Department of Kinesiology
KINE 5500 & 6500
Exercise Technology I
Fall 2010

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COURSE DESCRIPTION

This course has been designed to introduce and develop knowledge, skills, and abilities that are necessary to function as an exercise professional in fitness and clinical exercise settings. Exercise Technology I is the first of two ***Exercise Technology*** courses designed to prepare students to pass certification examinations for the ***American College of Sports Medicine*** **(ACSM)*, Health/Fitness Specialist* (HFS).** The course will also provide information and hands on experience which may assist in preparation for certifications from the ***National Strength and Conditioning Association*** or the ***American Council on Exercise.***

Lectures will address the principles of common physical assessments used in clinical and fitness settings, the selection of appropriate assessments, results interpretation and the application of assessment results for exercise prescription and chronic disease risk reduction. Laboratory experiences are designed to develop competencies in physical assessments. Laboratory experiences will include health screening and risk of physical exertion, body composition, musculoskeletal fitness, pulmonary function, cardiovascular function, and exercise tests for functional capacity and cardiovascular fitness.

COURSE OBJECTIVES

After this course, you will be able to:

1. Explain and discuss the underlying principles and rationale for health and fitness screening, blood profile analysis, measurements of heart rate and rhythm, blood pressure, graded exercise testing, body composition, and musculoskeletal fitness.

2. Select optimal pre-test screening instruments for determining the appropriateness of exercise, exercise testing, and cardiovascular disease risk stratification

3. Use direct and indirect techniques to assess muscular strength, flexibility, and endurance

4. Assess body density and estimate body composition using skin fold methods, bioelectrical impedance and anthropometrical techniques

5. Estimate systolic and diastolic blood pressures at rest and during exposure to various environmental stressors using a stethoscope and sphygmomanometer

6. Conduct sub-maximal graded exercise tests for the purpose of examining cardiovascular responses to exercise and determining exercise capacity

7. Demonstrate proficiency using regression equations, nomograms and metabolic calculations to determine body composition, estimates of cardiovascular capacity, exercise energy expenditure and exercise workloads.

8. Interpret assessment results using appropriate norm- referenced standards

9. Prescribe appropriate exercise intervention strategies using the physiologic measures described above

COURSE REQUIREMENTS

All students entering this course should have already completed degree core requirements in anatomy and physiology and must be able to demonstrate competencies in the "General Population/Core" knowledge, skills and abilities (KSAs) 1.1.1 to 1.1.43 (see Appendix D, pp. 326 - 328 in the ACSM's Guidelines for Exercise Testing and Prescription 8th Edition and the Appendix, pp. 821 – 822 in the ACSM's Resource Manual 6th Edition).

Co-requisites for this course include KINE 3680: Exercise Physiology and current certification in Basic Life Support/Cardiopulmonary Resuscitation (BLS/CPR). (NOTE: You can update your current BLS/CPR certification through several resources, including on-line at http://www2.nursetesting.com/courses/bls/)

General Expectations: You are expected to access the course website on **Blackboard** on a regular basis in order to obtain lab reports and some assigned readings. You are expected to read the assigned chapters, class handouts and laboratory instructions PRIOR to data collection for lab experiences. In addition, you are expected to keep up with assignment postings on this syllabus, due-dates and your assignment grades.

Attendance: It is important that you attend each class session and are punctual. Your attendance in this class is mandatory. If you have to miss class for any reason, you should inform the instructor 24 hours in advance, if possible. If the absence is due to an emergency, I expect you to inform the instructor as soon as possible. If the absence is a documented excused absence it will not count against your grade. Excused absences are defined in the Tiger Cub Student Handbook. Unexcused absences will result in a twenty five point (-25 pts), ¼ letter grade, deduction in your course point total. Six unexcused absences will result in an FA in the class. ***Exams and laboratory experiences will not be repeated! (The exception to this policy is if you have a documented excused absence.)***

Participation: You are expected to come to class prepared to participate in lab experiences. This means wearing appropriate attire (e.g., shorts, t-shirt and jogging shoes, swim-wear and a towel for body composition analysis) and bringing a calculator and the appropriate laboratory handouts to every class.

