

**STUDENT WARNING:** This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

# SPHS535

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## Course Summary

**Course :** SPHS535 **Title :** SPHS535- Exercise for Chronic Disease: Physiological Concerns.

**Length of Course :** 8 **Faculty :**

**Prerequisites :** SPHS506 **Credit Hours :** 3

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## Description

**Course Description: ---**

**SPHS535- Exercise for Chronic Disease: Physiological Concerns** (prereq: SPHS525)

This course will explore the use of exercise as a preventive and restorative modality for individuals with or at risk for chronic physiological and metabolic concerns. This course will provide a deeper understanding of how to apply exercise physiology, biomechanics, and exercise prescription principles for those in need of exercise programming, with particular attention to working with clients with cardiovascular and other metabolic diseases (esp. type 2 diabetes) so that learners can effectively manage many common chronic diseases, particularly in primary and secondary prevention. Prerequisite: SPHS525

**Course Scope:**

This course in Essentials of Humans Performance and Exercise Science will provide the student with the knowledge they will need to identify various chronic physiologic or metabolic diseases using evidence-based exercise testing procedures. Students will utilize information from this course to prescribe appropriate exercises to restore or maintain function in those with various chronic physiologic or metabolic diseases.

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## Objectives

After successfully completing this course, students will fulfill the following **Learning Objectives** (L.O.):

Each student will:

1. Define the scope of practice of a Clinical Exercise Specialist
  2. Prepare health appraisals including screening and risk stratification of apparently healthy individuals, prior to testing or exercise prescription.
  3. Identify key screening results that require follow up by other medical providers as well as those that would fall within the scope of a Clinical Exercise Specialist
  4. Design an exercise prescription for an individual with chronic physiologic or metabolic diseases.
  5. Synthesize client and care team feedback to modify previously designed exercise prescription plan to accommodate for changes in client status.
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# Outline

## **Week 1: Welcome and introduction to Coronary Heart Disease**

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### Topic(s)

Scope of practice for the Clinical Exercise Specialist will be reviewed from SPH525 and the importance of performing a preliminary Health Screening and Risk Classification prior to working with clients with chronic physiologic or metabolic diseases

### Learning Objective(s)

L01: Students will clearly articulate the scope of practice of a Clinical Exercise Specialist including what they can and can not do.

L02: Students will describe the process of clearing a client with chronic physiologic or metabolic disease.

L03 Students will describe the prevalence of cardiovascular disease in the USA.

L04: Students will develop a comprehensive exercise prescription for a client with cardiovascular disease who has medical clearance.

### **1,2,3**

### Reading(s)

[Chapter 7: Coronary Heart Disease](#)

[https://health.gov/sites/default/files/2019-09/Physical\\_Activity\\_Guidelines\\_2nd\\_edition.pdf](https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf)

### Additional resources

<https://www.heart.org/en/health-topics/consumer-healthcare/what-is-cardiovascular-disease>

<https://www.heart.org/en/health-topics/consumer-healthcare/patient-education-resources-for-healthcare-providers>

### Assignment(s)

1. Introduction Forum
2. Discussion 1
3. Lab 1

## **Week 2: Hypertension**

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### Topic(s)

Hypertension the most common and costly form of cardiovascular disease

### Learning Objective(s)

L01: Students will recognize the prevalence of hypertension in society

L02: Students describe the effect common side effects of antihypertensive drugs and their effects on exercise

tolerance.

L03: Students will develop a exercise prescription designed to improve overall fitness in those with cardiovascular disease.

## **4,5**

Reading(s)

Chapter 8 Hypertension

Resources to allow you to look up drug side effects for free

<https://www.phactmi.org/home>

Assignment(s)

1. Forum 2
2. Writing Assignment

## **Week 3: COPD and Asthma**

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Topic(s)

What you need to know about exercise in clients with COPD and asthma.

Learning Objective(s)

L01: Students will describe the mechanism by which COPD and asthma impact a client's tolerance of exercise

L02: Students will describe the impact various medications used to treat COPD and asthma will have on exercise tolerance.

