PHYSICAL EDUCATION

PHYS 1101
Aerobic Fitness Lab I
1 Credit Hour
Aerobic training and strength training are emphasized in a personally designed fitness program that uses target heart rate and training zone techniques. Weight machines and cardiovascular machines are used in an activity program designed to develop three important results of physical fitness: strength, flexibility and endurance. (2 lab hours)

PHYS 1102
Aerobic Fitness Lab II
1 Credit Hour
Aerobic training and strength training are emphasized in a personally designed fitness program that uses target heart rate and training zone techniques. Weight machines and cardiovascular machines are used in an activity program designed to develop three important results of physical fitness: strength, flexibility and endurance. Prerequisite: Physical Education 1101. (2 lab hours)

PHYS 1103
Aerobic Fitness Lab III
1 Credit Hour
Aerobic training and strength training are emphasized in a personally designed fitness program that uses target heart rate and training zone techniques. Weight machines and cardiovascular machines are used in an activity program designed to develop three important results of physical fitness: strength, flexibility and endurance. Prerequisite: Physical Education 1102. (2 lab hours)

PHYS 1104
Aerobic Fitness Lab IV
1 Credit Hour
Aerobic training and strength training are emphasized in a personally designed fitness program that uses target heart rate and training zone techniques. Weight machines and cardiovascular machines are used in an activity program designed to develop three important results of physical fitness: strength, flexibility and endurance. Prerequisite: Physical Education 1103. (2 lab hours)

PHYS 1106
Aerobics I
1 Credit Hour
Aerobic fitness choreographed to music. Performance of basic exercise movements, patterns and dance steps to improve cardiovascular endurance, muscular endurance, muscle tone, flexibility and rhythmic coordination. (2 lab hours)

PHYS 1107
Aerobics II
1 Credit Hour
A continuation of Aerobics I. Further improvement in cardiovascular endurance, muscular endurance, muscle tone, flexibility and rhythmic coordination. Increasing intensity of workouts and improving performance are main goals. Prerequisite: Physical Education 1106 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1108
Sit & Stand-Chair Aerobics I
0.5 to 1 Credit Hours
Balance, agility, flexibility, cardiovascular and muscular endurance are all enhanced as students exercise while sitting and standing. Participants are encouraged to work at their own level. Special populations and those who desire some portion of the class in non-weight bearing positions are targeted. (1 to 2 lab hours)

PHYS 1109
Sit & Stand-Chair Aerobics II
0.5 to 1 Credit Hours
A continuation of Physical Education 1108. Exercises to increase balance, agility, flexibility, cardiovascular and muscular endurance are done while sitting and standing. More standing exercises (with or without support) are included. Participants are encouraged to work at their own level. Prerequisite: Physical Education 1108 with a grade of S or better or equivalent instructor. (1 to 2 lab hours)

PHYS 1111
Bench Step Aerobics I
1 Credit Hour
A high-intensity, low-impact exercise program that involves stepping up and down a step platform while simultaneously performing upper body strength training movements to the accompaniment of music. (2 lab hours)

PHYS 1112
Bench Step Aerobics II
1 Credit Hour
A continuation of Bench Step Aerobics I. Involves stepping up and down a step platform while simultaneously performing upper body strength training movements. Higher-intensity bench step moves and combinations are taught. Prerequisite: Physical Education 1111 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1113
Power Step Aerobics
1 Credit Hour
A high-intensity, low-impact exercise program designed for the advanced step participant. Designed to further challenge the cardiovascular and muscle endurance systems with a variety of high-intensity propulsion movements, combined with basic and advanced step movement combinations. Prerequisite: Physical Education 1112 or equivalent, or bench step experience or consent of instructor. (2 lab hours)

PHYS 1115
Wheelchair Aerobics
1 Credit Hour
Exercise class designed for those with limited mobility or confined to wheelchairs. (2 lab hours)

PHYS 1123
Boot Camp Fitness I
1 Credit Hour
A total body conditioning class with a "back to basics" non-choreographed approach. Traditional calisthenics and exercises, current training techniques and drills are used to improve all components of fitness. (2 lab hours)

PHYS 1124
Boot Camp Fitness II
1 Credit Hour
A continuation of Boot Camp Fitness I. Fitness workouts with a "back to basics" approach. Higher intensity exercises and workouts.
Prerequisite: Physical Education 1123 with a grade of S or better, or equivalent. (2 lab hours)

PHYS 1125  
**BOSU Training I**  
1 Credit Hour  
A total body conditioning class that utilizes the BOSU training device to improve all components of fitness. (2 lab hours)

PHYS 1126  
**BOSU Training II**  
1 Credit Hour  
A continuation of BOSU Training I. Workouts designed to further improve fitness levels. Prerequisite: Physical Education 1125 with a grade of S or better, or equivalent or consent of instructor. (2 lab hours)

PHYS 1131  
**Cardio Kickboxing I**  
1 Credit Hour  
An exercise course that combines boxing, kickboxing, martial arts, aerobics and physical conditioning exercises to enhance cardiovascular and muscular endurance. All done to music. (2 lab hours)

PHYS 1132  
**Cardio Kickboxing II**  
1 Credit Hour  
An intermediate cardiovascular endurance activity that combines boxing, kickboxing, martial arts, aerobics, and physical conditioning exercises to further increase skill and endurance. Prerequisite: Physical Education 1131 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1135  
**Cardio Mixer I**  
0.5 Credit Hours  
A challenging aerobic workout is provided using a mix of cardio training methods such as kickboxing, step, and basic aerobic dance moves. (1 lab hour)

PHYS 1136  
**Cardio Mixer II**  
0.5 Credit Hours  
A continuation of Cardio Mixer I. Prerequisite: Physical Education 1135 with a grade of S or better or equivalent. (1 lab hour)

PHYS 1141  
**Cross Training I**  
1 Credit Hour  
A personal fitness program that aims to develop cardiovascular endurance, muscle strength, flexibility and skills using the following facilities: (1) the Aerobic Fitness Lab, (2) the Al Zamsky Natatorium, and (3) the Strength Complex. Target heart rate and training zone techniques are emphasized. Prerequisite: Physical Education 1141 or consent of instructor. (2 lab hours)

PHYS 1143  
**Aerobic Fitness Combo I**  
1 Credit Hour  
An aerobic conditioning course that combines methods and styles of a variety of fitness courses. May include bench step, calisthenics, aerobic dance, cardio kickboxing, circuit training, body sculpting and walking/jogging. (2 lab hours)

PHYS 1144  
**Aerobic Fitness Combo II**  
1 Credit Hour  
A continuation of Aerobic Fitness Combo I. Methods and styles of a variety of fitness classes with emphasis on a high intensity workout. Prerequisite: Physical Education 1143 with a grade of S or better or equivalent. (2 lab hours)

PHYS 1151  
**Fitness Walking I**  
1 Credit Hour  
Fitness walking, power walking and cross country walking techniques. Students assess personal fitness levels and work to improve cardiovascular fitness and set personal goals. (2 lab hours)