Accommodations: Students who need accommodations are asked to arrange a meeting with me during my office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternative time can be arranged. To set up this meeting, please contact me by e-mail. Bring a copy of your *Accommodation Memo* and an *Instructor Verification Form* to the meeting. If you do not have an *Accommodation Memo* but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096.

Honesty Code: The University Academic Honesty Code and the Tiger Cub Rules and Regulations pertaining to cheating will apply to this class.

5500/6500 TEXTBOOKS

ACSM. ACSM's Guidelines for Exercise Testing and Prescription. **Lippincott, Williams & Wilkins, 8th Edition, 2009, ISBN 0-7817-6903-7**

ACSM. ACSM's Resource Manual for Guidelines for Exercise Testing & Prescription. **Lippincott, Williams & Wilkins, 6th Edition 2009, ISBN 0-7817-6906-8**

ACSM. ACSM's Health-Related Physical Fitness Assessment Manual. **Lippincott, Williams & Wilkins, 2nd Edition, 2007 , ISBN 0-7817-7549-6**

C. Dunbar & B. Saul. ECG Interpretation for the Clinical Exercise Physiologist. **Lippincott, Williams & Wilkins, 1st Edition, 2009, ISBN 0-7817-7865-4**

ACSM. ACSM's Certification Review. **ACSM, Lippincott, Williams & Wilkins, 3rd Edition, 2009, ISBN 0-7817-6901-3**

EVALUATION

You may earn up to 1000 total points in this course. Your individual evaluation will be based on the total points you earn throughout the course. For example, an "A" = 900 total points earned or 90%, a "B" = 800 - 899 points earned or 80 - 89%, a "C" = 700 - 799 points earned or 70 - 79%.

Grade Descriptions

A (90.0-100%): Excellent: A full "A" grade reflects superior knowledge and understanding of the material covered in this course. This grade also reflects demonstrated excellence in all of the skills and abilities outlined and covered in laboratory assignments. In order to receive an "A" you must go beyond simply repeating material covered in lecture, laboratory work or your assigned reading. There is usually a distinct difference between "repetition" and "understanding." To get an "A" answer you must go beyond this, showing that you understand and can integrate all of the material by adding further content, linkages to additional concepts, and similar material not directly covered in the lecture, laboratory work, and assigned readings. It must be noted that grades of 100 percent are very rare, and reflect perfection - that is, such an answer could not be improved in any way, there are no factual errors in the answer, nothing important has been left out, and you have done an incredible job of demonstrating an understanding of the material and its relationship to other important concepts or theories. A grade of 90 percent reflects work that has achieved all of the assigned goals, without any notable omissions or factual errors and has demonstrated a level of understanding beyond that required of the assignment. A grade of 90 percent is still considered a full "A" and reflects superior understanding - above and beyond the repetition of lecture notes and assigned readings - and the ability to demonstrate excellence in all of the skills and abilities included in laboratory assignments.

B Range (80.0-89.9%): Good – Above Average: A "B" grade reflects work that is good and above average, but that is not good enough to reach the "A" range. Typical reasons include important omissions in the answer (leaving out concepts or ideas that really need to be there) or factual errors, perhaps from following the "shotgun approach" (write down everything you think you know about the subject, in the hope that I will find what I am looking for in your response), and/or demonstrating skills and abilities that are very good but not perfected. Remember, even if your answer includes the correct material the instructor is looking for, also including incorrect or inappropriate material indicates that you do not understand the material at the "A" level. A grade of 80 to 89.9 percent reflects work that has achieved all of the assigned goals, but has not adequately demonstrated a level of understanding or performance beyond that required of the assignment.

C Range (70.0-79.9%): Average: A "C" grade reflects work that is average at best. Such a grade typically indicates work that reflects a basic understanding of many of the concepts involved in the assignment, but does not address or integrate these concepts in a very satisfactory manner. "C" assignments are generally not very well organized or written, often contain important errors of fact, important omissions from an answer, and/or demonstrated skills and abilities that may pass review but; otherwise, will not distinguish you as an exceptional health practitioner.

