

# SMED Sports Medicine

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## **SMED 5015 Assessment and Evaluation of Musculoskeletal Injuries** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Fundamental skills of athletic training assessment and evaluation including basic examination, acute care, and documentation for patients with athletically related injuries or illnesses. Emphasis placed on musculoskeletal disorders. Case studies will link the material presented in this course with other courses taught concurrently.

**Prerequisite(s):** A minimum grade of "C" in SMED 3005.

**Cross Listing(s):** SMED 5015G.

## **SMED 5015G Assess/Eval Injury & Illness I** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

**Cross Listing(s):** SMED 5015.

## **SMED 5050 Pharmacology of Sports Medicine Injury and Illness** **2 Credit Hours. 2 Lecture Hours. 0 Lab Hours.**

Basic understanding of pharmacology and the drugs commonly used in physical medicine and exercise.

**Cross Listing(s):** SMED 5050G.

## **SMED 5050G Pharm Of Spts Med Inj & Illnes** **2 Credit Hours. 2 Lecture Hours. 0 Lab Hours.**

Basic understanding of pharmacology and the drugs commonly used in physical medicine and exercise.

**Cross Listing(s):** SMED 5050.

## **SMED 5055 Pathophysiology of Sports Medicine Injury and Illness** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Examines mechanisms responsible for disease processes and subsequent care of illness associated with the participation in physical activity.

**Prerequisite(s):** A minimum grade of "B" in BIOL 2081 and BIOL 2082.

**Cross Listing(s):** SMED 5055G.

## **SMED 5055G Path Of Spts Med Inj & Ill** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Examines mechanisms responsible for disease processes and subsequent care of illness associated with the participation in physical activity.

**Cross Listing(s):** SMED 5055.

## **SMED 5065 Movement and Posture Assessment and Exercise** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Techniques to identify impaired movement patterns and altered tissue adaptations. Corrective exercise strategies, including inhibitory, stretching and activation techniques and program design will be emphasized.

**Prerequisite(s):** A minimum grade of "C" in SMED 5015.

**Cross Listing(s):** SMED 5065G.

## **SMED 5065G Movement/Posture Assmnt & Exer** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Techniques to identify impaired movement patterns and altered tissue adaptations. Corrective exercise strategies, including inhibitory, stretching and activation techniques and program design will be emphasized.

**Prerequisite(s):** A minimum grade of "C" in SMED 5015G.

**Cross Listing(s):** SMED 5065.

## **SMED 5090 Nutritional Issues in Sports Medicine** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Impact of various nutritional regimens on performance and recovery in athletics.

**Cross Listing(s):** SMED 5090G.

## **SMED 5090G Nutritional Issues/Sprts Med** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Impact of various nutritional regimens on performance and recovery in athletics.

**Cross Listing(s):** SMED 5090.

## **SMED 5555 Physical Activity in Disease Prevention/Treatment** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Effects of physical activity on health enhancement and maintenance. Bioenergetics, physical assessment methods, equipment, and exercise prescription.

**Prerequisite(s):** HSCC 3100.

**Cross Listing(s):** SMED 5555G.

## **SMED 5555G Phys Actvty Disease Prev/Treat** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Effects of physical activity on health enhancement and maintenance. Bioenergetics, physical assessment methods, equipment, and exercise prescription.

**Cross Listing(s):** SMED 5555.

## **SMED 5600 Health Weight Management and Body Composition** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

A survey of research and applications for methods of improving body composition with a focus on optimal health and physical performance. Students will investigate effective strategies for long-term changes in body fatness and lean body mass.

**Cross Listing(s):** SMED 5600G.

## **SMED 5600G Healthy Wght Mgmt & Body Comp** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

A survey of research and applications for methods of improving body composition with a focus on optimal health and physical performance. Students will investigate effective strategies for long-term changes in body fatness and lean body mass.

**Cross Listing(s):** SMED 5600.

## **SMED 5940 Internship in Strength and Conditioning** **1-3 Credit Hours. 1-4 Lecture Hours. 1-15 Lab Hours.**

Supervised instruction in strength and conditioning techniques.

**Cross Listing(s):** SMED 5940.

## **SMED 5940G Internship Strength & Conditio** **1-3 Credit Hours. 1-4 Lecture Hours. 1-15 Lab Hours.**

Supervised instruction in strength and conditioning techniques.

**Cross Listing(s):** SMED 5940.

## **SMED 5945 Internship in Sports Medicine I** **1-3 Credit Hours. 0-3 Lecture Hours. 0-6 Lab Hours.**

On-site clinical experiences closely supervised by university faculty and facility instructors in the well/health promotion, adult fitness or cardiac rehabilitation settings; weekly seminars will address current clinical issues in the selected population. May be taken for repeat credit.

**Cross Listing(s):** SMED 5945G.

## **SMED 5945G Internship In Sprts Med I** **1-3 Credit Hours. 0-3 Lecture Hours. 0-6 Lab Hours.**

On-site clinical experiences closely supervised by university faculty and facility instructors in the wellness/health promotion, adult fitness or cardiac rehabilitation settings; weekly seminars will address current clinical issues in the selected populations. May be taken for repeat credit.

**Cross Listing(s):** SMED 5945.

## **SMED 6005 Research Methods in Sports Medicine** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Methods of quantitative scientific inquiry and interpretation of research in sports medicine. In addition to promoting the skills to become critical consumers of research products; this course is designed to assist students in developing their research project required for degree completion.

## **SMED 6030 Evidence-Based Research in Strength & Conditioning** **3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

This course is a survey of research design, statistical methodology, and the application of such investigations in the field of strength and conditioning. The focus is on the student's ability to access, appropriately interpret, and apply research findings in practice.