PHYS 1152  
**Fitness Walking II**  
1 Credit Hour  
A continuation of Fitness Walking I. Improvement of cardiovascular fitness through increased intensity and/or distance. Prerequisite: Physical Education 1151 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1153  
**Jogging I**  
1 Credit Hour  
A graduated program of jogging and running geared to each individual's fitness level and goals. Various jogging techniques, practices and safety procedures. (2 lab hours)

PHYS 1154  
**Jogging II**  
1 Credit Hour  
A continuation of Jogging I. A graduated program of running geared to each individual's fitness level and goals. Further improvement or maintenance of cardiovascular fitness is a main goal. Prerequisite: Physical Education 1153 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1161  
**Physical Fitness I**  
1 Credit Hour  
A personal fitness program that includes progressive conditioning methods. Training exercises include: stretching, core training, jogging, sprinting, weight lifting and weight training. Also included: calisthenics, isometric and isotonic exercises, plyometrics, footwork agility drills and sport specific exercises. Prerequisite: Consent of instructor is required. (2 lab hours)

PHYS 1162  
**Physical Fitness II**  
1 Credit Hour
An advanced personal fitness program that includes progressive conditioning methods. Training exercises include: stretching, core training, jogging, sprinting, weight lifting and weight training. Also included: calisthenics, isometric and isotonic exercises, plyometrics, footwork agility drills and sport specific exercises. Prerequisite: Physical Education 1161 or consent of instructor. (2 lab hours)

**PHYS 1171**  
**Weight Training I**  
1 Credit Hour  
An introduction to weight training. Application of the fundamentals of strength training through the use of machine and free weights. Basic anatomy and physiology associated with weight training and safe lifting procedures. (2 lab hours)

**PHYS 1172**  
**Weight Training II**  
1 Credit Hour  
Fundamentals of an advanced weight training program. Application of strength training using weight machines and free weights. Anatomy and physiology associated with weight training and safe lifting procedures, along with the design of an individualized strength training program. Prerequisite: Physical Education 1171 or previous weight lifting experience or consent of instructor. (2 lab hours)

**PHYS 1181**  
**Spinning I**  
1 Credit Hour  
A 50-minute fitness class using “spinning” (stationary) bicycles. Cardiovascular endurance (aerobic and anaerobic) and muscular strength and endurance are developed. Music is used as a tool to motivate and inspire, as well as establish the pace, rhythm and energy level of the class. (2 lab hours)

**PHYS 1182**  
**Spinning II**  
1 Credit Hour  
A 50-minute fitness class using “spinning” (stationary) bicycles. Advanced spinning techniques are implemented to further improve fitness level. Aerobic and anaerobic training are used. Music is used to motivate and inspire, as well as to establish the pace, rhythm and energy level of the class. Prerequisite: Physical Education 1181 or previous cycling experience or consent of instructor. (2 lab hours)

**PHYS 1183**  
**Step/Slide/Sculpt**  
1 Credit Hour  
Utilizing cross-training principles with the guidance of an instructor, this conditioning program uses the bench step, slide, high-low aerobics moves, resistance tubing and hand weights to improve overall fitness. Achieving improved muscular strength, endurance, cardiovascular endurance and body composition with a variety of exercise formats are the main goals. (2 lab hours)

**PHYS 1184**  
**Body Sculpting I**  
1 Credit Hour  
A toning and conditioning course that utilizes a variety of resistance tools to firm and strengthen the entire body. (2 lab hours)

**PHYS 1185**  
**Body Sculpting II**  
1 Credit Hour  
A continuation of Body Sculpting I. Workouts designed to further improve muscle endurance and tone. Prerequisite: Physical Education 1184 with a grade of S, or equivalent experience or consent of instructor. (2 lab hours)

**PHYS 1190**  
**SAQSP Training**  
1 Credit Hour  
Physical conditioning theories and drills for improvement in speed, agility, quickness, strength and power (SAQSP). Applications to individual and team sports, plyometrics and other high intensity fitness activities are covered. (2 lab hours)

**PHYS 1191**  
**Power Lifting I**  
1 Credit Hour  
An introductory course in power lifting and training. Basic mechanics of major lifting techniques in the overall Olympic lifts. Prerequisite: Physical Education 1171 or previous weight lifting experience or consent of instructor. (2 lab hours)

**PHYS 1192**  
**Power Lifting II**  
1 Credit Hour  
A continuation of Power Lifting I. The course advances and builds on the techniques and intensity of the work performed in power lifting. Prerequisite: Physical Education 1191 or previous power lifting skills or consent of instructor. (2 lab hours)

**PHYS 1300**  
**Baseball**  
1 Credit Hour  
An introduction to the development of proper baseball fundamental skills, techniques and strategies. (2 lab hours)

**PHYS 1301**  
**Basketball I**  
1 Credit Hour  
Beginning basketball emphasizing offensive and defensive fundamentals through team play. The following offensive fundamental skills are included: shooting, passing, ball handling, dribbling and player spacing. The following defensive fundamental skills are also included: body position, footwork, arm movements and court position. Team play is emphasized. (2 lab hours)

**PHYS 1302**  
**Basketball II**  
1 Credit Hour  
Intermediate basketball emphasizing offensive and defensive fundamentals through team play. Offensive skills included are: jump shooting, movement passing, dribbling with both hands and ball handling with faking. Defensive skills included are: body position, advanced footwork, advanced arm movements and court awareness. Team play concepts and strategies are introduced. Prerequisite: Physical Education 1301 or equivalent. (2 lab hours)

**PHYS 1311**  
**Golf I**  
1 Credit Hour  
Beginning golf. Topics include: grips, stances, chips, putts, full swings, sand shots and club selection. Irons and woods are both
used to develop the rhythm and timing of the swing. Also included are terminology, etiquette, scoring, pace of play and golf safety. (2 lab hours)

PHYS 1312
Golf II
1 Credit Hour
Intermediate golf. Progressive development in the fundamental grips, stances and strokes using irons and woods. Swing thoughts, ball flight laws, principles of contact and course management are emphasized. Prerequisite: Physica Education 1311. (2 lab hours)

PHYS 1313
Golf III
1 Credit Hour
The mental aspects of golf are emphasized. Topics include methods to better golf, various thought processes, statistical analysis and time management. Prerequisite: Physical Education 1312 or consent of instructor. (2 lab hours)

PHYS 1321
Pickleball I
1 Credit Hour
Introduction to the skills and practice of pickleball. Serving, forehand drives, volleys, strategies, rules and scoring. (2 lab hours)

PHYS 1322
Pickleball II
1 Credit Hour
Advanced skills, knowledge and strategies of pickleball. Emphasis on volleying, lobbing, net control, and advanced singles and doubles strategies. Prerequisite: Physical Education 1321 or equivalent. (2 lab hours)

PHYS 1331
Racquetball I
1 Credit Hour
Fundamentals of racquetball with emphasis on basic strokes, serves and the rules of the game. (2 lab hours)

PHYS 1332
Racquetball II
1 Credit Hour
Competitive racquetball with emphasis on advanced skills, strategies and tournament play. Prerequisite: Physical Education 1331 or equivalent. (2 lab hours)

