493 Journalism Internship
Fall, Spring. Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to juniors or seniors or graduate students in the School of Journalism. Approval of school.

Supervised professional experience as a working staff member with a newspaper, magazine, newsletter, broadcast station or other communication organization.

810 Visual Journalism
Fall of even years. 3(3-0)
Theoretical, conceptual, ethical, philosophical and historical approaches to visual information. Use of visual elements in journalism.

815 Seminar in Press and Society
Fall. 3(3-0)
Role and performance of news media as organizations and as institutions in society.

816 Documentary Research in Journalism
Fall. 3(3-0)
Historical methods, document sources, and computer database search. Topics include freedom of information, court records and congressional documents, and investigative reporting.

817 Quantitative Research in Journalism
Spring. 3(3-0)
Content analysis, survey research, experimental design, statistical methods, and other methods.

823 Government and Mass Communication
Spring of odd years. 3(3-0)
Government restrictions, administrative policy, and informal limits placed on mass communication. Constitutional and regulatory problems.

824 Health and Science Writing
Spring of even years. 3(2-2) RB: (JRN 300) or newswriting experience. Advanced reporting on technical issues related to health, medicine, and the natural sciences.

825 History of Journalism
Fall of odd years. 3(3-0)
Development of mass media with emphasis on their impact and roles. Variable time periods.

830 Theories of the First Amendment
Spring of even years. 3(3-0)
History of adoption of First Amendment. Theories and principles affecting judicial and societal interpretations of freedom of speech and freedom of the press.

884 Media Coverage of Culture and Environment in Australia
Summer. 4(2-4) R: Approval of school. Research on the impact of Australian media coverage on environment and culture. Constraining coverage of similar issues by the American media.

890 Independent Study
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in Journalism. Approval of school.

Individualized study under faculty direction.

892 Seminar in Journalism
Fall, Spring. 3(3-0) A student may earn a maximum of 25 credits in all enrollments for this course. R: Approval of School.

Individualized study and production of in-depth journalism projects.

896 Professional Project in Journalism
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to master's students in Journalism. Approval of school.

Master's thesis research.

916 Qualitative Research Methods
Spring. 3(3-0) Interdepartmental with Advertising; Telecommunication. R: Open only to Ph.D. students in Mass Media and Communication. Qualitative research in mass and specialized communication systems. Topics include documentary, bibliographic, case study and participant observation methods.

921 Media Theory
Fall. 3(3-0) Interdepartmental with Advertising; Telecommunication. Administered by Department of Advertising. R: Open only to Ph.D. students in Mass Media and Communication.


930 Law and Public Policy of the Media
Fall. 3(3-0) Interdepartmental with Advertising; Telecommunication. R: Open only to Ph.D. students in Mass Media.

Philosophical, legal, political, and statutory principles underlying law and public policy applied to media. Selected issues involving constitutional law, common law, statutes, and administrative policy.

960 Media and Technology
Spring. 3(3-0) Interdepartmental with Telecommunication; Advertising. Administered by Department of Telecommunication, Information Studies and Media. R: Open only to Ph.D. students in Communication Arts and Sciences-Mass Media or Communication or approval of department.

Theoretical frameworks concerning media and communication processes, and their interactions with technology. Social, organizational, critical, and economic perspectives.

965 Media Economics
Spring. 3(3-0) Interdepartmental with Telecommunication; Advertising. Administered by Department of Telecommunication, Information Studies and Media. R: Open only to Ph.D. students in Communication Arts and Sciences-Mass Media or Communication or approval of department.

Economic theory and analysis relevant to the mass media. Economic structure and performance of mass media and advertising industries. Competition among media and within related industries.

975 Quantitative Research Design
Fall. 3(3-0) Interdepartmental with Advertising; Telecommunication. Administered by Department of Advertising. RB: One graduate-level research design or statistics course. R: Open only to Ph.D. students in Mass Media.

Survey, experimental and content-analytic techniques to the mass media. Academic and applied research methods. Univariate and multivariate techniques.

KIN—Kinesiology

Department of Kinesiology
College of Education

101A Swimming I
Fall, Spring. Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES101A

This course is designed for the beginner swimmer. Students will develop skill in water readiness activities, floating, back and prone glide, sculling, freestyle, backstroke, and elementary backstroke. Students will demonstrate knowledge of propulsion and resistance forces, correct stroke technique, and safety and emergency procedures.

101M Great Lakes Sailing
Fall, Spring. Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES101A

This course is a basic sailing class consisting of 15 hours on campus and 13 hours arranged on a boat in Muskegon, MI.

