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HHP 483.01: Prevention, Detection and Exercise for Coronary Heart Disease and Chronic Disease

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**Prevention, Detection and Exercise for Coronary Heart Disease and Chronic Disease
HHP 483- Fall 2001, Tu, Th, 12:40pm-2:00pm, McGill Hall 107**

**The University of Montana
Department of Health and Human Performance**

Dr. Steven Gaskill

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OFFICE HOURS - Fall 2001,

9-11am Monday

8-9 Thursday or by appointment

Course Description:

This course is designed to offer students a general understanding of the procedures involved in exercise evaluation, testing and exercise prescription in individual at risk of, or with known Cardiovascular disease (CVD) and other chronic diseases that are influenced by exercise. By integrating this course (483) with the laboratory course (484), Students will gain a level of competence that will better prepare them for further study or work in clinical exercise physiology, cardiac and chronic disease rehabilitation. In addition, students will be prepared to take the American College of Sports Medicine Exercise Test Specialist Exam. Though the course focuses on CVD, related topics involved in the risk factor analysis of CVD including diabetes, hypertension, cholesterol and other risk factors will be discussed. In addition a wide range of chronic diseases where may be positively effected by exercise are discussed. Students will learn how to perform graded exercise tests and read ECGs for the purpose of diagnosing coronary heart disease.

Course Objectives:

To acquire,

1. A brief understanding of the risks and benefits of exercise prescription and graded exercise testing.
2. Competence in the area of clinical chronic disease exercise physiology and to be able to differentiate this from applied exercise physiology.
3. An understanding of the effects of CVD and chronic disease on exercise performance and the necessary considerations for exercise prescription.
4. An in-depth understanding of the reasons and guidelines for graded exercise testing in apparently healthy populations with CHD risk factors and other chronic diseases.
5. An understanding of the cardiac cycle and basic ECG analysis.
6. An in-depth ability to provide appropriate exercise prescription for apparently healthy individuals, cardiac patients, and special populations.
7. The necessary learning objectives required for the American College of Sports Medicine certification programs (Health and Fitness Instructor and Exercise Test Technologist - See objective list in course facpac).

Instructional Format :

Two 80 minute lectures/week consisting of lecturer instruction of academic material. At least one to two class periods will be devoted to a guest lecturer that works in the clinical/corporate sector. Lectures will be a combination of basic material and practical applications. Students are expected to do all required readings before class so that the lecturers can fill in details and add additional material.

Grading:

The percentage grade will be calculated from the total points earned from three unit examinations for the UG students. In addition to these requirements, G students will present an oral report after visiting two cardiac rehabilitation sites here in western Montana (locations to be determined at a later date).

Written Exams	- 100 points each	x	3	300 points
Quizzes	- 10 points each	x	10 (best of 12)	100 points

Case Studies	- 25 points each	x	2	50 points
Graduate Site Report	- 100 points			100 points

Letter grades will be established as follows, based on the total points:

UG	A	90 - 100 % (405-450 points)	G	A	90-100 % (495-550 points)
	B	80 - 90 % (360-404 points)		B	80-90 % (440-494 points)
	C	70 - 80 % (355-359 points)		C	70-80 % (385-439 points)
	D	60 - 70 % (270-314 points)			
	F	below 60 % (below 269)			

Expect exam questions to come from the lecture (60%), assigned scientific articles on reserve in Mansfield Library (10%), and textbook information (30%).

Quizzes cover assigned reading material assigned since the last quiz or test and will be given only during the first 5 minutes of class (i.e., they will be handed out at 12:40pm and collected at 12:45). Quizzes cannot be made up without exceptional cause or advance notice.

Details for the graduate reports will be distributed later.

Required Texts: It is imperative that you have the required text for this course. Class material will supplement the text, but students are expected to read all required material. Quizzes will cover required reading up to that date-including assigned scientific articles on reserve in Mansfield Library.

1. **ACSM Resource Manual for Guidelines for Exercise Testing and Prescription, Third Edition.**
Edited by the American College of Sports Medicine: Lea & Febiger, 1998
2. FacPac - Notes for most lectures are included in this packet. Available at the bookstore.

Assigned Scientific Articles:

These are on reserve in Mansfield Library. 2 copies are available and can be checked out (for use in the reserve area or to be copied) for short periods of time. There are required reading and will be tested, both on quizzes and exams.

Case Studies:

Students will receive two case studies and have about 3-4 weeks to work on the report. The topics will be handed out and due as noted in the schedule. These will include information on a patient, data, etc. You will be given specific instructions concerning what you need to write up. In general, you will be analyzing data from a patient, determining if further exercise testing is necessary, making a diagnosis and writing an exercise prescription. Reports will be 3-5 typed, double spaced (10-12 point font with 1 inch margins) and will require some additional research. One report will be done individually and students will work within groups of three -four for the 2nd case study. Exceptional reports may be given bonus points.