D Range (60.0-69.9%): Below Average: A "D" grade reflects work that is below average. In general, such a grade reflects performance that is not worthy of credit toward graduation with a health promotion degree. A “D” indicates that that you do not possess a basic understanding of the assigned material, and often reflects a very poorly organized and written argument or repeated lack of professional skills and abilities. In addition to common errors of fact and frequent omissions of relevant material, and poor performance of skills and abilities, assignments rarely reflect much independent thought beyond simply trying to repeat – and often incorrectly - material from the lecture, assigned readings, and laboratory work.

F (below 60.0%): Unacceptable: An "F" grade reflects work that is completely unacceptable. Such work usually shows little resemblance to the assignment, whether because you left out large parts of the assignment, didn't bother to complete the assignment, acquired information from some other source that was written for a different assignment, and/or you fail to demonstrate the professional skills and abilities required for basic competency.

There are 3 categories in which you may earn 1000 course points: 1) course notebook; 2) laboratory activities and reports, and; 3) topic exams and quizzes. Each of these categories is described in detail below.

Notebook (100 Notebook Points)

You are expected to keep an organized notebook of your class work. The notebook evaluation will be worth 100 points and will be graded while you are taking the final written exam at the end of the semester. Section I is worth 10 points. Section II and III are worth 45 points each. ***All***

notebooks should be in three-ring binders with all pages bound (no loose pages). The order of the notebook should be as follows:

I. Syllabus

II. Notes, handouts, and lab reports divided into topical sections (with a tabbed divider and in chronological order).

Topic Sections: 1) Pre-Participation Health Appraisal; 2) Musculoskeletal Evaluation; 3) Body Composition Assessment & Metabolic Calculations and Application in Exercise Programming; 4) Pulmonary Function Testing; 5) Cardiovascular Control; 6) Electrocardiography and Functional Exercise Testing & Interpretation.

III. Exams in topical sections. Each of your exams should include your handwritten corrections, *including the location in your texts and/or notes where the correct answer can be found,* on (a) separate sheet(s) of paper that is/are stapled to the back of the original exam.

Lab Reports (350 Lab Report Points)

There will be a total of 7 lab reports, each worth 50 pts. Each lab report will be completed on PC-based or Mac word-processing and graphics programs. *All responses to lab questions will be completed in your own words and in the format indicated below.* Lab reports will be due at the beginning of class on the assigned due date. Your lowest lab report score may be thrown out or substituted for a surprise quiz score.

PLEASE NOTE: Late lab reports or those that are not properly formatted will not be accepted. No partial credit will be given for assignments that do not meet the deadline and format guidelines.

Lab Report Format

1. Type your name, the lab report title and due date in bold single-spaced 12-point font in the upper left-hand corner on the first page.

2. Each of your responses should be numbered and in the following format: (Font: Black, Arial, 12 pt / Spacing: Double Space / Margins: 1" Top, Bottom, Right & Left). Staple all pages of your reports in the upper left-hand corner. Please proof-read your work! *One point will be subtracted from your final lab report grade for each spelling and grammatical error.* You will need to be proficient with different software programs, such as MS Word, Excel, and PowerPoint (or Mac equivalents) in order to complete most of your lab reports.

Surprise Quizzes (100 Points)

There will surprise quizzes given throughout the course based on the previous week's lessons. There will be no make-up for surprise quizzes. Specific point value for each quiz may vary, as may format.

Exams (300 Exam Points)

There will be a total of 3 exams throughout the semester; each exam is worth 100 points. Exams are designed to test your knowledge in areas covered in assigned text readings, lectures

and laboratory experiences. *Make-up exams will only be given for students with documented excused absences. Students with excused absences must be prepared to take the exam on the day they return to class.* Excused absences are defined in the TIGER CUB STUDENT HANDBOOK.