101T SCUBA Diving I
Fall, Spring. Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES101A

This beginning scuba course is the pool and classroom portion of open water certification. Swimming I or equivalent skills are recommended
Kinesiology—KIN

102A  Judo I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total 8 credits in KIN 101-108 and KIN 111-118. SA: PES102A

This course is designed to introduce students to the sport of Judo. Students will learn and perform basic skills including falling, throwing, hold-down, and submission hold. Students will also learn the competition rules of Judo.

102C  Karate I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES102C

This course is designed to introduce the student to the sport of Karate. The students will learn and perform the basic skills of kick, strike, block, stance and footwork. Students will also learn self defense, one-step and sparring techniques.

103A  Aerobic Exercise I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES103A

This course is designed for beginner and intermediate aerobic students. Its purpose is to introduce theoretical and practical principles of stretching, toning, and aerobic activity that progressively improve cardiovascular strength and endurance, flexibility, co-ordination and body image.

103C  Aerobic Exercise, Low Impact
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES103C

This course is designed for students who do not wish to participate in high impact aerobic. Its purpose is to introduce theoretical and practical principles of stretching, toning, and aerobic activity that progressively improve cardiovascular strength and endurance, flexibility, co-ordination and body image.

103D  General Conditioning I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES103D

This course is designed to provide students with basic knowledge of physical fitness and healthy lifestyle principles. Power walking is a program that includes muscular strength and endurance, flexibility, cardiovascular endurance, and total body health.

103G  Power Walking
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES103G

This course is designed to provide students with basic knowledge of physical fitness and healthy lifestyle principles. Power walking is a program that includes muscular strength and endurance, flexibility, cardiovascular endurance, and total body health.

103S  Swim Conditioning
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 113D

This course is designed for students who want to achieve cardiovascular fitness through swimming. Student will develop muscular endurance, strength and flexibility, and cardiovascular fitness. Students will learn use several training principles and techniques such as interval training, long distance swimming and dry land exercises. Students will also learn basic nutrition and diet guidelines. Swimming I or equivalent skills are recommended.

104D  Social Dance
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES104D

An extensive course including Dance Walk, Fox Trot, Waltz, Tango, Rhumba, Cha Cha, Jitterbug, Polka and other contemporary dances. Included will be social dance history, patterns, rhythms, styles and etiquette.

104F  Country Dance
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES104F

Country dance involves people moving together to music and enjoying the group or partner as well as the rhythmic movement. Students will learn the two-step, waltz, swing dance, basic east coast swing, various line dances, and various couple dances.

105B  Gymnastics I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES105B

This course is designed as a basic introduction to all aspects of gymnastics including apparatus and tumbling/floor exercises. Students learn to perform routines in the vaults, balance beam, parallel bars, rings, pommel horse, and floor. Simple body mechanics and skill progression and analysis will also be covered. Students will also learn proper warm-up and cool-down, and spotting techniques.

105D  Tumbling and Floor Exercise I
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES105D

Tumbling and floor exercises refers to the performance of a routine on a large mat. Students learn basic skills and develop agility, balance, strength, and flexibility. Students also learn correct body preparation, spotting techniques, and mechanical principles gymnastics. Skill progression and analysis are emphasized.

106A  Bicycle Touring
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 5 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES106A

This course is designed to teach students the basic skills and techniques, including drawing, following, English, bridge and bank shots, used in pocket billiards. The terminology, rules, and strategies of billiard games such as 8-ball, 9-ball, and cutthroat will also be covered.

106B  Billiards
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 5 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES106B

This course is designed to help students acquire the fundamental skills of bowling including form and technique. Students will also learn the terminology, rules, strategies and scoring procedures. The course involves lectures, demonstration, and practice time.

106E  Golf
Fall, Spring, Summer. 1.0-2 R: A student may earn a maximum of 5 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES106E

This class is designed to introduce the beginning golf student to the rules and etiquette of the game, basic swing fundamentals, and proper equipment selection. The course includes lectures, demonstrations, participation, and examinations.
106G  Horsemanship I
Fall, Spring, Summer. 1(0-2) R: Important offerings for KIN TE majors to develop skills. Important service course offerings for the general health and well-being of students. Each alpha-course within the parent course is a stand-alone course. SA: PES106G
This course will explore beginning aspects of horsemanship.

106N  Track and Field
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES106N
This course is designed to introduce the students to track and field events that include running, hurdling, jumping, and throwing. Instruction in short, middle and long distance running, relay exchanges, hurdling, high jump, long jump, discus and shot put will be presented. This course emphasizes the basic fundamentals, techniques, and rules of track and field. Cardiovascular endurance, muscular strength and endurance and skill development will also be emphasized.