Course Evaluation:

Students will be advised to critically evaluate the course content, requirements, lecture format, and instructor to ensure future improvements. An official university student-evaluation form will be provided during the last full week of instruction before finals.

483-COURSE OUTLINE

**Note: Guest Lectures will be presenting some material and syllabus is subject to change
PLEASE READ ASSIGNED READING BEFORE CLASS - QUIZZES WILL COVER THE READING!**

1	9/4	Introduction/class syllabus overview Surgeon's General Report – Benefits of exercise. Health Appraisal, Risk Assessment, and Safety of Exercise <i>Physical Activity and Health-A report of the Surgeon General</i>	Chpt 1 Article 1
2	9/6	Exercise testing / prescription in healthy populations <i>ACSM Position Stand- The recommended Quantity and Quality of Exercise for developing and maintaining cardiorespiratory and muscular fitness and flexibility in healthy adults.</i>	Chpt 7 Article 2
3	9/11	EKG Assessment <i>Dubin's Method for Reading EKG's -Summary- (You should copy this)</i>	Appendix C Article 3
4	9/13	EKG Assessment, cont. <i>A basic approach to the interpretation of the Exercise test, Evans</i>	Article 4
		(Case study 1 handed-out)	
5	9/18	Atherosclerosis Myocardial Infarction, Myocardial Ischemia Surgical Interventions: CABG and PTCA... etc <i>Primer in Preventive Cardiology-Biology of Atherosclerosis, St. Claire</i>	Article 5
6	9/20	Risk Factor Assessment Smoking and smoking cessation <i>Who needs an Exercise Stress Test</i>	Chpt 2 Article 6
	9/25	No Class - HHP Faculty Retreat	
7	9/27	Risk Factors-Cholesterol and blood lipids Case Study 1 DUE	Chpt 3
8	10/2	Risk Factors-Blood Pressure Obesity (secondary risk factor) <i>Physical Activity, Body Weight and Adipsity..DiPietro</i> <i>ACSM Position Stand - PA, Phy. Fitness and Hypertension</i>	pg 39, pgs 101-103 pgs 206-208 Article 7 Article 8
9	10/4	Risk Factors-Diabetes <i>ACSM Position - Exercise and Type 2 Diabetes</i>	pgs 212-214 Article 9
10	10/9	Sedentary Lifestyle Non-modifiable risk factors (age and family history) <i>Leisure-Time Physical Activity Levels and Risk of CHD, Leon</i>	Article 10
11	10/11	Exam #1	
12	10/16	Peripheral Vascular Disease <i>Intermittent Claudication-Hirsch and Munnings</i>	pgs 208-212 Article 11
13	10/18	Basic Cardiorespiratory Fitness Assessments	Chpt 4
14	10/23	Testing in High Risk populations EKG - Exercise Testing and Interpretation	Chpt 5 Chpt 6

Case Study 2 Handed out

15	10/25	Metabolic Calculations	Appendix D
16	10/30	Cardiac Rehabilitation <i>Cardiac Rehabilitation as Secondary Prevention.., Smith</i> <i>Cardiovascular Rehabilitation: Status 1990, Squires</i>	Chpt 8 Article 12 Article 13
17	10/1	Exercise Prescription - Cardiac Populations <i>Effects of Exercise Conditioning on Physiologic Precursors...Leon</i>	Article 14
18	11/6	Exercise in the Elderly <i>Physical Activity in the Elderly: Benefits and Intervention...</i> Adherence to Exercise older adults	Chpt 11 pgs 223-230 Article 15
19	11/8	Asthma, Exercise Induced Bronchospasm , Pulmonary Disease ACSM Stand-Exercise and physical activity for <i>Exercise-Induced Asthma-A Practical Guide...-Weiler</i>	Chpt 9 Article 16
20	11/13	Exam #2	
21	11/15	Obesity <i>Am. Heart Assoc call to action-Obesity...Eckel et.al</i>	pgs 214-216 Article 17
22	11/20	Arthritis	
23	11/27	Osteoporosis <i>ACSM Position Stand on Osteoporosis and Exercise.</i>	Article 18
24	11/29	Environmental Factors	Appendix E
25	12/4	Spinal Cord Injuries	
26	12/6	Health Behavior Change and Exercise Adherence	Chpt 12
Case Study #2 due			
27	12/11	Medications and effect on exercise <i>Randomized trail of cholesterol lowering in 4444 patients</i>	Look over Appendix A Article 19
28	12/13	Emergency Procedures Legal Issues	Appendix B Chpt 13
30	12/18,	3:20-5:20pm FINAL EXAM (Exam 3) (80% over last third of class, 20% cumulative)	