NOTE: See the ***COURSE OUTLINE & ASSIGNED READINGS*** section (below) for a list of the readings and KSAs covered in this class

Final Exam (150 Points)

The comprehensive final exam, worth 150 pts, will be administered at the scheduled exam time at the end of the semester. The final exam will be in multiple-choice format and cover the KSAs for ***Health/Fitness Specialist,*** as set out in the ACSM's Guidelines for Exercise Testing and Prescription, 8th Edition (Appendix D). A list of KSAs may also be found in ACSM's Resource Manual, 6th Edition.

COURSE OUTLINE & ASSIGNED READINGS

INTRODUCTION: EXERCISE PROGRAM PROFESSIONALS & BASIC KNOWLEDGE

RESOURCES to REVIEW:

ACSM's Resource Manual (6th Edition) PRIMARY READING:

Chapter 46: Exercise Program Professionals

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 1: Functional Anatomy
Chapter 2: Biomechanics
Chapter 3: Exercise Physiology
Chapter 5: Lifespan Effects of Aging and Deconditioning

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in the KSA exam.*

Chapter 1: Anatomy & Biomechanics
Chapter 2: Exercise Physiology
Chapter 3: Human Development & Aging

KSAs: You should be familiar with KSAs 1.1.1 through 1.1.43 found on pp. 326-328 in ACSM's Guidelines (8th Edition) and on pp. 821-822 in ACSM's Resource Manual (6th Edition).

TOPIC 1: HEALTH APPRAISAL, RISK ASSESSMSNT & SAFETY OF EXERCISE

RESOURCES:

ACSM's Guidelines (8th Edition):

Chapter 1: Benefits and Risks Associated with Physical Activity
Chapter 2: Pre-Participation Health Screening and Risk Stratification
Appendix A: Common Medications

Appendix B: Medical Emergency Management

ACSM's Resource Manual (6th Edition) PRIMARY READING:

Chapter 10: General Overview of Pre-participation Health Screening & Risk Assessment
Chapter 50: Exercise Program Safety and Emergency Procedures

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 6: Pathophysiology and Treatment of Cardiovascular Disease
Chapter 7: Pathophysiology and Treatment of Pulmonary Disease
Chapter 8: Pathophysiology and Treatment of Metabolic Disease

ACSM's Health-Related Physical Fitness Manual (2nd Edition):

Chapter 1: Introduction
Chapter 2: Pre-Activity Screening
Appendix B: Forms

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*

Chapter 4: Pathophysiology and Risk Factors
Chapter 6: Heath Appraisal and Fitness Testing
Chapter 7: Safety, Injury Prevention, and Emergency Care

KSAs covered in Topic 1:

GPC: Exercise Physiology and Related Exercise Science (COMPLETE)
GPC: Pathophysiology and Risk Factors 1.2.2 , 1.2.4, 1.2.6 1.2.7
GPC: Health Appraisal, Fitness, and Clinical Exercise Testing 1.3.1 – 1.3.6, 1.3.13, 1.3.14, 1.3.23
GPC: Patient Management and Medications 1.5.1 and 1.5.2 (COMPLETE)
GPC: Exercise Prescription and Programming – 1.7.2, 1.7.32
GPC: Safety, Injury Prevention, and Emergency Procedures 1.10.1 – 1.10.4, 1.10.5, 1.10.9, 1.10.10, 1.10.12, 1.10.14
Cardiovascular: Pathophysiology and Risk Factors 2.2.1 – 2.2.4 (COMPLETE)
Pulmonary: Pathophysiology and Risk Factors 3.2.1
Metabolic: Pathophysiology and Risk Factors 4.2.1 (COMPLETE)

EXAM 1: ***Readings and Application (Topic 1)***
LAB 1: ***PRE-PARTICIPATION HEALTH APPRAISAL***

TOPIC 2: EXERCISE TESTING – PRE-EXERCISE EVALUTIONS

RESOURCES:

ACSM's Guidelines (8th Edition):

Chapter 3: Pre-exercise Evaluations

ACSM's Resource Manual (6th Edition) PRIMARY READING:

Chapter 18: Pre-Exercise Testing Evaluation

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 7: Pathophysiology and Treatment of Pulmonary Disease
Chapter 11: Physical Activity Status and Chronic Disease