107B  Racquetball I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES107B
Racquetball is a vigorous racquet game played on an enclosed four-wall court with two, three, or four players. Students will learn the fundamental skills including forehand, backhand, and serve. The students will also learn basic rules, strategies, and scoring.

107E  Tennis I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES107E
Tennis is a racquet sport that is played on a hard surface court which is divided in half by a three foot high net. The course will introduce students to the basic strokes, footwork, and court positions to play singles and doubles. Rules, scoring and game etiquette will also be included.

108A  Basketball I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES108A
Basketball combines skill drills, half court scrimmages, and full court games to improve basic skills, game play, and endurance. Students will learn basic skills, rules, and basic defensive and offensive strategies.

108C  Ice Hockey I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES108C
This course will cover elementary hockey concepts, skills and strategies.

108F  Soccer I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES108F
Soccer is a team sport that utilizes a field with goals at each end of the field. Ball contact may be made by the foot, body, and head. Students will learn the fundamental skills and tactics of outdoor soccer. Rules, scoring, and offensive and defensive strategies will be emphasized.

108K  Volleyball I
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES108K
Students will learn the fundamental skills, rules and strategies of the game. The class involves lectures, demonstrations, drills, and game play.

108N  Rugby
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: PES108N
This course will explore the beginning aspects of Rugby.

108R  Soccer, Indoor
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 108H
Students will learn basic technical and tactical soccer skills specific to the indoor soccer arena. These skills will be presented through lectures, demonstrations, drills, and game play.

109  Sports Officiating
Fall, Spring, Summer. 1(1-1) R: A student may earn a maximum of 4 credits in all enrollments for this course.
Skill and knowledge development in sports officiating, refereeing, or umpiring activities. Separate course sections in sports such as baseball, volleyball, basketball, ice hockey, soccer and softball.
111G  SCUBA Diving II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101H
This advanced scuba course explores advanced scuba skills. Scuba I or equivalent skills are recommended.

111K  Water Polo
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101J
Skill and knowledge development in advanced water-related activities.

111M  Windsurfing
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101K
Skill and knowledge development in advanced water-related activities.

111P  Canoeing
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101N
Skill and knowledge development in advanced water-related activities.

111R  Windsurfing II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101P
Skill and knowledge development in advanced water-related activities.

111S  Sailing II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101Q
Skill and knowledge development in advanced water-related activities.

111T  Yacht Racing
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101Q
Skill and knowledge development in advanced water-related activities.

111U  SCUBA Open Water Certification
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101R
Advance Skill and knowledge development in advanced water-related activities.

111V  Rowing
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 101S
Skill and knowledge development in advanced water-related activities. Separate course sections in advanced swimming, lifeguard training, sailing, and scuba diving.

111W  Synchronized Swimming
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 111H
Skill and knowledge development in advanced water-related activities.

112A  Judo II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 102D
This course is designed for the experienced Judo student. Advanced Judo sport skills that involve actual contest, Rondori, and contest strategies will be emphasized in order to assist the students in attaining a higher level of proficiency in Judo. Judo I or equivalent skills are recommended.

112B  Karate II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 102D
This course is designed for the experienced Karate student. Advanced Karate skills that involve actual contest and contest strategies will be emphasized in order to assist the students in attaining a higher level of proficiency in Karate. Karate I or equivalent skills are recommended.

112C  Foil Fencing II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 102H
Foil fencing is a sport of defense using a weapon called a foil. The objective is to touch the torso of our opponent with the tip of the weapon to score a point. The opponent must try to prevent this movement. Foil Fencing I or equivalent skills are recommended.

113E  Weight Training II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 103J
This course is designed to teach intermediate level weight training principles, basic anatomy and muscle physiology, and nutrition and diet. Students will learn different weight training programs and develop personal training programs. This course involves lectures, demonstrations, and active student participation. Weight Training I or equivalent skills are recommended.

113K  Strength and Conditioning II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 103Q
This course combines weight training and general conditioning. It is a vigorous cardiovascular program that combines work on aerobic endurance and emphasized muscular strength and endurance. Strength and Conditioning I or equivalent skills are recommended.

113N  General Conditioning IV
Fall, Spring, Summer. 1(0-2) RB: General Conditioning III or equivalent level of aerobic fitness. R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118.
Vigorous cardiovascular program that emphasizes advanced aerobic endurance. Aerobic training principles, muscle and cardiovascular physiologies, nutrition and diet. Personalized aerobic training program.

113P  Weight Training IV
Fall, Spring, Summer. 1(0-2) RB: Weight Training III or equivalent skill ability. R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118.
Advanced weight training. Strength training principles, anatomy and muscle physiology, nutrition and diet. Personalized weight training program.