PHYS 1334
Racquet Sports
2 Credit Hours
Tennis, badminton, pickleball and racquetball. Skills, rules, competitive strategies, and basic teaching methods are covered. (1 lecture hour, 2 lab hours)

PHYS 1335
Selected Team Sports
3 Credit Hours
Soccer, Softball/Baseball, Volleyball, and Basketball. Skills, rules, competitive strategies, and basic teaching methods. Prepares for teaching, coaching or personal performance. (2 lecture hours, 2 lab hours)
PHYS 1400  
**Aqua Step**  
1 Credit Hour  
Introduction to water fitness using bench stepping techniques for cardiovascular and muscle conditioning. (2 lab hours)

PHYS 1401  
**Swimming I**  
1 Credit Hour  
Beginning and advanced beginning swimming skills (based on American Red Cross). Water acclimation, floats, glides, kicks, front crawl, combined back stroke, breath control, rhythmic breathing, elementary back stroke, deep water comfort and safety skills. (2 lab hours)

PHYS 1402  
**Swimming II**  
1 Credit Hour  
A continuation of Swimming I. Further refinement of front crawl and elementary back stroke. Intermediate and advanced swimming strokes and skills: turns, back stroke, breast stroke, side stroke, butterfly and lap swimming for fitness. Prerequisite: Physical Education 1401 or equivalent skill or consent of instructor. (2 lab hours)

PHYS 1411  
**Swim Conditioning I**  
1 Credit Hour  
Students will participate in lap swimming using interval training, timed sets, and stroke techniques drills to improve their swimming ability, cardiovascular endurance and muscular endurance. Individualized swimming workouts are given. Participants should be comfortable in the water and be able to swim 25 yards. (2 lab hours)

PHYS 1412  
**Swim Conditioning II**  
1 Credit Hour  
A continuation of Swim Conditioning I. Lap swimming and interval training to enhance cardiovascular and muscular endurance. Includes intermediate and advanced swimming work-outs, training methods and techniques. (2 lab hours)

PHYS 1420  
**Deep Water Fitness**  
1 Credit Hour  
Introduction to low impact deep water aerobic conditioning, emphasizing cardiovascular fitness, strength, flexibility and endurance conditioning. This form of exercise uses the natural buoyancy of the body in the water, allowing for a decrease in the stress and strain on muscles, joints and ligaments. (2 lab hours)

PHYS 1421  
**Water Aerobics I**  
1 Credit Hour  
Introduction to low impact aquatic aerobic conditioning, emphasizing cardiovascular fitness, strength, flexibility and endurance conditioning. (2 lab hours)

PHYS 1422  
**Water Aerobics II**  
1 Credit Hour  
A continuation of Water Aerobics I. A variety of aquatic exercises to further develop strength, flexibility and cardiovascular fitness in the water. Prerequisite: Physical Education 1421 or equivalent. (2 lab hours)

PHYS 1425  
**Aquasize I**  
0.5 Credit Hours  
A water aerobic workout that improves cardiovascular and endurance in a challenging yet low-impact style. Swimming ability is not needed. Bench step and muscle toning exercises are included. (1 lab hour)

PHYS 1426  
**Aquasize II**  
0.5 Credit Hours  
A continuation of Aquasize I. Prerequisite: Physical Education 1425 with a grade of S or better, or equivalent. (1 lab hour)

PHYS 1500  
**Performance Nutrition**  
1 Credit Hour  
Provides an understanding of consumption of specific nutrients at the right time and in appropriate amounts to enhance fitness and performance. Addresses formulation of eating plans, nutrition fueling, and specific guidelines for development of strength, power and endurance. (1 lecture hour)

PHYS 1551  
**Anatomy Tuneup**  
1 Credit Hour  
An overview of basic anatomy designed for those who are preparing for certification in fitness, yoga or massage. (1 lecture hour)

PHYS 1554  
**Healthy Eating**  
1 Credit Hour  
Basic and practical nutrition information that addresses misconceptions about the nature of food and nutrition in terms of overall wellness. Designed to provide personal appreciation, understanding and awareness of good nutrition and healthy eating. (1 lecture hour)

PHYS 1555  
**Personal Fitness Program**  
1 Credit Hour  
Assessments of components of physical fitness are covered. These components include cardiovascular fitness, muscular strength, muscular endurance, flexibility, body composition, stress and nutrition. Students then use the information ascertained from the assessments to design a personalized exercise prescription. (2 lab hours)

PHYS 1556  
**Stress Management**  
1 Credit Hour  
Exploration of the dimensions, sources, and physiological responses to stress. Emphasis is on the development of skills and techniques for managing stress (2 lab hours)

PHYS 1557  
**Women’s Health Issues**  
1 Credit Hour  
Wellness topics specific to the needs, concerns and issues impacting women’s health. (1 lecture hour)
PHYS 1558  
**Men's Health Issues**  
1 Credit Hour  
Wellness topics specific to the needs, concerns and issues impacting men's health. (1 lecture hour)

PHYS 1559  
**Senior Health Issues**  
1 Credit Hour  
Wellness topics specific to the needs, concerns and issues impacting senior health. (1 lecture hour)

PHYS 1601  
**Dancercise I**  
1 Credit Hour  
An aerobic fitness class choreographed to music using ballet, jazz and other dance styles. (2 lab hours)

PHYS 1602  
**Dancercise II**  
1 Credit Hour  
A continuation of Dancercise I. Prerequisite: Physical Education 1601 with a grade of S or better or equivalent. (2 lab hours)

PHYS 1603  
**Zumba I**  
0.5 to 1 Credit Hours  
A dance exercise class that is a fusion of Latin & International music and dance moves that creates a dynamic, exciting, and effective workout. Zumba uses a simple dance style borrowing moves from such dances as the merengue, salsa, tango, flamenco. This is combined with aerobic fitness interval training and resistance training to maximize both cardiovascular fitness and body toning benefits. (1 to 2 lab hours)

PHYS 1604  
**Zumba I**  
0.5 to 1 Credit Hours  
A continuation of the Latin infused dance exercise class Zumba I. Increased level of intensity and choreography. Prerequisite: Physical Education 1604 with a grade of S or better, or equivalent or consent of instructor. (1 to 2 lab hours)

PHYS 1611  
**Ballet I**  
1 Credit Hour  
Beginning ballet skills. Introduction to the movements and dance skills of classical and contemporary ballet, including basic positions, barre work, center floor work and simple dances. Credit cannot be given for both Dance 1101 and Physical Education 1611. (2 lab hours)

PHYS 1612  
**Ballet II**  
1 Credit Hour  
A continuation of Ballet I. Further work on the movements and dance skills of classical and contemporary ballet with emphasis on intermediate and advanced skills. Credit cannot be given for both Dance 1102 and Physical Education 1612. Prerequisite: Physical Education 1611 or equivalent skill level or consent of instructor. (2 lab hours)

PHYS 1621  
**Modern Jazz I**  
1 Credit Hour  
An introduction to the movements and dance skills characteristic of jazz dance. This course provides an opportunity to condition the body in the areas of muscle and cardiovascular endurance, coordination, rhythm and balance. Class consists of isolated body movements, technique work, basic steps, step combinations, and traveling movements across the floor. Credit cannot be given for both Dance 1107 and Physical Education 1621. (2 lab hours)

