

Moravian College
Health Sciences Program
Department of Rehabilitation Sciences
Spring 2016

Course Number: HLTH 360: Exercise Physiology

Units: 1 Unit

Class Meeting: MWF 7:30 – 8:40 am

Professor: James R. Scifers, DScPT, PT, SCS, LAT, ATC

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Office Hours: MWF 10:15-11:15 am, TR 9-10 am

Course Description:

This course is an introductory course in exercise physiology. It will introduce certain concepts of the “how and why” the body responds to both acute and chronic exercise stress. Topics will include exercise metabolism, respiration, circulation, neuromuscular, hormonal, and environmental influences on exercise.

Course Objectives:

1. Understand the function of various systems of the body during exercise
2. Describing the adaptations of various systems of the body after exercise of various lengths and intensities
3. Demonstrate, supervise and prescribe appropriate resistance training, aerobic, and anaerobic programs
4. Identify nutritional needs of athletes and be able to develop nutritional strategies that support proper health and nutritional intake
5. Implement psychosocial strategies in stress reduction and performance enhancement

Required Texts:

Wilmore, J., Costill, D., & Kenney, L. (2012). Physiology of Sport and Exercise (6th edition).
Champaign: Human Kinetics.

Referenced Texts:

Baechle, T. & Earle, R. (2008). Essentials of Strength Training and Conditioning, Champaign:
Human Kinetics.

Houglum, PA (2010). Therapeutic Exercise for Athletic Injuries, Champaign: (3rd Edition)
Human Kinetics.

ACSM's Health-Related Physical Fitness Assessment Manual. (3rd Edition). Lippincott Williams
& Wilkins.

Ellenbecker T, DeCarlo M, & DeRosa C. Effective Functional Progressions in Sports
Rehabilitation. Human Kinetics, 2009.

Class / Lab:

Many class sessions will involve the completion of lab activities related to the recorded lecture materials. All such lab sessions require observation, participation and demonstration of skills appropriate to strength training, conditioning exercise, and functional athletic rehabilitation. Proper attire is required for all lab sessions. Proper attire varies from one session to the next, however clothing should be modest in design while allowing for performance of a variety of physical activities. No grade is awarded for class / lab participation, however all students are required to be present and prepared to participate during all class and laboratory activities. Information presented during labs will be included on written exams and quizzes.

Exams & Quizzes:

There will be four written exams during the course. The exams will consist of multiple-choice questions, short answer and essay questions. No examinations may be made up without prior approval of the professor. Unexcused absence from a scheduled exam will result in a grade of zero (0) for the exam. Each day the class meets, a five-point quiz will be administered at the start of class. The content of this quiz will be drawn from the recorded lecture assigned for that day.

Cheating or dishonesty with regard to any graded assignment or exam may result in failure of the course. This includes discussion of any portion of any class assignment or assessment with anyone other than the examiner prior to the exam's completion.

Grading:

Exams (4)	100 points each	400 points
Quizzes (30)	5 points each	150 points
Total Points		550 points

Grading is based on a total points received / total points possible system. The points assigned to each assessment are subject to change. The following grading scale will be used to determine the final course grade:

90% to 100%	A
87% to 89%	B+
80% to 86%	B
77% to 79%	C+
70% to 76%	C
67% to 69%	D+
60% to 66%	D
Below 60%	F

Blackboard:

This course will be web-enhanced with a Blackboard component. Course information will be posted on this site. Students are highly encouraged to log onto Blackboard on a daily basis to access course materials and to check important announcements concerning the course. Students who fail to access Blackboard on daily basis are subject to missing important changes and announcements regarding the course which could negatively impact the student's overall course performance.

Expectations / Guidelines:

Attendance:

The classroom is the center of College Life and students are expected to attend all classes and laboratory sessions. In the case of an absence (excused or unexcused), the student is responsible for all material presented and assigned. Additionally, students are required to submit any, and all, materials due, that day, in advance. Attendance at all class sessions is required. Failure to attend all class sessions without an excused absence will result in ten (10) points being deducted from the student's final grade for each unexcused absence. In addition, students who arrive to a class or lab after the session has begun will lose ten (10) points from his/her final grade in the course for each day late. In the case of student tardiness, faculty have the right to ask a student to leave class for the day. It is expected that if this were to occur, students will remain professional and honor the professor's request without causing further disruption. More information regarding the Moravian College Attendance Policy can be found at:
<http://home.moravian.edu/public/catalog/academic/academic09.html>

Assignments: *"Everything is negotiable before but very little is negotiable after the fact."*

Assignments not completed on time will result in a grade of zero for the assignment. No late work will be accepted. Assignments are due at the beginning of class on the due date. Emergencies do arise and make-up work may be negotiated with the instructor (at his discretion) although the grade will ordinarily reflect the lateness. Any deviation from this policy is at the discretion of the course instructor. Absolutely no assignments will be accepted electronically unless previously approved by the professor.