114A  Social Dance II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN 104I
This course expands on Social Dance I and introduces more advanced steps. Social Dance I or equivalent skill is recommended.
115A Gymnastics II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN105C
This is an advanced course designed for individuals to improve in gymnastics including apparatus and tumbling/ floor exercises. Students will perform routines on the vault, balance beam, parallel bars, rings, pommel horse, and floor. Performance improvement and spotting techniques will be emphasized. Simple body mechanics and analysis will also be included. Gymnastics I or equivalent skills are recommended.

116F Triathlon Training
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN106S
This course offers advanced conditioning in triathlon activities. General Condition I or equivalent skill is recommended.

117A Racquetball II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN107C
A vigorous racquet sport involving the development of intermediate and advanced skills, singles and doubles strategies, competitive play, rules, scoring, and officiating. Skills will include: kill, passing, pinch, and ceiling shots; and power and overhand serve. Racquetball I or equivalent skills are recommended.

118C Soccer II
Fall, Spring, Summer. 1(0-2) R: A student may earn a maximum of 8 credits in all enrollments for this course if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 8 credits in KIN 101-108 and KIN 111-118. SA: KIN108G
A course that emphasizes advanced soccer skills, drills, and matches. Emphasis will be placed on game play, strategy development, and cardiovascular development. Soccer I, indoor soccer or equivalent skills are recommended.

120 Personal Health
Fall, Spring, Summer. 3(3-0) R: Open only to students in Kinesiology. SA: PES 120
Physical, mental, emotional, social, and spiritual domains of health. Alternative health values and behaviors. Developing healthy lifestyles.

121 The Healthy Lifestyle
Fall, Spring, Summer. 3(2-2) SA: PES 121
Cardiovascular risk factors, lifestyle habits, and aerobic capacities and their relationship to optimal health and longevity. Individual physical activity required as part of the course.

125 First Aid and Personal Safety
Fall, Spring, Summer. 3(3-0) SA: PES 125
Knowledge and application of first aid concepts relating to respiratory and cardiopulmonary disorders, shock, wounds, burns, fractures, drug poisoning, childbirth, litigation. Preventing trauma by recognizing and avoiding safety hazards.

126 Introduction to Athletic Training
Fall, Spring. 3(3-0) R: Basic knowledge for the recognition and prevention of athletic injuries.

127 Clinical Observation in Athletic Training
Fall, Spring. 1(0-3) P:M: (KIN 126 or concurrently)
Supervised experience in clinical setting in sports medicine.

170 Foundations of Kinesiology
Fall, Spring, 2(2-0) R: Open only to students in Kinesiology. SA: PES 170
Kinesiology as a disciplinary major. Subdisciplines and professions. Historical perspectives.

171 Athletics in Higher Education
Fall. 1(1-0) R: Open only to freshmen. SA: PES 171
Philosophy and organization of athletics. Athletics and academic achievement. Ethical issues, legal issues, social conduct, eligibility, athlete’s rights and responsibilities.

201 Water Safety Instruction
Fall, Spring. 3(2-3) R: Training in Emergency Water Safety or Lifeguarding plus scoring at least 80% on both skill and written ten pre-tests. SA: PES 201
Knowledge and skills necessary to plan and conduct American Red Cross water safety courses. Current lifesaving certification is required.

202 Aerobic Exercise Instruction
Fall, Spring. 3(2-3) R: Experience in aerobic exercise. SA: PES 202

204 Sailing and Cruising
Fall, Spring, Summer. 2(1-3) R: Experience in sailing small crafts. SA: PES 204
Knowledge, skills, and experience necessary to sail large vessels on inland and coastal waters. Live aboard and sail for six days and nights, traveling approximately 250 miles. Competence in sailing small crafts assumed.

205 Lifeguarding
Fall, Spring, Summer. 2(1-2) R: Competency as an advanced swimmer. SA: PES 205
Lifeguarding knowledge and skills necessary to obtain American Red Cross Lifeguarding certificate. Advanced swimming level is assumed.

216 Applied Human Anatomy
Fall, 3(3-0) R: Open only to students in the Department of Kinesiology. SA: PES 216
Structural anatomy of the human body. Interrelationships of structure, function, and human movement.

217 Applied Human Anatomy Laboratory
Spring. 1(0-3) P:M: (KIN 216) R: Open only to students in the Department of Kinesiology. SA: PES 217
Major bones, muscles, nerves, vessels, and organs of the human body. Articulations, muscle origins, muscle insertions, and prime moving actions.

250 Measurement in Kinesiology
Fall, Spring. 3(3-0) SA: PES 250
Methods and materials for measurement and evaluation. Motor skills, physical fitness, knowledge, and attitudes associated with physical activity.

