

# Discover EXERCISE SCIENCE

## Program Overview

**Athlete and patient care come together in the active careers of Exercise Science. Learn how the body works, how to design a workout program and how to prevent, treat and rehabilitate athletic injuries with the use of clinical and field evaluations, physical conditioning techniques and various treatment and rehabilitation options.**

The Middletown High School Exercise Science state of the art lab/classroom and fitness facility are filled with the same tools used by professionals in the field. The classroom is designed to simulate real-world equipment and facilities. Learn about Exercise Science by actually doing it and having a hands-on experience.

## Student Organization

Students enrolled in Butler Tech courses at Middletown High School have the opportunity to participate in a variety of career and technical student organizations (CTSOs) at the regional, state and national levels. Students participate in activities designed to expand their leadership abilities, utilize their academic instruction in real-world settings, and encourage them to pursue their education in their career field of interest.

**bt** Butler  
Tech  
in Middletown City  
Schools

## Coursework

- Athletic Injuries and Prevention
- Exercise and Athletic Training
- Fitness Evaluation and Assessment
- Nutrition and Wellness
- Sports Exercise Psychology



**"This class has taught me so much about nutrition and wellness and how to lead a healthier life."**

Student, *Exercise Science*

## Butler Tech Exercise Science Course offerings at Middletown

### Athletic Injuries and Prevention

Students will identify signs and symptoms of injury and apply emergency procedures and techniques used in the immediate care of athletic-related trauma. Students will learn clinical and field evaluative processes, injury prevention techniques, conditioning techniques, treatment, taping, bracing, and rehabilitation of musculoskeletal injuries and conditions. Students will design and implement conditioning programs, including nutritional considerations and ergogenic aids. Emphasis is placed on the synthesis of information gathered through injury history, observation, and manual muscle testing.

### Exercise and Athletic Training

In this, first course students will apply procedures and techniques used in athletic training and in the care and rehabilitation of athletic injuries and therapeutic exercise. Topics include injury prevention, conditioning, and wound care techniques of the musculoskeletal system. Students will learn techniques in the analysis of mechanical factors related to human movement. In addition, current trends, technology, legal considerations, and the role of exercise science in relationship to other health fields will be emphasized.

### Fitness Evaluation and Assessment

Students will complete comprehensive fitness evaluations and develop individualized training programs. Students will administer lab and field tests of cardiovascular endurance, body composition, joint flexibility and muscular strength, power, and endurance. Emphasis is placed on assessing body composition, neuromuscular flexibility, agility, balance, coordination, and proprioception. Additionally, students will identify components of physical fitness and communicate how physical activity impact health and wellness.

### Nutrition and Wellness

Students will increase their knowledge of comprehensive health and wellness. Students will be able to identify the components of fitness and communicate the relationship between physical fitness, physical performance, injury prevention, and nutritional intake. Students will evaluate an individual's state of nutrition based upon the impact of personal choices and social, scientific, psychological and environmental influences. Further, students will calculate an individual's kilocalorie burn rate and recommend an ideal diet and physical fitness plan.

### Sports Exercise Psychology

Students apply practical and theoretical information as it relates to psychology of sport. Students analyze the reciprocal relations among physical activity, exercise behavior, and biochemical and physiological adaptation. Topics include theories of behavior change, exercise psychology interventions, and the relationship between exercise and mental health. Further, students will identify psychosocial determinants and effects associated with adopting and maintaining an exercise program and develop strategies for promoting optimal performance in athletes.

**"This really is a unique opportunity for students to explore a career in exercise science before they even graduate from high school."**

*Instructor, Exercise Science*



*Discover*

**Exercise Science through Butler Tech and pursue a career that's right for you.**

Butler Tech connects high school students to career technical education in more ways than ever. Complete your traditional academic courses in your school and enhance your educational experience with career-focused labs and on-the-job training. Each moment in a Butler Tech career technical course is a step toward building your future.



See your guidance counselor for registration information.

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