Technology Issues:

We are all aware that although technology enhances our academic lives, it is not infallible. Technology failure, including but not limited to, printer failure, lack of ink for the printer, network disruptions, Blackboard system disruptions and personal computer failure are not excuses for late or missing assignments. Students should not ask faculty or staff to print or copy assignments for them. Technology issues can best be avoided by completing work at an appropriate length of time prior to the due date. If students are experiencing technological difficulties or disruptions, they should notify the instructor at least 24 hours prior to the due date/time.

Laptop Computers:

Moravian College and the Department of Rehabilitation Sciences have a laptop requirement for all students. Periodically, students will be requested to bring his/her laptop to class to complete classroom activities or examinations on-line. Students who fail to bring a computer on the days required will earn a zero (0) on that assignment or class participation grade for the day. Examinations not completed in class at this time, without prior professor approval, will not be allowed to be made up.

Cell Phones:

Cell phones in class or lab are disruptive and considered unprofessional. Cell Phones are not permitted in any class or laboratory sessions. Students who bring cell phones into classes or laboratory sessions will be dismissed from class and subject to a 10 point deduction from their final grade in the course for each occurrence. Please discuss with the professor, in advance, any extenuating circumstance in which a student feels that a cell phone is required.

Hands on Practice Time:

The use of hands-on practice time outside of class is a critical part of the students understanding of the material presented. Appropriate use of the hands-on time during and after all class sessions is essential to mastering the skills and successfully completing the examinations throughout the semester. The skills taught in the course require practice to perfect and therefore, students will be expected to perform the procedures on each other for practice during and outside of class.

Professional Attitude & Attire:

This is essential in all aspects of the course. Of particular importance is your sensitivity and professional attitude. This includes being prompt to class, dressing professionally and appropriately and conducting oneself in a professional manner at all times. Proper attire is required for all class and lab sessions as directed by the instructor. Proper attire may vary from one session to the next; however typical lab attire includes clothing that is modest in design while allowing for exposure of the spine and extremities. Information presented during class / labs will be included on exams and quizzes. Students who fail to demonstrate appropriate behaviors in any portion of this course or are not dressed in appropriate lab attire are subject to removal from the class session and will be counted as absent for the day.

Written Communication:

A critical skill practiced in this course is written communication that is convincing and appropriate. Students can demonstrate this skill by meeting high standards of clarity and correctness in the written work they submit in this course. The evaluation of written assignments considers content, style, grammar, spelling and punctuation. Students are expected to maintain high standards of expression and presentation in all submitted work and correspondence. No assignments may be submitted via electronic mail without the prior approval of the professor. In addition, contacting the professor by electronic mail, text, or other electronic means regarding attendance issues is not acceptable. Discussion regarding attendance, illness and schedule conflicts should be handled in person or by phone.

Sexual Harassment:

During this course, there will be numerous laboratory and hands-on sessions that may include physical examination techniques. Students are reminded to conduct oneself in a professional manner at all times during these activities. If a student feels that there is any inappropriate or unwelcome behavior that is of a sexual nature, on the part of the instructor, graduate assistant, lab assistant or peers, the student should notify the course instructor immediately. If the complaint is in regards to the course instructor, the issue should be addressed to the Chair of the Department of Rehabilitation Sciences or the Dean of the College of Sciences & Health Sciences. All complaints will be documented, in writing, and action will be taken to prevent further harassment from occurring. Actions with regard to sexual harassment may be in the manner of a formal complaint procedure or in the manner of informal assistance.

Accommodations for Students with Disabilities:

Students who wish to request accommodation in this class for a disability should contact the Academic Support Center, located on the lower level of Monocacy Hall, or by calling 610.861.1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

Electronic Mail:

Students are expected to check their Moravian College electronic mail accounts on a daily basis (including vacations and holidays). All important class information is sent via electronic mail to Moravian College accounts only. Additionally, class announcements MAY be placed on Blackboard. Students are responsible for all communication sent via electronic mail. Failure to check electronic mail is not an acceptable excuse for failure to meet / complete class assignments. No assignments may be submitted via electronic mail without the prior approval of the professor. In addition, contacting the professor by electronic mail regarding attendance issues is not acceptable. Discussion regarding attendance, illness and schedule conflicts should be handled in person or by phone.