ACSM's Health-Related Physical Fitness Manual (2nd Edition):
Chapter 2: Pre-Activity Screening
Chapter 3: Resting and Exercise Blood Pressure and Heart Rate

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*
Chapter 6: Heath Appraisal and Fitness Testing
Chapter 7: Safety, Injury Prevention, and Emergency Care

Additional reading (Blackboard): Resting Lung Volumes from Exercise Physiology Lab Manual

KSAs covered in Topics 2

GPC: Health Appraisal, Fitness, and Clinical Exercise Testing 1.3.8, 1.3.10, 1.3.11 1.3.14 -1.3.17
Pulmonary: Pathophysiology and Risk Factors 3.2.1 (COMPLETE)

LAB 2: Blood Pressure and Heart Rate
LAB 3: Pulmonary Function

TOPIC 3: EXERCISE TESTING – BODY COMPOSITION

RESOURCES:
ACSM's Guidelines (8th Edition):
Chapter 4: Health-Related Physical Fitness Testing and Interpretation

ACSM's Resource Manual (6th Edition) PRIMARY READING:
Chapter 17: Body Composition Status and Assessment
Chapter 33: Weight Management

ACSM's Resource Manual (6th Edition) BACKGROUND READING:
Chapter 4: Nutrition
Chapter 8: Pathophysiology and Treatment of Metabolic Disease
Chapter 13: Nutritional Status and Chronic Disease
Chapter 14: Assessment of Nutritional Status

ACSM's Health-Related Physical Fitness Manual (2nd Edition):
Chapter 4: Body Composition

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*
Chapter 1: Anatomy and Biomechanics
Chapter 6: Health Appraisal and Fitness Testing
Chapter 9: Nutrition & Weight Management

KSAs covered in Topics 3:

GPC: Health Appraisal, Fitness, and Clinical Exercise Testing 1.3.7, 1.3.9, 1.3.12, 1.3.19

GPC: Nutrition and Weight Management 1.8.1 – 1.8.18

Metabolic: Pathophysiology and Risk Factors 4.2.1

LAB 4: BODY MASS INDEX, WAIST/HIP RATIO & SKIN FOLD TEST

LAB 5: HYDROSTATIC WEIGHING & DEXA

TOPIC 4: EXERCISE TESTING - CARDIORESPIRATORY FITNESS ASSESSMENT

RESOURCES:

ACSM's Guidelines (8th Edition):

Chapter 4: Health-Related Physical Fitness Testing and Interpretation
Chapter 7: General Principles of Exercise Prescription
Appendix A: Common Medications

ACSM's Resource Manual (6th Edition) PRIMARY READINGS:

Chapter 18: Pre-Exercise Testing Evaluation
Chapter 19: Cardiorespiratory and Health-Related Physical Fitness Assessments

ACSM's Resource Manual (6th Edition) BACKGROUND READINGS:

Chapter 6: Pathophysiology and Treatment of Cardiovascular Disease
Chapter 7: Pathophysiology and Treatment of Pulmonary Disease
Chapter 28: Cardiorespiratory Exercise Prescription
Chapter 30: Adaptations to Cardiorespiratory Exercise Training

ACSM's Health-Related Physical Fitness Manual (2nd Edition):

Chapter 3: Resting and Exercise Blood Pressure and Heart Rate
Chapter 7: Cardiorespiratory Fitness Measurement
Chapter 8: Laboratory Submaximal Exercise Testing
Chapter 9: Maximal Exercise Testing

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*

Chapter 6: Health Appraisal & Fitness Testing (Section I: Pretest Considerations)

KSAs covered in Topic 6:

GPC: Health Appraisal, Fitness, and Clinical Exercise Testing – 1.3.8, 1.3.10, 1.3.15 - 1.3.17, 1.3.20 - 1.3.22

GPC: Exercise Prescription and Programming 1.7.13, 1.7.15 -1.7.18, 1.7.21, 1.7.24, 1.7.25, 1.7.28, 1.7.30, 1.7.36