260 Physical Growth and Motor Behavior
Fall, Spring. 3(3-0) SA: PES 260

300A Coaching Baseball
Fall. 2(1-2) R: Previous experience in the sports of baseball or softball. R: Not open to freshmen. SA: PES 300A

300C Coaching Soccer
Spring. 2(1-2) RB: Working knowledge of the sport of soccer. R: Not open to freshmen. SA: PES 300C

300D Coaching Basketball
Fall. 2(0-2) R: Working knowledge of the sport of basketball. R: Not open to freshmen. SA: PES 300D

300E Coaching Football
Fall. 2(0-2) R: Working knowledge of the sport of football. R: Not open to freshmen. SA: PES 300E

300K Coaching Track and Field
Fall. 2(1-2) RB: Working knowledge of the sports of cross country or track and field. R: Not open to freshmen. SA: PES 300K

300L Coaching for Strength, Conditioning and Fitness
Summer. 2(2-0) R: Not open to freshmen. SA: PES 300L
Basic theoretical and practical principles of coaching/training for increased fitness and/or sports performance. Individual applications to diverse populations.

300T Coaching Tennis
Fall, Summer. 2(2-0) R: Working knowledge of the sport of Tennis
Kinesiology—KIN

310 Physiological Bases of Physical Activity
Fall, Spring. 3(3-0) P.M.: (KIN 170 and KIN 216 and CEM 141 and PSL 250) or (PSL 431 and PSL 432) R: Open only to majors in the Department of Kinesiology. SA: PES 310
Acute and chronic effects of exercise on various body systems. Principles of training, exercise prescription, and the role of physical activity in health and disease.

320 Pathology of Sports Injury
Fall. 3(3-0) P.M.: (KIN 125 or concurrently and KIN 126) SA: PES 320
Pathophysiology and pathomechanics of sport injury, tissue response and the healing process as they relate to management and rehabilitation of sports injury.

330 Structural and Mechanical Analysis of Physical Activity
Fall, Spring. 3(2-2) P.M.: (KIN 170 and KIN 216 and KIN 217) and (PHY 231 or PHY 231B or PHY 231C or PHY 161B or PHY 183 or PHY 183B or PHY 193H) SA: PES 330
Biomechanical analysis of human movement based upon musculoskeletal structure and function. Mechanical principles.

340 Psychological Bases of Physical Activity
Fall, Spring. 3(3-0) P.M.: (KIN 170) SA: PES 340
Psychological factors affecting motor skill acquisition and performance. Psychological skills which enhance sport performance. Applications of learning theory.

350 Techniques of Teaching I
Spring. 2(0-6) P.M.: (TE 301) RB: Basic knowledge and understanding of skills related to basketball, gymnastics, soccer, flag football, floor hockey and tennis, or activities that are closely related. R: Not open to freshmen or sophomores. Open only to Kinesiology students admitted to the Teacher Education program.
Application of kinesiological pedagogical principles to basketball, gymnastics, soccer, flag football, floor hockey, and tennis.

351 Techniques of Teaching II
Fall. 2(0-6) P.M.: (TE 301) RB: Basic knowledge and understanding of skills related to golf, softball, track and field, badminton and volleyball, or activities that are closely related. R: Not open to freshmen or sophomores. Open only to Kinesiology students admitted to the Teacher Education program.
Application of kinesiological pedagogical principles to golf, softball, track and field, badminton, and volleyball.

370 Proseminar in Kinesiology
Fall, Spring. 2(2-0) P.M.: (KIN 170) R: Not open to freshmen or sophomores. SA: PES 470, KIN 470
Philosophical and professional perspectives in kinesiology.

400 Principles of Coaching I
Fall. 4(4-0) R: Not open to freshmen or sophomores. SA: PES 400
Basic principles of anatomy, biomechanics, and physiology for coaching competitive sports. Applications to athletes of different ages and abilities.

401 Principles of Coaching II
Spring. 4(4-0) R: Not open to freshmen or sophomores. SA: PES 401
Sociological, administrative, philosophical, legal, ethical, and chemical health issues related to coaching competitive sports. Applications to athletes of different ages and abilities.

411 Laboratory Experiences in Exercise Physiology
Fall, Spring. 2(1-3) P.M.: (KIN 310) R: Open only to majors in the Department of Kinesiology. SA: PES 411
Laboratory techniques for testing and evaluating individuals for aerobic fitness, muscular strength and endurance, body composition and other physiologic responses to exercise. Exercise program development for personal health fitness.

420 School Health Education
Fall. 3(3-0) P.M.: (KIN 120) R: Not open to freshmen or sophomores. SA: PES 420
Organization and administration of a comprehensive school health education program. Interaction of school health services, healthful environment, and health instruction in the development of a healthy lifestyle.

