 521 [C]
KIN 523. BIOMECHANICS OF MOTOR ACTIVITIES. (3 Credits)
Kinematic and kinetic analysis of volitional human movement with emphasis on analytical techniques and quantitative problem solving.

KIN 525. BIOMECHANICS OF MUSCULOSKELETAL INJURY. (3 Credits)
Mechanical causes and effects of forces applied to the musculoskeletal system, material properties of human tissues, pathomechanics of injury, and degenerative changes across the lifespan. Not offered every year.

KIN 531. PHYSIOLOGY OF PHYSICAL ACTIVITY AND INACTIVITY. (3 Credits)
Physiologic responses to acute and chronic physical activity and inactivity with emphasis on underlying mechanisms and health outcomes.

KIN 532. PHYSICAL ACTIVITY ASSESSMENT. (3 Credits)
Assessment of physical activity using subjective and objective measurement methods with focus on applications for individuals, communities, and special populations.

KIN 533. ENERGETICS AND BIOCHEMISTRY OF EXERCISE. (3 Credits)
Metabolic and energetic responses to acute and chronic physical activity; emphasis on recent research.

KIN 535. PHYSICAL ACTIVITY PROMOTION. (3 Credits)
Application of behavioral science and public health research to the promotion of physical activity in individuals, groups and communities.

KIN 544. ADVANCED ADAPTED PHYSICAL ACTIVITY. (3 Credits)
Discuss various disability models and perspectives; reinforce determinants of physical activity; design and implement different physical activity programs and curricula for individuals with disabilities. Lec/lab.

KIN 547. INCLUSION IN PHYSICAL ACTIVITY. (3 Credits)
Effectiveness of physical activity programs provided in inclusive settings. This will include a lifespan/non-categorical approach to program development.

KIN 548. ASSESSMENT AND PROGRAMMING FOR SPECIAL POPULATIONS. (3 Credits)
Use of appropriate assessment procedures for developing effective psychomotor programs for the disabled.

KIN 549. PHYSICAL ACTIVITY FOR PERSONS WITH SEVERE DISABILITIES. (3 Credits)
Plan, develop and implement appropriate physical activity programs, functional program design, assistive technology, instructional strategies, behavior management practices, and data analysis systems that address the needs for psychomotor performance of persons with low incidence disabilities.

KIN 550. HEALTH PROMOTION FOR PEOPLE WITH DISABILITIES. (3 Credits)
Discussion will focus on disability and health, theory driving health promotion program development, guidelines for developing a program for individuals with disabilities, and program evaluation.

KIN 551. CURRENT TRENDS AND ISSUES IN PHYSICAL EDUCATION. (4 Credits)
Current trends and issues in physical education, including curriculum development, professional ethics, instructional practices, and physical activity for the school community.

KIN 553. INSTRUCTIONAL ANALYSIS TECHNIQUES I. (3 Credits)
Introduction to techniques of instructional analysis. Provides in-depth information and training in systematic observation techniques, raw data conversion and inter/intraobserver reliability.

KIN 554. INSTRUCTIONAL ANALYSIS TECHNIQUES II. (3 Credits)
Laboratory/seminar experience to accompany student teaching winter and spring terms. Provides continued application of systematic observation techniques throughout the elementary student teaching experience.

KIN 555. SKILL ANALYSIS AND ASSESSMENT IN K-12. (3 Credits)
Develop proficiency in assessing movement skills, execution of sport techniques, and game play performance. Assessment trends and practices utilized in physical education programs are included.

KIN 556. INSTRUCTIONAL SKILLS I. (3 Credits)
Skills of planning, implementing, and evaluating programs of instruction in physical education, grades K-12.

KIN 557. INSTRUCTIONAL SKILLS II. (2 Credits)
Applying and refining skills of planning, implementing, and evaluating programs of instruction in physical education, grades K-12.

KIN 558. PHYSICAL EDUCATION CURRICULUM DESIGN AND ORGANIZATION. (3 Credits)
Curricular programs and variations from kindergarten through grade 12, administrative policies and practices.

KIN 559. THE PHYSICAL EDUCATOR AS A PROFESSIONAL. (1 Credit)
Transitioning to teaching, developing a portfolio, certification, obtaining a position, teacher burnout, professionalism, problems of first-year teachers, developing patterns of behavior that lead to a successful career.

KIN 560. MOTIVATION IN PHYSICAL ACTIVITY. (3 Credits)
A social psychological approach to understanding the role of self-perceptions and cognitions in explaining motivated behavior in sport and exercise settings.

KIN 561. PSYCHOSOCIAL FACTORS IN PHYSICAL ACTIVITY. (3 Credits)
A social psychological approach to understanding the role of social interactions and contextual factors in explaining human behavior in sport and exercise settings.

KIN 562. LIFESPAN SPORT AND EXERCISE PSYCHOLOGY. (3 Credits)
Social-psychological issues across the lifespan in the context of sport and exercise.