PHYS 1622  
**Modern Jazz II**  
1 Credit Hour  
A continuation of the movements and dance skills of Modern Jazz I. This course gradually adds advanced dance movements and step combinations. Increased opportunity for creative exploration and performance of jazz dance. Credit cannot be given for both Dance 1108 and Physical Education 1622. Prerequisite: Physical Education 1621 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1623  
**Tap Dancing I**  
0.5 to 1 Credit Hours  
An introduction to tap techniques and styles (including rhythm tap and Broadway tap) as well as historical origins and current trends. Emphasis on fundamental skills and rhythms, time steps, footwork, short combinations and styling. Credit cannot be given for both Dance 1110 and Physical Education 1623. (1 to 2 lab hours)

PHYS 1624  
**Modern Dance I**  
1 Credit Hour  
Introduction to body awareness, and movement in space. Technique, placement, and creative experiences are included in this course. Concepts of dance composition are studied through improvisation, vocabulary, and special awareness. Credit cannot be given for both Dance 1104 and Physical Education 1624. (2 lab hours)

PHYS 1625  
**Modern Dance II**  
1 Credit Hour  
A continuation of Modern Dance I. Further work on body awareness, and movement in space. Technique, placement, and creative experiences are included in this course. Concepts of dance composition are studied through improvisation, vocabulary, and spatial awareness. Credit cannot be given for both Dance 1105 and Physical Education 1625. Prerequisite: Physical Education 1624 with a grade of C or better, or equivalent or consent of instructor. (2 lab hours)

PHYS 1631  
**Social Dance**  
1 Credit Hour  
Traditional and modern ballroom dancing for those who desire to learn techniques of leading and following in a social dance setting. Waltz, foxtrot, swing and polka, as well as contemporary and/or novelty dances. (2 lab hours)

PHYS 1641  
**Recreational Dance**  
1 Credit Hour
Fundamental techniques of folk and square dancing. Etiquette, history, culture and music appreciation for specific dances are also covered. (2 lab hours)

PHYS 1642
Choreography & Composition of Dance
2 Credit Hours
Explores the process of using movement to give outward expression of inner sensations and feelings. Includes techniques for releasing tensions, developing imagery, improvisation, and discussion of aesthetic concepts. Credit cannot be given for both Dance 1122 and Physical Education 1642. Prerequisite: Physical Education 1611, 1621, 1623, 1624 or 1644 or equivalent, or consent of instructor. (1 lecture hour, 2 lab hours)

PHYS 1643
Dance Appreciation
3 Credit Hours
Various aspects of dance as a concert theatre art form and as entertainment with an emphasis on history, dancers, choreographers, trends, and major works of dance in the tradition of western civilization. Credit cannot be given for both Dance 1100 and Physical Education 1643. (3 lecture hours)

PHYS 1644
Dance Production & Performance
1 to 3 Credit Hours
Performance experiences as a dance company and practicum experience in production areas of theatre, dance, design technology, and theatre management. Students audition, rehearse, and perform dance in a college dance production. This course may be taken four times for credit. Credit cannot be given for both Dance 1120 and Physical Education 1644. Prerequisite: Consent of instructor is required. (2 to 6 lab hours)

PHYS 1645
Dance Pedagogy
3 Credit Hours
Exploration of the key approaches to teaching dance. Provides practicum experience in the dance teaching process including study of instructional modes, dance learning styles, and factors affecting dance teaching and learning. Credit cannot be given for both Dance 1130 and Physical Education 1645. (2 lecture hours, 2 lab hours)

PHYS 1711
Hapkido I
1 Credit Hour
Hapkido is Korean martial art that emphasizes defensive techniques and Ki (inner power) through the coordination of mind and body. Hapkido teaches blocks, kicks and strikes, but emphasizes joint-locking and pressure points. (2 lab hours)

PHYS 1712
Hapkido II
1 Credit Hour
A continuation of Hapkido I. Hapkido is a Korean martial art that emphasizes defensive techniques and Ki (inner power) through the coordination of mind and body. Hapkido teaches blocks, kicks and strikes, but emphasizes joint-locking and pressure points. These skills allow for effective control of an opponent. Prerequisite: Physical Education 1711 or equivalent. (2 lab hours)

PHYS 1721
Judo I
1 Credit Hour
The learning performance of fundamental psycho-motor skills and techniques of judo, individually and/or as part of a team, with special emphasis on safety and sportsmanship. (2 lab hours)

PHYS 1722
Judo II
1 Credit Hour
A continuation of Judo I. Competition is encouraged when available, and more advanced techniques and strategies are explored. Prerequisite: Physical Education 1721 or equivalent, or consent of instructor. (2 lab hours)

PHYS 1731
JuJutsu I
1 Credit Hour
(Miyama Ryu) The art of Japanese Samurai from which judo and aikido were derived. JuJutsu is based on mechanical principles and is used only for defensive purposes. Benefits are improved fitness, coordination and defensive skill training. (2 lab hours)

PHYS 1732
JuJutsu II
1 Credit Hour
A continuation of JuJutsu I. Advanced techniques and applications. Prerequisite: Physical Education 1731 or equivalent. (2 lab hours)

PHYS 1741
Karate I
1 Credit Hour
An introduction to karate and the basics of the martial arts called Tang Soo Do. Stance, blocks, punches, kicks, elbow strikes, techniques of self-defenses, and physical and mental conditioning. (2 lab hours)

PHYS 1742
Karate II
1 Credit Hour
Continued practice of Tang Soo Do skills and techniques with emphasis on intermediate to advanced level self defense skills. Prerequisite: Physical Education 1741 or equivalent. (2 lab hours)
PHYS 1751
**Personal Defense**
1 Credit Hour
Introduction to personal defense skills. (2 lab hours)

PHYS 1761
**Personal Safety for Women**
1 Credit Hour
Emphasizes non-violent options (beyond traditional self-defense) to offset assault on women. Safety awareness, de-escalation techniques and physical techniques are included. Social conditioning that creates the "victim" profile, the differences between passive, assertive and aggressive behavior, and the most common ways women are assaulted are also included. (2 lab hours)

PHYS 1771
**Malay Silat I**
1 Credit Hour
Malaysian martial art form that involves defensive principles, self-awareness, skill and sensitivity training. Encompassing both soft and hard styles, the main emphasis is on self-preservation, deception skills and keeping a low profile. Music and a form of dance are also a part of this practice. (2 lab hours)

PHYS 1772
**Malay Silat II**
1 Credit Hour
A continuation of Malay Silat I. Malay Silat techniques with emphasis on intermediate to advanced level self defense skills. Also includes the philosophy of the art. Prerequisite: Physical Education 1171 with a grade of S or better or college equivalent or consent of instructor. (2 lab hours)

PHYS 1774
**Flow Yoga I**
0.5 to 1 Credit Hour
A subset of hatha yoga, vinyasa flow is series of poses (asanas) joined together to create a smooth flow. Each asana or movement is synchronized with the breath and each movement is connected to the next. A slower moderate pace differentiates this from power yoga. (2 lab hours)