421 Lower Body Injury Evaluation
Fall, Spring. 3(3-0) P.M.: (KIN 320) SA: PES 421
Knowledge and skills needed for evaluating lower body injuries in athletic training. The techniques and tests used for evaluating acute and chronic injuries to the lower body.

422 Rehabilitation of Athletic Injuries
Fall. 3(3-0) P.M.: (KIN 421) R: Not open to freshmen or sophomores. SA: PES 422
Rehabilitation techniques to manage athletic injuries. Anatomical and neurophysiological bases of techniques. Indications and contraindications of rehabilitation protocols.

423 Therapeutic Modalities
Spring. 3(3-0) P.M.: (KIN 320 and PHY 231 or concurrently) SA: PES 423
Therapeutic modalities used to manage athletic injuries and their indications and contraindications. Rationale for and techniques of using thermal and electrical modalities for athletic injuries.

425 Organization and Administration of Athletic Training
Fall. 3(3-0) P.M.: (KIN 126 and KIN 127) SA: PES 425
Knowledge and skills necessary for the administration of an athletic training program. Ethics, policies, procedures, insurance, liability, budgets, facilities, and record-keeping in athletic training.

426 Upper Body Injury Evaluation
Spring. 3(3-0) P.M.: (KIN 320 and KIN 421) SA: PES 426
Knowledge and skills needed for evaluating upper extremity injuries in athletic training. Techniques and tests for evaluating acute and chronic injuries to the upper body.

427 Clinical Rotations in Athletic Training
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P.M.: (KIN 126 and KIN 127) SA: PES 427
Knowledge and skills used to manage, evaluate and rehabilitate orthopedic injuries in various clinical settings including colleges, high schools and/or rehabilitation clinics.

445 Sociocultural Analysis of Physical Activity (W)
Fall, Spring. 3(3-0) P.M.: (KIN 170) and completion of Tier I writing requirement. R: Open only to seniors or graduate students. SA: PES 445
Sociocultural context of and social practices in sport and physical activity.

450 Design and Evaluation of Physical Activity Programs
Fall, Spring. 3(3-0) R: Open only to seniors or graduate students in the Department of Kinesiology. SA: PES 450
Development and evaluation of programs in kinesiology.

453 Administration of Intramural Sports Programs
Spring. 3(2-2) R: Not open to freshmen or sophomores. SA: PES 453
Organization and administration of intramural programs in educational settings. Philosophy, planning, scheduling, budgeting, facilities, officiating, exercise fitness, marketing, risk management, computer applications, and required practical experience in administering intramural programs.

454 Facility Planning and Construction
Spring. 3(3-0) R: Not open to freshmen or sophomores. SA: PES 454
Planning of athletic and physical education facilities such as gymnasium, ice rinks, swimming pools, and outdoor areas. Space utilization standards and guidelines. Selection of materials and equipment.

455 Issues in School Health Education
Spring. 3(3-0) P.M.: (KIN 420) SA: PES 455
Community health issues and resources affecting educational programming. Teaching methods and techniques as applicable to traditional and controversial health topics.

456 Ethical Issues in Athletics
Summer, 2(2-0) R: Not open to freshmen or sophomores. SA: PES 456
Ethics of sports at the institutional level in contemporary society. Political, social, and commercial pressures.

465 Adapted Physical Activity
Fall, Spring. 3(2-2) P.M.: (KIN 170) R: Not open to freshmen or sophomores. SA: PES 465
Teaching and coaching physical activities for persons with disabilities.

466 Practicum in Adapted Physical Activity
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department. SA: PES 466
Supervised teaching of physical activities and/or coaching sports to persons with disabilities and youths at risk.

467 Physical Activity and Disability
Fall, Spring. 2(2-0) R: Not open to freshmen or sophomores. Not open to Kinesiology majors. SA: PES 465 Not open to students with credit in KIN 465.
Teaching and coaching of persons with disabilities.
Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department. SA: PES 490
Supervised individual or group study in various fields of emphasis in kinesiology.

Internship
Fall, Spring, Summer. 2 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P/M: (KIN 411) R: Open only to Kinesiology majors. Approval of department. Professional internship in kinesiology under faculty supervision.

Fieldwork
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department. SA: PES 494
Supervised practice in teaching physical education activities, coaching sports, administering sports programs, or conducting research or service activities in kinesiology.

Physiology of Physical Activity
Fall. 3(3-0) SA: PES 810
Acute and chronic effects of exercise on the various body systems. Program design. Issues in exercise physiology.

Physiological Evaluation and Exercise Prescription
Fall. 2(0-4) RB: (KIN 810 or concurrently) SA: PES 811
Techniques in evaluation of physiological capacity and in exercise prescription for various populations.