Electronic mail communication can be a valuable tool in rapidly relaying and receiving information. Students should remember that all communication (electronic mail, phone and in-person) with faculty and staff within and outside the Department of Rehabilitation Sciences, should be handled professionally. A professional e-mail message includes the use appropriate grammar, spelling and punctuation. Text messaging, instant messaging and the use of social media are appropriate methods of communication between student groups, however these tools should not be used for professional communication with faculty or staff within or outside the Department of Rehabilitation Sciences unless initiated by a faculty or staff member.

Office Hours:

The professor for this course will be available for regularly scheduled office hours. All other times are available by chance or appointment. The professor may be contacted in person, by phone or by electronic mail to ask questions or schedule appointments. Drop-in appointments are welcomed; however, availability may be limited due to the professor's teaching, clinical or administrative schedule. Attempts will be made to return all e-mail and voice mail messages within 24 hours (weekdays) or by the next Monday (on weekends). If you do not receive a response to an electronic mail message within 24 hours, please assume the message did not reach the professor and resend the original message. Please limit calls to the professor's cell phone to emergencies only.

Academic Integrity:

Moravian College expects its students to perform their academic work honestly and fairly. A Moravian student, moreover, should neither hinder nor unfairly assist other students in efforts to complete their own work. This policy of academic integrity is the foundation on which learning at Moravian is built.

The College's expectations and the consequences of failure to meet those expectations are outlined in the current *Student Handbook*, and in the *Statement on Academic Honesty at Moravian College*, available from the Office of the Provost. If a student, at any point in an academic career at Moravian, is uncertain about his or her responsibility as a scholar or about the propriety of a particular action, the instructor should be consulted.

Academic dishonesty is a serious offense because it threatens the quality of scholarship and defrauds those who depend on knowledge and integrity. Academic dishonesty includes the following:

- A. Cheating. Intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
- B. Fabrication. Intentional falsification or invention of information or citation in an academic exercise.
- C. Plagiarism. Intentionally or knowingly representing the words or ideas of someone else as one's own in an academic exercise.

D. Facilitation of Academic Dishonesty. Intentionally or knowingly helping or attempting to help someone else to commit an act of academic dishonesty, such as knowingly allowing another to copy information during an examination or other academic exercise." This includes any discussion of examination or practical examination content with other students enrolled in the course or academic program.

Cheating, plagiarism or dishonesty with regard to any graded assignment or examination will typically result in failure of the course.

Department of Rehabilitation Sciences Examination Policy:

The following examination policies have been implemented to limit academic dishonesty, to assure exam integrity and to maintain a fair testing environment for all students enrolled in Courses within the Moravian College Department of Rehabilitation Sciences. Students who require testing accommodation(s) should meet with the course instructor prior to the test administration date to discuss how accommodations will be honored without jeopardizing exam integrity.

1. Food and drinks (including water) are not permitted in the classroom, laboratory or computer lab where the exam is being administered. All such items should be left in the area designated by the exam proctor prior to being seated for the examination.
2. Electronic devices (including, but not limited to, cell phones, MP3 players, cameras and calculators) are not permitted in the classroom, laboratory or computer lab where the exam is being administered. All such items should be turned off and left in the area designated by the exam proctor prior to being seated for the examination. If a calculator is required for the examination, the exam proctor will notify students of this prior to the beginning of the examination.
3. Personal items such as hats, scarves, jackets and outerwear must be removed and stored in the area designated by the exam proctor prior to being seated for the examination.
4. If necessary, during computerized testing, the examination proctor will supply students with blank scratch paper. At the conclusion of the examination, all notes taken by the student during testing will be turned in to the exam administrator.
5. Students may be asked by the test administrators to empty their pockets.
6. Students will not have access to your personal items during the test.
7. Students are not permitted to leave and re-enter the classroom, laboratory or computer lab where the exam is being administered without permission of the exam proctor. In general, students should plan to remain in the classroom, laboratory or computer lab where the exam is being administered throughout the examination period. Therefore, students should attend to all personal needs prior to initiating the exam.
8. Students will not be allowed to enter the classroom, laboratory or computer lab where the exam is being administered once examination materials have been distributed.
9. Students may be assigned a seat for each examination.
10. At the conclusion of the examination, all exam materials (including test booklets, exams, scratch paper, answer sheets, etc.) will be returned to the exam proctor. Under no circumstances, may any examination materials be removed from the classroom, laboratory or computer lab where the exam is being administered.