L03: Students will describe coaching techniques to assist clients in distress due to acute asthma attack during training.

## **4,5**

Reading(s)

Chapter 9: COPD and Asthma

<https://my.clevelandclinic.org/health/articles/9443-pursed-lip-breathing#:~:text=To%20practice%20pursed%20lip%20breathing,to%20whistle%20and%20breathe%20out.&text=Pursed%20lip%20breathing%20is%20one,to%20control%20shortness%20of%20breath>

Resources to allow you to look up drug side effects for free

<https://www.phactmi.org/home>

## Assignment(s)

1. Forum 3
2. Lab 2

## Week 4: Diabetes

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### Topic(s)

Type 2 Diabetes is the most common form of diabetes and results in an relative reduction in the body's ability to utilize insulin to reduce blood sugar. Carefully prescribed and continuously monitored blood sugar levels will allow the Clinical Exercise Specialist to provide safe and effect exercise routines to improve the client's quality of life and health status.

### Learning Objective(s)

L01: Describe the two types of Diabetes and the impact this will have on exercise tolerance

L02: Describe what to monitor and how to instruct their client in order to reduce the risk of hyper/hypoglycemia

L03: Describe the healthcare team best utilized to fully address the client's needs

## **1,3,4,5**

### Reading(s)

[Chapter 10: Diabetes](#)

### [Additional resources](#)

<https://diabetes.org/healthy-living/fitness>

## Assignment(s)

1. Forum 4
2. Lab 3

## Week 5: Hyperlipemia and Body Composition

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### Topic(s)

Considerations for Clinical Exercise Specialists working with overweight, obese client. Causes of hyperlipemia and obesity will be discussed their impact on client health and how the Clinical Exercise Specialist can address these chronic diseases using evidence-based exercise prescription.

### Learning Objective(s)

L01: Students will describe hyperlipemia and obesity as it relates to body composition.

L02: Students will describe the effects on overall health and longevity of those who suffer from hyperlipemia and obesity.

L03: Students will prescribe and appropriate exercise routine in those who are obese or suffer from hyperlipemia.

L04: Students will articulate why an obese client should work with a Registered Dietician in order to improve health and exercise tolerance.

## **1,2,3,4,5**

Reading(s)

[Chapter 11: hyperlipemia](#)

[Chapter 12: Body Composition, overweight, obese](#)

Resources for client education

<https://www.eatright.org/>

Assignment(s)

1. Forum 5
2. Lab 4

## **Week 6: Metabolic Syndrome**

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Topic(s)

Metabolic Syndrome, what is it?, and how do Clinical Exercise Specialist address it in their clients.

Learning Objective(s)

L01: Students will describe metabolic syndrome is and how it can be identified in their clients

L02: Students will appropriately screen clients with or suspected of having metabolic syndrome

L04: Students will prescribe an exercise program for a simulated patient with metabolic syndrome

## **2,3,4,5**

Reading(s)

Chapter 13: Metabolic Syndrome

Appendix A

Appendix C

<https://www.nhlbi.nih.gov/health/metabolic-syndrome>

<https://www.mayoclinic.org/diseases-conditions/metabolic-syndrome/diagnosis-treatment/drc-20351921>

## Assignment(s)

1. Forum 6
2. Lab 5

## Week 7: Cancer

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### Topic(s):

A brief overview of the various types of cancer, their treatment(s) and its side effects will be discussed. Students will then combine knowledge gained throughout this course and SPHS525 to discuss the various comorbidities common to those diagnosed with cancer and how a Clinical Exercise Specialist can provide the appropriate exercise prescription to enhance quality of life.

### Learning Objective(s)

L01: Students will describe the common forms of Cancer and its treatment including common side effects.

L02: Students will identify common comorbidities found in those with cancer and how to screen for them

L03: Students will prescribe a exercise routine which will enhance quality of life in those recovering from cancer.