Cardiovascular, Respiratory, and Metabolic Responses to Exercise
Spring of even years. 3(3-0) RB: (KIN 810) SA: PES 812
Acute and chronic effects of exercise on cardiovascular, respiratory, and metabolic system functions. Role of these systems in limiting exercise performance.

Neuromuscular and Endocrine Responses to Exercise
Spring of odd years. 3(3-0) RB: (KIN 810) SA: PES 813
Acute and chronic effects of exercise on nervous, muscular, and endocrine system functions. Role of these systems in limiting exercise performance.

Advanced Clinical Evaluation
Fall. 3(2-2) RB: Academic or clinical background in musculo-skeletal anatomy. Identification of structural pathologies. Principles and techniques applied during manual evaluation of structural pathology.

Management of Structural Pathologies
Spring. 2(2-0) RB: Academic or clinical background in musculo-skeletal anatomy. Management and rehabilitation skills necessary for managing sports injuries. Principles and techniques of rehabilitation for athletes with structural pathologies.

Rehabilitation Techniques for Musculoskeletal Dysfunction
Spring. 3(3-0) RB: Academic or clinical background in musculo-skeletal anatomy and injury evaluation and management. Techniques used to rehabilitate musculoskeletal dysfunctions. Skills to enhance neuromuscular function such as proprioceptive neuromuscular facilitation (PNF) and muscle-firing pattern techniques.

Injury Control in Sports and Physical Activity
Spring of odd years. 3(3-0) RB: Background in kinesiology, health, physical education or recreation.
Principles of epidemiology to identify and analyze risk of injury in physical activities. Skills for decision-making in injury prevention programs.

Biomechanical Analysis of Physical Activity
Fall. 3(2-2) SA: PES 830
Kinematic analysis of mechanical and anatomical characteristics in physical activity and sport skills.

Advanced Biomechanics of Physical Activity
Spring of even years. 3(2-2) RB: (KIN 830) SA: PES 831
Kinetic analyses of the performance of physical activity and sport.

Psychosocial Aspects of Physical Activity
Fall. 3(3-0) SA: PES 840
Social psychology of sport and physical activity.

Stress Management Techniques in Athletics
Summer. 3(3-0) RB: Course in Psychology. SA: KIN 882A

Sociocultural Practices in Sport
Spring of odd years. 3(3-0) SA: PES 845
Critical, conflict, and feminist theories on dominant ideologies and social practices in sport.

Athletic Administration in Higher Education
Fall. 3(0-3) SA: PES 853
Administrative theory, structure, and budget. Facilities, equipment, and marketing. Legal, medical, and safety aspects.

Legal and Administrative Issues for Administrators and Coaches
Fall, Summer. 3(3-0)
Responsibilities of administrators, directors of recreational programs and athletic coaches for providing and maintaining educationally sound athletic programs for amateur athletes. Concepts, policies and procedures that enhance the physical and psychological health of amateur athletes. Obligations for managing the risks of participation in physical activities.

Psychosocial Bases of Coaching Athletes
Spring. 3(3-0)
Responsibilities of athletic administrators, directors of recreational programs and athletic coaches for the sociological, psychological, philosophical, developmental, and instructional principles for coaching amateur athletes. Development of a coaching philosophy and application of scientific findings to practical situations.

Physical Bases of Coaching Athletes
Summer. 3(3-0)
Principles of anatomy, biomechanics, and physiology for coaching amateur athletes in various sports. Relationships between the biological bases of coaching and physical conditioning, performance enhancement and the prevention, care, and rehabilitation of injuries.

Student-Athlete Development
Summer. 3(3-0)
Student-athlete support services in academic, personal, and career development.

Growth and Motor Behavior
Fall. 3(3-0) SA: PES 860

Growth, Maturity, and Physical Activity
Spring of even years. 3(3-0) RB: (KIN 860) SA: PES 861

Motor Skill Learning
Spring. 3(3-0) RB: (KIN 860) SA: PES 862

Curriculum and Instruction in Adapted Physical Education
Fall of even years. 3(3-0) SA: PES 865
Design of curricula and implementation of instruction in physical education for students with disabilities.

Research on Sports for Athletes with Disabilities
Fall of odd years. 3(3-0) SA: PES 866
Performance capabilities of athletes with disabilities. Research on areas such as exercise physiology, sport biomechanics, sport psychology, sport sociology, motor development, and motor learning.

Practicum in Adapted Physical Activity
Fall, Spring. Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department. SA: PES 867
Supervised practice in teaching physical activities and/or coaching sports for persons with disabilities.