GPC: Safety, Injury Prevention, and Emergency Procedures 1.10.6

Cardiovascular : Pathophysiology and Risk Factors 2.2.1 -2.2.4

LAB 6: CARDIORESPIRATORY FITNESS ASSESSMENTS

TOPIC 5: EXERCISE TESTING – MUSCULAR FITNESS

RESOURCES:

ACSM's Guidelines (8th Edition):

Chapter 4: Health-Related Physical Fitness Testing & Interpretation

ACSM's Resource Manual (6th Edition) PRIMARY READING:

Chapter 20: Muscular Fitness and Assessment
Chapter 29: Muscular Exercise Prescription
Chapter 31: Adaptations to Resistance Training

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 1: Functional Anatomy
Chapter 2: Biomechanics
Chapter 25: Occupational and Functional Assessments
Chapter 39: Exercise Prescription for People with Osteoporosis
Chapter 40: Exercise Prescription for People with Arthritis

ACSM's Health-Related Physical Fitness Manual (2nd Edition):

Chapter 5: Muscular Fitness: Muscular Strength, Endurance & Flexibility
Chapter 6: Postural Analysis and Body Alignment

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*

Chapter 1: Anatomy & Biomechanics
Chapter 6: Health Appraisal & Fitness Testing (Part I)

KSAs covered in Topic 4:

GPC: Health Appraisal, Fitness, and Clinical Exercise Testing 1.3.18, 1.3.20
GPC: Exercise Prescription and Programming 1.7.1, 1.7.2, 1.7.5, 1.7.7, 1.7.8, 1.7.11, 1.7.12, 1.7.23, 1.7.26, 1.7.29, 1.7.31, 1.7.34, 1.7.42 – 1.7.47
GPC: Safety, Injury Prevention, and Emergency Procedures 1.10.7 - 1.10.9, 1.10.12, 1.10.15, 1.10.18
Orthopedic/Musculoskeletal: Pathophysiology and Risk Factors 5.2.1 (COMPLETE)
Neuromuscular: Pathophysiology and Risk Factors 6.2.1 (COMPLETE)

LAB 6: MUSCULAR FITNESS EVALUATION

TOPIC 6: CLINICAL EXERCISE TESTING AND ELECTROCARDIOGRAPHY

RESOURCES:

ACSM's Guidelines (8th Edition):

Chapter 5: Clinical Exercise Testing
Chapter 6: Interpretation of Clinical Exercise Test Data

Appendix C: Electrocardiogram (ECG) Interpretation

ACSM's Resource Manual (6th Edition) PRIMARY READING:

Chapter 19: Cardiorespiratory and Health-Related Physical Fitness Assessments
Chapter 21: Clinical Exercise Testing Procedures
Chapter 27: Electrocardiography

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 34: Exercise Prescription and Medical Considerations
Chapter 35: Exercise Prescription in Patients with Cardiovascular Disease

ACSM's Health-Related Physical Fitness Manual (2nd Edition):

Chapter 7: Cardiorespiratory Fitness Management
Chapter 10: Interpretation of Assessment Results

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*

Chapter 6: Health Appraisal & Fitness Testing
Chapter 12: Electrocardiography

KSAs covered in Topic 6:

- **GPC: Pathophysiology and Risk Factors 1.2.1 (COMPLETE)**
- **GPC: Health Appraisal, Fitness, and Clinical Exercise Testing 1.3.10, 1.3.15, 1.3.17, 1.3.21, 1.3.22 (COMPLETE)**
- **GPC: Electrocardiography and Diagnostic Techniques 1.4.1, 1.4.3 (COMPLETE)**
- **GPC: Exercise Prescription and Programming 1.7.3, 1.7.30,**
- **GPC: Safety, Injury Prevention, and Emergency Procedures 1.10.5**

EXAM 4: ***Readings and Application (Topics 6 and 7)***
LAB 7: ***BASIC ECG and CLINICAL EXERCISE TESTING***

TOPIC 7: GENERAL PRINCIPLES OF EXERCISE PRESCRIPTION

ACSM's Guidelines (8th Edition):