PHYS 1775
**Flow Yoga II**
0.5 to 1 Credit Hour
A continuation of Flow Yoga I, with additional sequences; incorporating intermediate level skills or longer duration of poses. Continued emphasis on the connection of breath and movement. Prerequisite: Physical Education 1774 with a grade of S or better, or equivalent. (1 to 2 lab hours)

PHYS 1778
**Relaxation & Meditation Techniques**
0.5 to 1 Credit Hours
A variety of relaxation and meditation techniques are used to enable students to decrease stress, improve focus and develop an everyday peace of mind in the face of today's busy lifestyle. (1 to 2 lab hours)

PHYS 1800
**Special Project**
1 to 3 Credit Hours
Special project courses in Physical Education cover topics not otherwise covered by general education courses and other courses in the Catalog for the Physical Education discipline. These courses require direct experience and focused reflection in an in-depth study of a specific Physical Education topic and/or the critical analysis of contemporary issues in physical education. They are targeted to self-selected students with an interest in the subject matter and involve active participation: The course delivery incorporates an experiential component of no less than 50 percent but not to exceed 75 percent. This experiential component may include field studies, interdisciplinary learning and/or the practical application of physical education concepts, theories, principles and methods with a specific focus. All courses require an orientation session to deliver academic and experiential information (syllabus, academic requirements, field preparation, logistics etc.)

PHYS 1801
**Bowling I**
1 Credit Hour
Introduction to the fundamental skills and techniques of bowling. Etiquette, scoring, game procedure and rules are covered. (2 lab hours)

PHYS 1802
**Bowling II**
1 Credit Hour
Prepares students to advance from the level of a recreational bowler to competitive league bowler. Etiquette, scoring, advanced bowling technique, strategy and a review of the rules. Prerequisite: Physical Education 1801 or consent of instructor. (2 lab hours)

PHYS 1804
**Bicycle Touring**
1 Credit Hour
Outdoor cycling for recreation and fitness. Riding skills, equipment, training techniques, nutrition and planning for bike trips and/or touring. (2 lab hours)

PHYS 1805
**Angling**
1 Credit Hour
Bait, spin-casting, still-fishing techniques, equipment care, and general fishing skills and practices. (2 lab hours)

PHYS 1810
**Canoeing**
1 Credit Hour
Fundamental skills of canoeing including basic strokes, safety and canoe camping. (2 lab hours)

PHYS 1811
**Backpacking**
1 Credit Hour
Basics of backpacking including wilderness survival skills, equipment, conditioning, first aid, environmental issues and etiquette. (2 lab hours)

PHYS 1813
**Outdoor Environment Skills**
1 Credit Hour
Weekend and/or weeklong outdoor strip allow for development of wilderness survival and safety skills primarily through experiences in camping. Rock climbing, backpacking, hiking and canoeing experiences, depending on trip. (2 lab hours)
PHYS 1820
Selected Topics
0.5 to 3 Credit Hours
Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (.5 to 3 lecture hours, .5 to 3 lab hours)

PHYS 1821
Fencing I
1 Credit Hour
Beginning fencing. Topics include the grip, the lunge, parry, riposte, body positions, footwork, and movements for advance and retreat. Rules, etiquette, fencing equipment, scoring, safety, playing courtesies and open bouts are also included. (2 lab hours)

PHYS 1822
Fencing II
1 Credit Hour
Builds on the skill of Fencing I by adding more advanced strategies of attack and defend. Footwork and speed drills are done with emphasis on good alignment. Time is divided equally between skill-building drills and practice bouts. Advanced strategies, rules, safety and etiquette are also emphasized. Prerequisite: Physical Education 1821 or equivalent. (2 lab hours)

PHYS 1831
Marksmanship
1 Credit Hour
Marksmanship skills for police academy trainees. (2 lab hours)

PHYS 1840
Independent Study
1 to 4 Credit Hours
Exploration and analysis of topics within physical education to meet individual student-defined course description, goals, objectives, topical outline and methods of evaluation in coordination with, and approved by the instructor. This course may be taken four times for credit as long as different topics are selected. Prerequisite: Consent of instructor is required. (1 to 4 lecture hours)

PHYS 1841
Rock Climbing
1 Credit Hour
An introduction to rock climbing, emphasizing basic skills and techniques. Also included: equipment usage, care of equipment, terminology and safety. (2 lab hours)

PHYS 1851
Downhill Skiing I
1 Credit Hour
Downhill skiing emphasizing the development of basic skills and an understanding of safety procedures. (2 lab hours)

PHYS 1852
Downhill Skiing II
1 Credit Hour
Downhill skiing emphasizing the practice and development of intermediate skiing techniques. Safety procedures and practices are also stressed. Prerequisite: Physical Education 1851. (2 lab hours)

PHYS 1854
Cross Country Skiing I
1 Credit Hour
Introduction to cross country skiing skills. Skiing techniques, safety methods, winter survival techniques, care of equipment, orienteering and physical conditioning. (2 lab hours)

PHYS 1855
Cross Country Skiing II
1 Credit Hour
A continuation of Cross Country Skiing I skills. Advanced cross country skiing techniques, increased physical conditioning, orienteering and leadership skills. Prerequisite: Physical Education 1854 or equivalent. (2 lab hours)

PHYS 1901
Hatha Yoga I
1 Credit Hour
Exploration and practice of the yogic system of mind/body awareness and fitness. Students improve muscular strength, endurance, flexibility and concentration. Release of stress and tension through yoga asanas (postures), pranayama (breath control) and meditation. (2 lab hours)

PHYS 1902
Hatha Yoga II
1 Credit Hour
A continuation of Hatha Yoga I. Further exploration of the yogic system of mind/body awareness and fitness. Challenging asanas that require higher levels of strength and balance, as well as increased practice of inversions, twists and backbends are covered. The chakra system of energy flow studied with the asana movements. Prerequisite: Physical Education 1901 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1904
Gentle Yoga I
1 Credit Hour
A hatha yoga class designed to be less stressful on the joints. Asanas (poses) are chosen to emphasize flexibility and relaxation. Meditation techniques and restorative poses are emphasized. (2 lab hours)

PHYS 1905
Gentle Yoga II
1 Credit Hour
A continuation of Gentle Yoga I. Prerequisite: Physical Education 1904 with a grade of S or better, or equivalent. (2 lab hours)

PHYS 1908
Vinyasa Flow Yoga I
0.5 Credit Hours
A type of hatha yoga that links the breath with each movement to create a seamless and easy transition from one pose to the next. (1 lab hour)

PHYS 1909
Vinyasa Flow Yoga II
0.5 Credit Hours
A continuation of Vinyasa Flow Yoga I. Prerequisite: Physical Education 1908 with a grade of S or better, or equivalent. (1 lab hour)
PHYS 1911  
*Pilates I (Mat)*  
1 Credit Hour  
Students participate in a series of stretching and strengthening exercises based on the Joseph Pilates method of body conditioning. Designed to develop muscle strength and tone. This is a mat course; machines are not used. (2 lab hours)

