



STARK STATE COLLEGE

GENERAL SYLLABUS

Course Information

Course Name: Exercise Applications
Course Number: EXS120

Required Materials

Textbook(s): Houglum, P. A., & Bertoti, D. B. (Eds.). (2016). *Brunnstrom’s Clinical Kinesiology* (6th ed.). F.A. Davis Company;
 Kisner, C., Colby, L. A., & Borstad, J. (2023). *Therapeutic exercise: Foundations and techniques* (8th ed.). F. A. Davis Company.
 Howley, E. T., & Thompson, D. L. (2016). *Fitness Professional’s Handbook* (7th ed.). Human Kinetics.
 Lippert, L. S. (2022). *Clinical kinesiology and anatomy* (7th ed.). F. A. Davis Company;
Lab Manual, Faculty (purchased in the Stark State Bookstore)

Required Readings: See below

Additional Materials: TheraBand Kit

Course Outline/Calendar

The date of coverage and order of coverage may be modified based on the faculty member and events beyond the control of faculty members that interfere with class times and teaching.

Week	Chapter/Topic/Lab
Week 1	Muscle Function: Course Introduction and Neuromuscular control Energy systems Muscle fiber types Motor Unit Structure and function & Sliding filament theory Length Tension Sensory Receptors Advanced Concentric, Eccentric, Isometric

Week	Chapter/Topic/Lab
	<p>Reading Assignments – to be read before and after the lecture: Lecture Notes: A Brunnstrom pp. 84-86, 90-107, 141-146 – The Movement System: Nerve and Muscle Physiology and the Control of Human Movement. Howley pp. 42-48, 65-72 – Functional Anatomy and Biomechanics Lippert Ch. 6 – Muscular System</p>
Week 2	No Class
Week 3	<p>Introduction to Exercise Science: Muscle Lab</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: B Howley pp. 218-220, 330-331, 334-337, 342-347 – Exercise Prescription of Cardiorespiratory Fitness Kisner and Colby pp. 1-5, 24-3 – Therapeutic Exercise: Foundational Concepts</p>
Week 4	<p>Range Of Motion & Stretching</p> <p>ROM Reading Assignments – to be read before and after the lecture: Lecture Notes: C Kisner and Colby Chapter 3 – Range of Motion</p> <p>Stretching Reading Assignments – to be read before and after the lecture: Lecture Notes: D Kisner and Colby Chapter 4 – Stretching for Improved Mobility</p>
Week 5	<p>Stretching & Strengthening</p> <p>Stretching Reading Assignments – to be read before and after the lecture: Lecture Notes: D Kisner and Colby Chapter 4 – Stretching for Improved Mobility</p> <p>Strengthening Reading Assignments – to be read before and after the lecture: Lecture Notes: E Howley pp. 179-190, 257-275, 344-347 – Assessment of Muscular Fitness; Exercise Prescription for Muscular Fitness, Exercise and Older Adults Kisner and Colby Chapter 6 – Resistance Exercise for Impaired Muscle Performance Brunnstrom pp. 135-141 – Muscle Activity and Strength Lippert Ch. 6 – Muscular System</p>
Week 6	Strengthening

Week	Chapter/Topic/Lab
	<p>Reading Assignments – to be read before and after the lecture: Lecture Notes: E Howley pp. 179-190, 257-275, 344-347– Assessment of Muscular Fitness; Exercise Prescription for Muscular Fitness, Exercise and Older Adults Kisner and Colby Chapter 6 – Resistance Exercise for Impaired Muscle Performance Brunnstrom pp. 135-141– Muscle Activity and Strength</p> <p>Lippert Ch. 6 – Muscular System</p>
Week 7	<p>Balance and Proprioception</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: F Kisner and Colby Chapter 8 – Exercise for Impaired Balance</p> <p>Aerobic Exercise (7D23h) (7D24a)</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: G Kisner and Colby Chapter 7 – Principles of Aerobic Exercise Howley pp. 72-76, 82-85, 132-145, 148-153 – Exercise Physiology, Exercise Prescription of Cardiorespiratory Fitness</p>
Week 8	<p>Finish Aerobic Exercise</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: G Kisner and Colby Chapter 7 – Principles of Aerobic Exercise Howley pp. 72-76, 82-85, 132-145, 148-153 – Exercise Physiology, Exercise Prescription of Cardiorespiratory Fitness</p>
Week 9	<p>Exercises for the Shoulder</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: H Kisner and Colby pp. 616-63 – The Shoulder and Shoulder Girdle</p>
Week 10	<p>Exercises for the Elbow/forearm, Wrist/hand</p> <p>Reading Assignments – to be read before and after the lecture: Lecture Notes: I Kisner and Colby pp. 669-677, 725-732 – The Wrist and Hand</p>
Week 11	<p>Exercises for the Trunk</p>

Week	Chapter/Topic/Lab
	Reading Assignments – to be read before and after the lecture: Lecture Notes: J Kisner and Colby pp. 517-519; 522-525, 533-56 – The Spine: Exercise and Manipulation Interventions
Week 12	Exercises for the Pelvis/hip Reading Assignments – to be read before and after the lecture: Lecture Notes: K Kisner and Colby pp. 775-788 The Hip
Week 13	Exercises for the Knee Reading Assignments – to be read before and after the lecture: Lecture Notes: L Kisner and Colby pp. 860-870 – The Knee
Week 14	Exercises for the Ankle Reading Assignments – to be read before and after the lecture: Lecture Notes: M Kisner and Colby pp. 920-92 - The Foot and Ankle
Week 15	Review No Reading
Week 16	Finals