KIN 564. PROGRAM CAPSTONE AND SYNTHESIS. (3 Credits)
Capstone course in which teacher candidates will review and update their teaching philosophy; showcase their Physical Education master's portfolio; and develop a plan for professional development. 
Prerequisites: KIN 510 with C- or better

KIN 565. EMERGENCY MANAGEMENT OF SPORTS TRAUMA. (3 Credits)
Knowledge and skills related to the specialized care required for serious and/or life-threatening acute athletic related injuries and illnesses. Lec/lab.
Prerequisites: KIN 511 with C or better

KIN 566. GENERAL MEDICAL ASSESSMENT. (3 Credits)
Prevention, assessment and management of general medical conditions commonly encountered by the athletic trainer. Lec/lab.
Prerequisites: KIN 565 with C or better

KIN 567. PHARMACOLOGY IN ATHLETIC TRAINING. (3 Credits)
Pharmacology in sports medicine, topics including, but not limited to, the mechanisms and actions of drugs commonly administered and prescribed in sports medicine environments. 
Prerequisites: KIN 566 with C or better
KIN 568. ATHLETIC TRAINING PROGRAM MANAGEMENT. (3 Credits)
Administrative aspects of athletic training program management. Including principles of risk management, strategic and operational planning, medical-legal aspects of athletic healthcare, confidentiality and documentation of patient health information, insurance and third-party reimbursement, personnel issues, and current professional issues.
**Prerequisites:** KIN 522 with C or better

KIN 569. EVIDENCE-BASED PRACTICE. (3 Credits)
Principles and skills underlying the utilization of evidence to enhance clinical practice decision-making. Includes the development of clinical questions, review and appraisal of relevant literature, and utilization of patient-centered outcome measures.
**Prerequisites:** KIN 521 with C or better

KIN 573. MEASUREMENT IN HUMAN MOVEMENT. (3 Credits)

KIN 575. RESEARCH IN HUMAN MOVEMENT. (3 Credits)
Investigation and evaluation of research methods applicable to human movement study and professional physical education.

KIN 584. THERAPEUTIC MODALITIES. (4 Credits)
Indications, contraindications, techniques, and effects of various physical agents used in the care and treatment of musculoskeletal injuries and conditions commonly encountered by the athletic trainer. Lec/lab.
**Prerequisites:** KIN 521 with C or better

KIN 585. UPPER EXTREMITY THERAPEUTIC EXERCISE. (4 Credits)
Principles and techniques of therapeutic exercise and manual therapy for the upper extremity, cervical spine, and thoracic spine. Lec/lab.
**Prerequisites:** KIN 586 with C or better

KIN 586. LOWER EXTREMITY THERAPEUTIC EXERCISE. (4 Credits)
Principles and techniques of therapeutic exercise and manual therapy with a focus on the lower extremity, lumbar spine and ribs.
**Prerequisites:** KIN 584 with C or better

KIN 599. SPECIAL TOPICS. (1-3 Credits)
Impact of human movement development on people, their movement behavior, and environment. Topics vary from term to term and year to year. May be repeated when topics differ.
*This course is repeatable for 99 credits.*

KIN 601. RESEARCH AND SCHOLARSHIP. (1-16 Credits)
*This course is repeatable for 16 credits.*

KIN 603. THESIS. (1-16 Credits)
*This course is repeatable for 999 credits.*

KIN 605. READING AND CONFERENCE. (1-16 Credits)
*This course is repeatable for 16 credits.*

KIN 606. PROJECTS. (1-16 Credits)
*This course is repeatable for 16 credits.*

KIN 607. SEMINAR. (1-16 Credits)
Section 1: Graduate Research (1). Seminar emphasizes student oral presentations of current research topics in exercise and sport science. One credit required of all graduate students. Section 3: Current Developments (1). Discussion of contemporary issues in the exercise and sport science literature. Topics vary by term. Two credits required of all doctoral students. Section 9: International Aspects (1). Discussion of international aspects of study in exercise and sport science. Required of all doctoral students. Graded P/N.
*This course is repeatable for 16 credits.*

KIN 610. PROFESSIONAL INTERNSHIP: PHYSICAL EDUCATION. (1-15 Credits)
Field experience in which the term will integrate academic study with classroom teaching experience to learn specific competencies relating to functioning well in the context of the classroom and the school, and demonstrate this competency through the assessment of work by supervisors and by evidence collected and presented in work samples.
*This course is repeatable for 25 credits.*

KIN 647. CURRENT TOPICS AND RESEARCH IN ADAPTED PHYSICAL ACTIVITY. (3 Credits)
Current trends and critical research issues in adapted physical activity; focus on international and national trends. Topic will be variable.

KIN 699. SPECIAL TOPICS. (1-16 Credits)
Current issues, trends, and topics in KIN research. May be repeated for credit with different topics.
*This course is repeatable for 25 credits.*