Physical Activity and Well-Being
Fall. 3(3-0) SA: PES 870
Relationship of physical activity to human well-being. Influence of growth, biological maturity, aging, body composition, nutrition, training, and rest on health and performance.
Kinesiology—KIN

871 Research Methods in Kinesiology
Spring. 3(3-0) R: Open only to graduate students in the Department of Kinesiology. SA: PES 871
Experimental, longitudinal, survey, and qualitative research methods in kinesiology. Writing research proposals and reports. Research ethics.

890 Independent Study in Kinesiology
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to master's students. Approval of department. SA: PES 890
Individual study in an area of kinesiology under faculty supervision.

893 Internship in Kinesiology
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in the Department of Kinesiology. SA: PES 893
Supervised internship in sports medicine, athletic administration, coaching, or education agencies. Capstone experience option in master's degree program.

894 Field Experiences in Kinesiology
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. SA: PES 894
Supervised graduate practicum in schools or other settings.

895 Research Ethics
Summer. 1(1-0) Interdepartmental with Teacher Education; Counseling, Educational Psychology and Special Education; Educational Administration, R: Open only to graduate students in the Department of Counseling. Educational Psychology and Special Education or Department of Educational Administration or Department of Kinesiology or Department of Teacher Education. SA: PES 895
Identifying and resolving ethical problems in research, including issues related to collegial interactions; authorship, publication, and reviewing practices; data management; ownership of data and intellectual property; conflicts of interest; protection of human and animal subjects; and lab safety and compliance.

897 Project in Kinesiology
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to master's students in the Department of Kinesiology. SA: PES 897
Project experience under the guidance and supervision of MSU faculty. Development of products such as technical reports, instructional media, or curriculum materials to address an educationally significant problem. Capstone experience option in master's degree program.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: (KIN 871) SA: PES 899
Master's thesis research.

910 Issues in Exercise Physiology
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: (KIN 810) SA: PES 910
Selected issues in exercise physiology and related fields of study.

930 Issues in Biomechanical Aspects of Physical Activity
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: (KIN 830) SA: PES 930
Selected issues of biomechanical analyses of sport and physical activity.

940 Issues in Psychosocial Aspects of Physical Activity
Fall. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. SA: PES 940
Selected issues in the psychology and sociology of sport and physical activity.

960 Issues in Motor Behavior
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: (KIN 860) SA: PES 960
Selected issues in motor development, motor learning, adapted physical education, and related fields of study.

990 Independent Study in Kinesiology
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to doctoral students. Approval of department. SA: PES 990
Individual study in an area of kinesiology under faculty supervision.

995 Research Practicum in Kinesiology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to doctoral students in the College of Education. Approval of department. SA: PES 995
Supervised research practicum. Design, execution, analysis, presentation, critique, and revision of research projects.

999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 100 credits in all enrollments for this course. R: Open only to doctoral students in the Department of Kinesiology. SA: PES 999
Doctoral dissertation research.

LANDSCAPE LA
ARCHITECTURE

School of Planning, Design and Construction
College of Agriculture and Natural Resources

200 Introduction to Landscape Architecture
Fall. 3(3-0)
Environmental issues and problem-solving strategies within landscape architecture.

220 Graphic Communication
Fall. 4(2-4) R: Open only to majors in Landscape Architecture or Urban and Regional Planning or Horticulture.
Fundamentals of graphics including freehand and technical drafting, lettering, sketching, perspective drawing, and delineation and rendering. Principles of design and field drawing techniques. Also introduced: plan, section, elevation and basic symbols, references, methods of presentation and graphic reproduction.

240 Applied Design Fundamentals
Spring. 4(2-4) RB: (LA 220) or approval of department. R: Open only to majors in Landscape Architecture or Horticulture or Crop and Soil Sciences or Urban and Regional Planning.
Application of the principles and theory of design in advanced two- and three-dimensional representation.

270 Landscape Design History
Spring. 3(3-0)
History of landscape architecture. Landscape development styles, design forms, and organization.

311 Landscape Design and Management Specifications
Spring. 4(3-2) Interdepartmental with Horticulture. Administered by Department of Horticulture. P.M.: (HRT 211 and HRT 212 or concurrently) Landscape design techniques, spatial organization, plant selection, plant and site interaction. Relationship between design, construction and maintenance. Preparation of planting and maintenance specifications.

330 Site Construction: Materials and Methods
Fall. 4(2-4) RB: (LA 220) R: Open only to majors in Landscape Architecture, Horticulture or Crop and Soil Sciences or Park, Recreation and Tourism Resources. Elements and principles of grading, drainage, construction materials and methods.

331 Site Engineering
Spring. 4(2-4) RB: (LA 330) R: Open only to majors in Landscape Architecture or Horticulture. Principles and procedures for landscape engineering of site structures and systems such as road alignment, storm and subsurface drainage. Site utilities.