PHYS 1912  
*Pilates II (Mat)*  
1 Credit Hour  
A continuation of Pilates I. Stretching and strengthening exercises based on the Joseph Pilates method of body conditioning. This is a mat course; machines are not used. Prerequisite: Physical Education 1911 with a grade of S or better, or equivalent. (2 lab hours)

PHYS 1921  
*Power Yoga I*  
1 Credit Hour  
Yoga postures (asanas) are coordinated specifically to the breath and in a continuous flow to not only enhance flexibility, muscular strength and endurance, but also to improve cardiovascular fitness to a further degree than basic yoga. Release of stress through yoga postures, pranayama (breathing), and meditative techniques are also covered. (2 lab hours)

PHYS 1922  
*Power Yoga II*  
1 Credit Hour  
A continuation of Power Yoga I. Increasingly advanced yoga moves (asanas) are coordinated specifically to the breath and in a continuous flow so as to further the components of physical fitness and overall wellness. Emphasis is on a more challenging workout. Release of stress through yoga postures, pranayama (breathing) and meditative techniques. Prerequisite: Physical Education 1921 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 1931  
*NIA Aerobics I*  
1 Credit Hour  
An introduction to neuromuscular integrative action (NIA) aerobics. A holistic exercise course that combines martial arts, yoga, dance, physical, mental, emotional and spiritual exercises, and conditioning techniques. (2 lab hours)

PHYS 1932  
*NIA Aerobics II*  
1 Credit Hour  
A continuation of NIA aerobics. Further neuromuscular integrative action (NIA) activities provide a unique workout that combines basic conditioning techniques, martial arts, yoga and dance, as well as emotional and spiritual exercises. Prerequisite: Physical Education 1931 or equivalent experience or consent of instructor. (2 lab hours)

PHYS 2200  
*Introduction to Physical Education*  
3 Credit Hours  
A study of the history and development of physical education and the related areas of recreation, health, safety and athletics. Special emphasis is devoted to the aims and objectives of physical education. (3 lecture hours)

PHYS 2201  
*Introduction to Coaching*  
3 Credit Hours  
Principles, practices and philosophy of sports coaching for students interested in pursuing a coaching career at the youth, interscholastic or intercollegiate level. (3 lecture hours)

PHYS 2202  
*Introduction to Athletic Programs*  
3 Credit Hours  
A study of the organizational management and administration of athletic programs at the elementary, secondary, collegiate and professional levels. Emphasis is on both philosophical and practical aspects of athletics. (3 lecture hours)

PHYS 2203  
*Teaching Sports Skills*  
3 Credit Hours  
Motor learning, educational methods, and effective techniques for teaching sport and physical skills to school-aged children and adults. Experience in applying teaching techniques to others. (3 lecture hours)

PHYS 2204  
*Theory and Practice of Baseball*  
3 Credit Hours  
An introduction to baseball skills in the classroom and on the field covering skill progressions, strategies and teaching pedagogy of all nine positions of the game. (2 lecture hours, 2 lab hours)

PHYS 2205  
*Theory and Practice of Soccer*  
3 Credit Hours  
Knowledge, progressions and skills are emphasized in this fundamental approach to soccer. Offensive progressions include: fundamental skills, offensive moves, position breakdown, team formations and special plays. Defensive progressions include: team concepts, individual concepts, man-to-man defenses, zone defenses and special defensive formations. Team play and rules of the game are emphasized. (2 lecture hours, 2 lab hours)

PHYS 2206  
*Theory and Practice of Basketball*  
3 Credit Hours  
Knowledge, progressions and skills are emphasized in this fundamental approach to basketball. Offensive progressions include: fundamental skills, offensive moves, position breakdown, team offenses and special offenses. Defensive progressions include: team concepts, individual concepts, neutralization of offensive skills, man-to-man defenses, zone defenses and special defenses. Team play and rules of the game are emphasized. (2 lecture hours, 2 lab hours)

PHYS 2208  
*Theory and Practice of Football*  
3 Credit Hours  
Analysis, instruction and demonstration of the fundamental skills in football. A study of the various systems of play and the strengths and weaknesses of each. (2 lecture hours, 2 lab hours)

PHYS 2210  
*Sports in Society*  
3 Credit Hours
This course will provide the students with a basic understanding of the theories and principles related to sociocultural issues, ethics, and morality in the sports industry. Students will be exposed to the current issues and trends that are prevalent in the sports industry. Topics may include, legal issues, amateur vs. professional athletes, technology and the media, issues related to gender, race, and/or sexual orientation, and the globalization of the sports industry. (3 lecture hours)

PHYS 2224
Theory and Practice of Track and Field
3 Credit Hours
Track and field coaching and teaching theories including skill technique for each event, season and daily practice preparation, and coaching methodology. Sprints, relays, hurdles, middle distance, shot put, discus, javelin, hammer, long jump, triple jump, high jump, pole vault and the multi-events are covered. (2 lecture hours, 2 lab hours)

PHYS 2230
Theory and Practice of Volleyball
3 Credit Hours
Analysis, instruction, demonstration and teaching progression of the fundamentals of volleyball for the physical education major, player and/or future coach. Teaching and coaching methods, offensive and defensive systems and strategies, history and rule interpretations are included. (2 lecture hours, 2 lab hours)

PHYS 2233
Theory and Practice of Fastpitch Softball
3 Credit Hours
An introduction to fastpitch softball skills in the classroom and on the field covering skill progressions, strategies and teaching pedagogy of all nine positions of the game. (2 lecture hours, 2 lab hours)

PHYS 2238
Skin and Scuba Diving
3 Credit Hours
Development of skills for floating weightless in the campus’ 15-foot deep pool. Safety and survival underwater skills are achieved in classroom and pool sessions. Stresses understanding the environment, diving equipment and limitation of the individual. Successful completion of this course prepares the student for open water scuba diving. Scuba equipment is provided. Prerequisite: Demonstrate comfort in the water with reasonable swimming proficiency. (2 lecture hours, 2 lab hours)

PHYS 2239
Skin and Scuba Diving II
3 Credit Hours
A continuation of Physical Education 2238. Refinement of previously learned skills and introduction to advanced skills. Prerequisite: Physical Education 2238 with a grade of S or better and/or certification or consent of instructor (2 lecture hours, 2 lab hours)

PHYS 2240
Introduction to Sport Psychology
3 Credit Hours
An examination of the psychological reasons for people participating in various types of competitive and non-competitive sports. Application of psychological concepts to improve the athletes personal growth and development with attention to the coach’s role in accomplishing these objectives. Topics covered include: attainment of optimal arousal level, improvement of concentration, mental rehearsal for events, positive reinforcement, goal setting, relaxation techniques, and self fulfillment through non-competitive sports. (3 lecture hours)

PHYS 2244
Lifeguard Training
2 Credit Hours
Students are trained and prepared to fulfill the requirements of the American Red Cross Life Guard Training certification. Topics include water safety, accident prevention, assist and rescue techniques, and the job requirements of a lifeguard. American Red Cross cards will be issued to those who qualify. Must be able to pass a swimming skills test at the beginning of class. Prerequisite: Swimming test at the discretion of the instructor. (Swimming skills at the level of “Swimmer” of the American Red Cross program recommended). (1 lecture hour, 2 lab hours)