## **1,2,3,4,5**

### Reading(s)

#### [Chapter 14: Cancer](#)

National Cancer Institute (Physical Activity with Cancer) [https://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/physical-activity-fact-sheet#:~:text=Exercise%20has%20many%20biological%20effects,20\)%20%5Bbreast%2C%20colon%5D](https://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/physical-activity-fact-sheet#:~:text=Exercise%20has%20many%20biological%20effects,20)%20%5Bbreast%2C%20colon%5D)

Cancer Straight Talk from MSK:

[https://podcast.mskcc.org/FXgpZUwd?gclid=Cj0KCQjwhY-aBhCUARIsALNIC07AwSbf4vNhFskIKkM9rRNc5k36\\_IY73U-2lnFrF\\_QQUTgbkB11A\\_waAg1XEALw\\_wcB](https://podcast.mskcc.org/FXgpZUwd?gclid=Cj0KCQjwhY-aBhCUARIsALNIC07AwSbf4vNhFskIKkM9rRNc5k36_IY73U-2lnFrF_QQUTgbkB11A_waAg1XEALw_wcB)

### Assignment(s)

1. Final Paper
2. Forum 7

## Week 8: Pregnancy

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Topic(s): Students will learn about the physiological changes seen in women who are pregnant and their influence on exercise tolerance and physical activity. Students will develop a comprehensive evidence-

based exercise prescription to promote fitness during and after pregnancy taking into consideration the complex hormonal and physiologic changes created during each trimester and postpartum.

### Learning Objective(s)

L01: Students will describe the benefits of exercise during pregnancy and postpartum

L02: Students will describe the precautions necessary during each trimester as well as identify signs that require referral to medical personnel.

L03: Students will prescribe an appropriate exercise program for a woman in her third trimester.

### **3.4.5**

#### Reading(s)

Chapter 15: Pregnancy

ACOG <https://www.acog.org/womens-health/faqs/exercise-during-pregnancy>

NHS : <https://www.nhs.uk/pregnancy/keeping-well/exercise/>

#### Assignment(s)

1) Forum 8

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## Evaluation

### Grading:

Name	Grade %
Discussions	25.00 %
Week 1: Introductions and Medical History Questionnaire	3.13 %
Week 2: Professional Organizations and Fighting Obesity	3.13 %
Week 3: Cardiovascular Testing and VO2 Max	3.13 %
Week 4: Muscular Fitness Testing and Muscular Endurance	3.13 %
Week 5: Body Composition	3.13 %
Week 6: Flexibility	3.13 %
Week 7: Balance Testing Assessment and Design	3.13 %
Week 8: Osteoporosis	3.13 %
Labs	35.00 %
Week 1- Lab 1	7 %
Week 3- Lab 2	7 %
Week 4- Lab 3	7 %
Week 5- Lab 4	7 %
Week 6- Lab 5	7 %
Final Paper	25.00 %

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Week 7- Final project	25.00 %
Writing Assignment: Chronic Disease paper	15.00 %
Week 2- Writing Assignment	15.00 %

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## Materials

**Book Title:** Clinical Exercise Specialist Manual: A Fitness Professional's Guide to Training People with Chronic Disease.

**Author:** MIKESKA, JD

**Publication Info:** Niche Pressworks; Indianapolis, IN. 2020

**ISBN:** ERESERVE NOTE

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### **Required Readings:**

See Course Outline

### **Additional Resources:**

In the Course Materials folder there are additional course articles, and up to date APA handouts.

### **Websites- \*you can add to this, but do not change what is already here**

In addition to the required course texts the following public domain Websites are useful. Please abide by the university's academic honesty policy when using Internet sources as well. Note web site addresses are subject to change.