Violation of any of the examination policies is grounds for dismissal from the testing area, failure of the examination and failure of the course.

Spring 2016 Course Schedule

<u>Date</u>	<u>Day</u>	<u>Assigned Reading</u>	<u>GTM Topic</u>	<u>F2F Topic</u>
1/8	M	Review Course Syllabus / Course Expectations		
1/20	W	Wilmore Chapter 1	Functional Anatomy of Skeletal Muscle	Fitness Assessment Lab
1/22	F	Wilmore Chapter 1	Skeletal Muscle Fiber Types	No Class: On-Line Assignment Only
1/25	M	Wilmore Chapter 20	Exercise Prescription	Program Design Lab
1/27	W	Wilmore Chapter 20	Exercise Programming	Principles of Exercise Training Lab
1/29	F	Wilmore Chapter 9	Strength Training Terminology	Resistance Training Lab
2/1	M	Wilmore Chapter 9	Strength Training Techniques	Olympic Lifts & Spotting Techniques Lab
2/3	W	Wilmore Chapter 10	Adaptations to Resistance Training	Periodization Lab
2/5	F	Wilmore Chapter 10	Adaptations to Resistance Training	No Class: On-Line Assignment Only
2/8	M	Wilmore Chapter 11	Adaptations to Aerobic Training	Core Strengthening Lab
2/10	W	Wilmore Chapter 11	Adaptations to Anaerobic Training	Endurance & Sprint Training Lab
2/12	F	None	None	Review for Exam One
2/15	M	Exam One		
2/17	W	Wilmore Chapter 6	Cardiac Anatomy	Cardiorespiratory Lab
2/19	F	Wilmore Chapter 6	Vascular Anatomy	Lower Extremity Plyometrics Lab
2/22	M	Wilmore Chapter 7	Pulmonary Ventilation	Upper Extremity Plyometrics Lab
2/24	W	Wilmore Chapter 7	Oxygen Transport	VO2 Max Testing
2/26	F	None	None	VO2 Max Testing
2/29	M	Wilmore Chapter 8	Cardiac Changes During Exercise	Sudden Cardiac Death Lab
3/2	W	Wilmore Chapter 8	Respiratory Changes During Exercise	Respiratory Assessment Lab
3/4	F	Wilmore Chapter 21	Cardiovascular Disease	No Class: On-Line Assignment Only
3/7	M	Spring Break: No Class		
3/9	W	Spring Break: No Class		
3/11	F	Spring Break: No Class		
3/14	M	Wilmore Chapter 21	Exercise in Patients with CV Disease	Review for Exam Two
3/16	W	Exam Two		

<u>Date</u>	<u>Day</u>	<u>Assigned Reading</u>	<u>GTM Topic</u>	<u>F2F Topic</u>
3/18	F	Wilmore Chapter 2	Metabolism I	Running Form
3/21	M	Wilmore Chapter 2	Metabolism II	Strength Training for Runners
3/23	W	Wilmore Chapter 3	Nerve Physiology	Reaction Drills Lab
3/25	F	Easter Break: No Class		
3/28	M	Wilmore Chapter 3	Nervous System Anatomy	Agility Drills Lab
3/30	W	Wilmore Chapter 4	Hormone Regulation During Exercise	Lower Extremity Power Lab
4/1	F	Wilmore Chapter 5	Energy Expenditure	Upper Extremity Power Lab
4/4	M	Wilmore Chapter 5	Fatigue	Functional Movement Screening Lab
4/6	W	Wilmore Chapter 12	Jet Lag	Exercise in Hot Environments
4/8	F	Wilmore Chapter 13	Exercise At Altitude	No Class: On-Line Assignment Only
4/11	M	NATA Position Statement: Lightning	Lightning Safety	Exercise in Cold Environments
4/13	W	Wilmore Chapter 14	Overtraining & Detraining	Review for Exam Three
4/15	F	Exam Three		
4/18	M	Wilmore Chapter 15	Body Composition & Wt. Gain / Loss	Body Composition Lab
4/20	W	Wilmore Chapter 17	None	Youth Athletes
4/22	F	Wilmore Chapter 18	None	Senior Athletes
4/25	M	NATA Position Statement: Fluid Replace.	Hydration & Fluid Replacement	Imagery & Visualization Lab
4/27	W	Wilmore Chapter 16	Ergogenic Aids	Psychological Aspects of Training Lab
4/29	F	Wilmore Chapter 22	Obesity & Diabetes	Review for Exam Four
5/4	W	FINAL EXAM – EXAM FOUR (8-10 AM)		