PHYS 2251
Living With Health
3 Credit Hours
Personal and community health issues. Achieving overall wellness and implementing behavior changes through knowledge of current health research. Major topics may include: stress management, anxiety and mood disorders, relationships, nutrition, physical fitness and exercise, weight management, drug use and abuse, cancer, cardiovascular diseases, AIDS and other sexually transmitted diseases. (3 lecture hours)

PHYS 2253
CPR Training
1 Credit Hour
Cardiopulmonary resuscitation (CPR) for adult, child and infant. Automatic external defibrillator (AED) training. (2 lab hours)

PHYS 2254
First Aid and CPR
3 Credit Hours
The value and need for training in emergency first aid, cardiopulmonary resuscitation and automatic external defibrillators are emphasized with certification granted upon successful completion of the course. (3 lecture hours)

PHYS 2255
Care and Prevention of Athletic Injuries
3 Credit Hours
Introduction to the responsibilities and duties of an athletic trainer including basic fundamentals and techniques, injury care and prevention, injury recognition, emergency care, supportive strapping and wrapping techniques, ordering of supplies, budgeting and the general operation of a training room facility. (3 lecture hours)

PHYS 2256
Applied Procedures and Techniques
3 Credit Hours
Training room techniques and procedures. Applications to both hands-on practice and competitive field experience under the supervision of certified athletic trainers. (1 lecture hour, 4 lab hours)

PHYS 2257
Athletic Taping Techniques
1 Credit Hour
Study and practice of supportive strapping, wrapping and taping

PHYS 2258
The Science of Nutrition
3 Credit Hours
Fundamentals of human nutrition. Basic biochemistry and
physiology of all nutrients. Topics include anatomy and
physiology of digestion, nutritional requirements and metabolism.
Supplements, diets, and exercise applications are also addressed.
(3 lecture hours)

PHYS 2260
The Science of Physical Fitness
2 Credit Hours
Basic exercise physiology principles as applied to the development
of personal and professional fitness programs. Major topics
include muscle cell physiology, energy metabolism during
exercise, nutrition for fitness, cardiovascular training, and muscular
conditioning. (2 lecture hours)

PHYS 2261
Applied Kinesiology
3 Credit Hours
Functional anatomy and physiology essential to those in
fitness and physical education professions. Special emphasis on
the musculoskeletal system. Includes basic biomechanics and
movement analysis for exercise and sport applications. (3 lecture hours)

PHYS 2262
Fitness Instructor Training-Group
2 Credit Hours
Application of exercise and teaching principles for leading group
exercise classes. Practical experience in leading a variety of fitness
classes in preparation for teaching and/or national certification. (1
lecture hour, 2 lab hours)

PHYS 2263
Fitness Instructor Training-Personal
2 Credit Hours
Application of exercise and teaching principles for personal
fitness instruction. Practical experience in leading a variety of exercise
methods and techniques in preparation for teaching and/or
certification. (1 lecture hour, 2 lab hours)

PHYS 2264
Sports Mechanics for Coaches
2 Credit Hours
Provides an understanding of sport science, the mechanics of
human movement, and their application to athletic performance.
Addresses sport protocols, coaching techniques, and kinesiology.
(2 lecture hours)

PHYS 2265
Biophysical Foundations/Human Movement
2 Credit Hours
Provides an understanding of anatomical, mechanical,
physiological, neural, and psychological bases of human
movement. (2 lecture hours)

PHYS 2270
Introduction to Sports Marketing
3 Credit Hours
This course will cover the basic theories and principles of
sports marketing and communications from sports and recreational
facilities to professional and amateur sports. Reveals how to
study and understand the market, develop a marketing strategy,
clarify a sports organization’s needs and goals, and implement
marketing plans through sponsorship, fundraising, licensing,
pricing, promotions, advertising, broadcasting and sales. (3 lecture
hours)

PHYS 2800
Special Project
1 to 3 Credit Hours
Special project courses in physical education cover topics not
otherwise covered by general education courses and other courses
in the Catalog for the Physical Education discipline, while building
upon academic knowledge and skills acquired in introductory-
level Physical Education classes. These courses require direct
experience and focused reflection in an in-depth study of a
specific physical education topic and/or the critical analysis of
contemporary issues in physical education. They are targeted to
self-selected students with an interest in the subject matter and
involve active participation. The course delivery incorporates an
experiential component of no less than 50 percent but not to
exceed 75 percent. This experiential component may include field
studies, interdisciplinary learning, and/or the practical application
of more complex physical education concepts, theories, principles
and methods with a specific focus. All courses require an
orientation session to deliver academic and experiential information
(syllabus, academic requirements, field preparation, logistics, etc.)
Prerequisite: At least one course in Physical Education or consent
of instructor

PHYS 2840
Experimental/Pilot Class
1 to 6 Credit Hours
Exploration and analysis of topics within Physical Education. This
course is used to pilot a proposal for a permanent discipline course.
This course may be taken four times for credit as long as different
topics are selected. Prerequisite: Consent of instructor is required

PHYS 2860
Internship (Career & Technical Ed)
1 to 4 Credit Hours
Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits.
Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYS 2863
Internship (Career & Technical Ed)
3 Credit Hours
Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning
experiences. Credit is earned by working a minimum of 225 clock hours for three semester credit hours. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYS 2865
Internship Advanced (Career & Tech Ed)
1 to 4 Credit Hours
Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYS 2870
Internship (Transfer)
1 to 4 Credit Hours
Course requires participation in work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYS 2871
Internship - Advanced (Transfer)
1 to 4 Credit Hours
Continuation of Internship (Transfer). Course requires participation in work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYSICS

PHYSI 1100 (IAI P1 900L)
Physics
4 Credit Hours
Conceptual study of laws of motion, forces, energy and momentum, properties and states of matter, heat and thermodynamics, wave motion, sound, light, electricity and magnetism, and atomic and nuclear physics. Prerequisite: Mathematics 0465 or Mathematics 0481 (or college equivalent) with a grade of C or better or qualifying score on the mathematics placement test or a qualifying A.C.T. math score. Course requires Reading Placement Test Score-Category One. (3 lecture hours, 3 lab hours)

PHYSI 1115
Lab Microprocessors and Microcontrollers
1 Credit Hour
Students will be introduced to basic programming of microprocessors and microcontrollers that may be used in physics. This class will taught in a lab format with hands-on projects. (2 lab hours)

PHYSI 1150 (IAI P1 901)
Physics and Society
3 Credit Hours
The applications of physics to society are studied. This may specifically include the study of energy, thermodynamics, electrical power generation, electric circuits, nuclear power, nuclear weapons and modern particle physics. Prerequisite: Mathematics 0465 or Mathematics 0482 with a grade of C or better or a qualifying score on the mathematics placement test or a qualifying A.C.T. math score. Course requires Reading Placement Test Score-Category One. (3 lecture hours)

PHYSI 1152
Applications of Physics in Society
4 Credit Hours
Study of applications of physics to society. Includes the study of energy, thermodynamics, electrical power generation, electric circuits, nuclear power, nuclear weapons, and modern particle physics. Lab component included. Students receive credit for either Physics 1150 or 1152. Prerequisite: Mathematics 0465 or Mathematics 0481 with a grade of C or better or a qualifying score on the mathematics placement test. (3 lecture hours, 3 lab hours)