**SMED 6060 Exercise Physiology****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Acute and chronic physiological and biochemical responses of the human body when subjected to exercise.

**SMED 6080 Performance Evaluation and Exercise Testing****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Study of laboratory and field-based techniques, using biomedical instrumentation, for assessment of physiological responses. Effective appraisal and exercise prescription in various populations is emphasized.

**Prerequisite(s):** A minimum grade of "C" in SMED 6060.

**SMED 6090 Sport and Exercise Nutrition****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

This course covers in detail the advanced biochemistry of nutrition and its application to health, physical activity, and athletic performance. The course emphasizes the critical evaluation of peer-reviewed research in this area.

**SMED 6400 Fundamentals of Biomechanics and Human Movement****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

The principles of classical mechanics applied to the study of human motion, physical activity and exercise.

**SMED 6605 Physical Activity and Aging Across the Lifespan****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

The contribution of human movement to the well-being and quality of life of aging populations. Principles, practices, and programs for seniors related to the concept of wellness. The myths, needs and movement potential of aging persons will be evaluated.

**SMED 7010 Inj Prev/Risk Mgmt In Spts Med****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Study of methods and techniques used for the purposes of injury prevention and risk management. An epidemiological perspective will be used throughout the course. Case studies will be used throughout the course.

**SMED 7050 Drug & Ergogenic Aids/Spts Med****3 Credit Hours. 2 Lecture Hours. 0 Lab Hours.**

Efficacy and safety of drugs and performance-enhancing supplements in athletics.

**SMED 7060 Advanced Exercise Physiology****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Continuation of SMED 6060. Further exploration into the acute and chronic muscular, cardiovascular, respiratory, and biochemical responses of the human body to exercise. Additionally, exercise and physical activity in altered environments will be explored.

**Prerequisite(s):** A minimum grade of "B" in SMED 6060.

**SMED 7070 Theory and Method of Strength & Conditioning****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

The efficacy of methods and models of sports training in activities requiring intensive strength and conditioning programs.

**SMED 7075 Program Design and Advanced Training Techniques****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

An advanced course examining principles of program design, current concepts regarding periodized training and the physiological adaptations in response to power, plyometrics, speed and agility training. Practical mastery as well as theoretical understanding will be required.

**Prerequisite(s):** A minimum grade of "C" in SMED 7070.

**SMED 7080 Applied Sport Science****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Course emphasizes an evidenced based approach to athlete monitoring and development through an examination of the techniques, technologies and analysis used in sport science settings.

**Prerequisite(s):** A minimum grade of "B" in SMED 6060.

**SMED 7085 Tactical Strength and Conditioning****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Principals of strength and conditioning program design as they related to decreasing injury risk and increasing longevity and effectiveness of tactical athletes.

**Prerequisite(s):** A minimum grade of "B" in SMED 7070.

**SMED 7225 Internship in Sports Medicine****1-3 Credit Hours. 1-12 Lecture Hours. 1-12 Lab Hours.**

May be taken for repeat credit. On-site clinical experiences closely supervised by university faculty and facility instructors in the wellness/health promotion, adult fitness or cardiac rehabilitation settings: weekly seminars will address current clinical issues in the selected population.

**SMED 7400 Biomech Anal/Hum Mv & Musc Inj****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Mechanical principles and qualitative movement analysis applied to understanding mechanism, treatment, and prevention of musculoskeletal injury. Application of biomechanical principles to integrate joint mechanics with a systems approach to prevent injury and optimize human performance. Case studies will be used throughout the course.

**SMED 7450 Neuromechanical Aspects of Human Movement****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

The concepts, terms, and methods of investigating biomechanics, neuroscience/neuromechanics, motor control and movement disorders in the human movement system. Practical applications will enable students to optimize their teaching of motor skills in rehabilitation and coaching settings.

**Prerequisite(s):** A minimum grade of "B" in SMED 6400.

**SMED 7500 Special Topics in Sports Medicine****1-3 Credit Hours. 1-12 Lecture Hours. 1-12 Lab Hours.**

Special assignments, agreed to by an advisor, used to provide a unique experience in an educational setting consistent with the student's professional objectives and program focus.

**SMED 7505 Organizational Leadership in Sports Medicine****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Knowledge, skills, and values required to develop, lead, administer, and manage a health care facility and associated venues providing sports medicine services. Case studies will be used throughout the course.

**SMED 7515 Cardiopulmonary Pathophysiology, Exercise and Rehabilitation****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

The physiology and disease process specific to the cardiovascular system. Exercise and rehabilitative mechanisms will be discussed. Case studies will be used throughout the course.

**SMED 7520 Psychosocial Issues in Sports Medicine****3 Credit Hours. 3 Lecture Hours. 0 Lab Hours.**

Psychological and sociological factors impacting the various aspects of sports medicine and physical activity.

**SMED 7700 Self-Directed Student Research in Sports Medicine****1-3 Credit Hours. 1-4 Lecture Hours. 1-12 Lab Hours.**

Students conduct studies relating to their professional interest and responsibilities under the direction of a graduate faculty advisor.

**SMED 7994 Thesis/Professional Project in Sports Medicine I****1-3 Credit Hours. 1-12 Lecture Hours. 1-12 Lab Hours.**

Planning and conducting an original research project as a group project or an individual thesis, supervised by the student's thesis committee or project advisor.

**SMED 7995 Thesis/Professional Project in Sports Medicine II****1-3 Credit Hours. 1-12 Lecture Hours. 1-12 Lab Hours.**

Completing and presenting an original research project as a group project or an individual thesis, supervised by the student's thesis committee or project advisor.

**Prerequisite(s):** Satisfactory completion of SMED 7994.