Chapter 7: General Principles of Exercise Prescription
Chapter 8: Exercise Prescription for Healthy Populations and Special Consideration

ACSM's Resource Manual (6th Edition): PRIMARY READINGS

Chapter 28: Cardiorespiratory Exercise Prescription
Chapter 29: Musculoskeletal Exercise Prescription
Chapter 42: Behavioral Strategies to Enhance Physical Activity Participation
Chapter 43: Principles of Health Behavior Change

ACSM's Resource Manual (6th Edition) BACKGROUND READING:

Chapter 30: Adaptations to Cardiorepsiratory Exercise Training
Chapter 31: Adaptations to Resistance Training

Chapter 41: Exercise Prescription in Special Populations: Women, Pregnancy, Children and the Elderly.

ACSM's Health-Related Physical Fitness Manual (2nd Edition):
Appendix A: Conversions

ACSM's Certification Review (3rd Edition): *The chapters in this text should serve as an outline for reviewing the material covered in this content area.*
Chapter 8: Exercise Programming
Chapter 11: Metabolic Calculations
Chapter 5: Human Behavior and Psychosocial Assessment

KSAs covered in:

GPC: Exercise Prescription and Programming 1.7.4, 1.7.6, 1.7.14, 1.7.20, 1.7.26, 1.7.27, 1.7.33, 1.7.35 – 1.7.41
GPC: Human Behavior and Counseling 1.9.1 – 1.9.9
Metabolic: Pathophysiology and Risk Factors 4.2.1

LAB 8: Exercise Prescription and Metabolic Calculations

KSAs FOR HFS CERTIFICATION EXAM (not covered in this course)

KSAs remaining to be studied and reviewed prior to taking the HFS Certification Exam:

GPC: Exercise Prescription and Programming 1.7.4, 1.7.19, 1.7.22, 1.7.27, 1.7.34, 1.7.46
GPC: Program Administration, Quality Assurance, and Outcome Assessment 1.11.1 – 1.11.13 (ALL)
Immunologic: Pathophysiology and Risk Factors 7.2.1 (COMPLETE)

ACSM's Certification Review (3rd Edition): *The chapters listed below should serve as an outline for reviewing the remaining material.*
Chapter 8: Exercise Programming
Chapter 10: Program Administration/Management
Appendix B: Clinical Comprehensive Exam

Exercise Tech I Course Schedule Fall 2010

	August		
Week 1	18	Introduction	
Week 2	23	Basic Knowledge	Pre-Test
	25	Basic Knowledge	
Week 3	30	Health Appraisal, Risk Assessment & Safety	
	September		
Week 3	1	Health Appraisal, Risk Assessment & Safety	
Week 4	6	Health Appraisal, Risk Assessment & Safety	Lab 1
	8	Pre-Exercise Evaluation	
Week 5	13	Pre-Exercise Evaluation	
	15	Pre-Exercise Evaluation	Lab 2
Week 6	20	Body Composition Assessment	Exam 1
	22	Body Composition Assessment	Lab 3
Week 7	27	Body Composition Assessment	
	29	Body Composition Assessment	Lab 4
	October		
Week 8	4		
	6	Cardiorespiratory Fitness Assessment	
Week 9	11	Cardiorespiratory Fitness Assessment	
	13	Cardiorespiratory Fitness Assessment	Lab 5
Week 10	18	Muscular Fitness Assessment	
	20	Muscular Fitness Assessment	
Week 11	25	Muscular Fitness Assessment	Lab 6
	27	Clinical Exercise Testing and ECG	Exam 2
	November		
Week 12	1	Clinical Exercise Testing and ECG	
	3	Clinical Exercise Testing and ECG	
Week 13	8	Clinical Exercise Testing and ECG	Lab 7
	10	Exercise Prescription	
Week 14	15	Exercise Prescription	
	17	Exercise Prescription	Exam 3
Week 15	22	*Thanksgiving Break*	
	24	*Thanksgiving Break*	
Week 16	29	Exercise Prescription	
	December		
Week 16	1	Exercise Prescription	Lab 8
Week 17	8	Final	