PHYSI 1161
Technical Physics I
4 Credit Hours
Conceptual and algebra-based study of classical mechanics, electricity and magnetism including laws of motions, forces, momentum, work, energy, rotational motion, electric charges, electric currents, circuits, magnetism, magnetic effects and electromagnetic induction. Emphasis is on physical concepts as applied to industrial/technical fields through completion of team projects. Prerequisite: Mathematics 0481 with a grade of C or better or equivalent and Mathematics 1115 or Mathematics 1432 with a grade of C or better, or equivalent or consent of instructor. (3 lecture hours, 3 lab hours)

PHYSI 1162
Technical Physics II
4 Credit Hours
Conceptual and algebra-based study of matter properties, temperature and heat, ideal gases, wave motion, sound, light, AC electricity, and select topics of modern physics. Emphasis is on physical concepts as applied to industrial/technical fields in a series of team projects. Prerequisite: Physics 1161 with a grade of C or better, or equivalent. (3 lecture hours, 3 lab hours)

PHYSI 1201 (IAI P1 900L)
General Physics I
5 Credit Hours
Algebra and trigonometry-based study of classical linear and rotational kinematics and dynamics (including work, energy, impulse, momentum, and collisions), fluids, heat, thermodynamics,
periodic motion, and wave motion. Course is intended for students that have taken high school physics and have experience with right-angle trigonometry. (Students without high school physics are encouraged to complete Physics 1100 before enrolling in this course.) Prerequisite: Mathematics 1115 (or college equivalent) or Mathematics 1431 (or college equivalent) either with a grade of C or better or a qualifying score on the mathematics placement test or a qualifying A.C.T. math score. Course requires Reading Placement Test Score-Category One. (4 lecture, 2 lab hours)

PHYSI 1202

General Physics II

5 Credit Hours

Algebra-based study of electrostatics, electric fields, Gauss’ law, capacitance, current, resistance, magnetic forces and fields, electromagnetic induction, DC and AC circuits, electromagnetic waves, mirrors, lenses, optics, and modern physics. Note: The standard prerequisite is Physics 1201. While Physics 2111 may serve as an alternative prerequisite for taking this COD course, students are advised to check with their intended transfer institution(s) to ensure that the thermodynamics covered in Physics 1201 is not a requirement prior to embracing this alternative. Prerequisite: Physics 1201 or Physics 2111 with a grade of C or better. (4 lecture hours, 2 lab hours)

PHYSI 1800

Special Project

1 to 3 Credit Hours

Special project courses cover topics not otherwise covered by general education courses and other courses in the Catalog for the discipline. These courses require direct experience and focused reflection in an in-depth study of a specific discipline topic and/or the critical analysis of contemporary issues in the discipline. They are targeted to self-selected students with an interest in the subject matter and involve active participation. The course delivery incorporates an experiential component of no less than 30 percent but not to exceed 70 percent (to be determined by the disciplines). This experiential component may include field studies, interdisciplinary learning, and/or the practical application of discipline-related concepts, theories, principles and methods with a specific focus. All courses require an orientation session to deliver academic and experiential information (syllabus, academic requirements, field preparation, logistics, etc.)

PHYSI 1820

Selected Topics

1 to 3 Credit Hours

Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (1 to 3 lecture hours)

PHYSI 1840

Independent Study

1 to 4 Credit Hours

Exploration and analysis of topics within the discipline to meet individual student-defined course description, goals, objectives, topical outline and methods of evaluation in coordination with and approved by the instructor. This course may be taken four times for credit as long as different topics are selected. Prerequisite: Consent of instructor is required. (1 to 4 lecture hours)

PHYSI 2111 (IAI P2 900L/PHY 911)

Physics for Science and Engineering I

5 Credit Hours

Calculus-based study of classical linear and rotational kinematics and dynamics, including work, energy, impulse, momentum, collisions, gravitation, periodic motion, and wave motion. (Students without a strong high school physics background are encouraged to complete PHYSI-1201 before enrolling in this course.) Prerequisite: Mathematics 2231 (or college equivalent) with a grade of C or better. (4 lecture hours, 3 lab hours)

PHYSI 2112 (IAI PHY 912)

Physics for Science and Engineering II

5 Credit Hours

Calculus-based study of electrostatics, electric fields, Gauss’ Law, capacitance, current, resistance, magnetic forces and fields, electromagnetic induction, AC circuits, Maxwell’s equations, electromagnetic waves, geometric optics and physical optics. Prerequisite: Physics 2111 with a C or better. (4 lecture hours, 3 lab hours)

PHYSI 2115

Physics for Science and Engineering III

4 Credit Hours

Calculus-based study of fluids, thermodynamics, special relativity, introductory quantum mechanics, nuclear physics and particle physics. Prerequisite: Physics 2112 with a grade of C or better. (3 lecture hours, 3 lab hours)

PHYSI 2800

Special Project

1 to 3 Credit Hours

Special project courses cover topics not otherwise covered by general education courses and other courses in the discipline, while building on academic knowledge and skills acquired in introductory-level classes. These courses require direct experience and focused reflection in an in-depth study of a specific topic and/or the critical analysis of contemporary issues in the discipline. They are targeted to self-selected students with an interest in the subject matter and involve active participation. The course delivery incorporates an experiential component of no less than 30 percent but not to exceed 70 percent. This experiential component may include field studies, interdisciplinary learning, and/or the practical application of more complex geographic concepts, theories, principles and methods with a specific focus. All courses require an orientation session to deliver academic and experiential information (syllabus, academic requirements, field preparation, logistics, etc.) Prerequisite: At least one course in the discipline or consent of instructor.

PHYSI 2820

Advanced Selected Topics

1 to 3 Credit Hours

Advanced exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. Prerequisite: At least one course in the discipline or consent of instructor. (1 to 3 lecture hours)

PHYSI 2827

Advanced Selected Topics II

1 Credit Hour

Advanced exploration and analysis of selected topics with a specific theme indicated by the course title listed in the college class schedule. This course may be taken four times for credit as long as different topics are selected. Prerequisite: At least one course in the discipline or consent of instructor. (1 lecture hour)
PHYSI 2840  
**Experimental/Pilot Class**  
1 to 6 Credit Hours  
Exploration and analysis of topics within the discipline. This course is used to pilot a proposal for a permanent discipline course. This course may be taken four times for credit as long as different topics are selected. Prerequisite: Consent of instructor is required.

PHYSI 2860  
**Internship (Career & Technical Ed)**  
1 to 4 Credit Hours  
Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYSI 2865  
**Internship Advanced (Career & Tech Ed)**  
1 to 4 Credit Hours  
Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYSI 2870  
**Internship (Transfer)**  
1 to 4 Credit Hours  
Course requires participation in work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.

PHYSI 2871  
**Internship - Advanced (Transfer)**  
1 to 4 Credit Hours  
Continuation of Internship (Transfer). Course requires participation in work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: Consent of instructor and 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the dean from the academic discipline where the student is planning to earn credit.