<b>Site Name</b>	<b>Website URL/Address</b>
The OWL at Purdue	<a href="http://owl.english.purdue.edu/">http://owl.english.purdue.edu/</a>
APA Style Homepage	<a href="http://www.apastyle.org/index.aspx">http://www.apastyle.org/index.aspx</a>
Supplemental videos	<a href="https://www.youtube.com/watch?v=qHEm3o8FEiE&amp;list=PLUs26kF4ZZy8ozPOhTutdB0yRMkV4mz7b&amp;index=1">https://www.youtube.com/watch?v=qHEm3o8FEiE&amp;list=PLUs26kF4ZZy8ozPOhTutdB0yRMkV4mz7b&amp;index=1</a>
Burden of Musculoskeletal Disease in the US	<a href="https://www.boneandjointburden.org/">https://www.boneandjointburden.org/</a>

<https://boneandjointburden.org/fourth-edition/iiib70/joint-pain-and-joint-replacement>

[https://www.physio-pedia.com/Upper-Crossed\\_Syndrome](https://www.physio-pedia.com/Upper-Crossed_Syndrome)

Spiral Line Video: <https://youtu.be/qNdrim66KN0>

Front Functional Line <https://youtu.be/TNzg80OF4IU>

Posterior Oblique Line <https://youtu.be/vveEanurYys>

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## **Course Guidelines**

### **Academic Honesty & Personal Integrity**

The University System supports and promotes academic honesty and personal integrity. Any form of academic dishonesty has no place in higher education. The University System does not tolerate dishonest efforts by its students. Students who are guilty of academic dishonesty can expect to be penalized. Any student who knowingly assists another student in dishonest behavior is equally responsible. An additional violation of the standards of academic honesty within a course may result in dismissal from the University System. [Click here for the full APUS policy.](#)

In addition to the [university's plagiarism policy](#), students who are found to have submitted materials plagiarized from any online source, such as Course Hero, etc., will be reported to both the Plagiarism Office and the Student Conduct Office with the possibility of [failing the course](#) and/or expulsion from APUS. Use of said materials is academic dishonesty and will not be tolerated.

### **Using Turn-It-In for Discussions**

*Some instructors may require students to submit their initial **Discussion** posts to Turnitin via the "Assignments" tool in our Brightspace classroom--please check the Discussion Guidelines (Course Overview & Introduction Content area) and/or an Announcement from your faculty to determine if this step is required for this course.*

**If this is a requirement in your class**, before posting your initial Discussion, you must submit it in the assignment area in a Word file, so its originality can be checked by turnitin.com. Your similarity score will appear in the same place you submit your file. It can take up to 24 hours for a score to return, but usually, it is less than 30 minutes. Before you post your Discussion, make sure your similarity score is less than 15%. If it is greater than 15%, edit/rewrite your discussion, submit it again in the assignment area and check the %. Repeat this process until your similarity score is less 15%. Then post your Initial Discussion for the week.

## **Writing Expectations**

Students, please review forum and assignment rubrics prior to completing each course requirement. As you work with student athletes, other athletic/fitness related personnel, clinical and other situations, you will frequently encounter challenging learning and behavioral situations. The solutions you find to these challenges will often determine success at a personal and program level. Your experiences have led you to certain beliefs; however, these beliefs may not lead to the correct solution in any given circumstance. In simple terms, theory is what generates the practical application you apply to your job. It is theory that helps us analyze our opponent and make determinations on what they are going to do in the future, and it is theory that has been turned into technology that helps us increase quality of life, performance, and competitiveness. Understanding what experts recommend is one very important strategy for you to use. The commitment to apply key theory to your ideas enhances the likelihood that sound judgment drives solutions, not just feelings and beliefs. The application of theory can also help protect you in cases of liability questions.

All written submissions should be submitted in a font and page set-up that is compatible with APA Style (7th Ed.) formatting. It is recommended that students adhere to this consistent format and follow all rules of APA formatting –here are some basics:

- Typewritten in double-spaced format with a readable style (Arial or Times New Roman fonts are best) and submitted inside the electronic classroom as instructed by the assignment details (unless classroom access is not possible and other arrangements have been approved by the professor).
- Best font sizes: Arial or Times New Roman 12-point font.
- 1" margins all around (no additional indenting –except 1st line of each paragraph)
- Double-spaced throughout paper
- Appropriate APA-style formatted in-text citations and reference list
- Paper should be written in 3rd person –this means no personal opinions, no sentences with "I" "my" or other 1st person text. These are academic/scientific papers.

## **Citation and Reference Style**

Attention Please: Students will follow the APA (7th Ed.) Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

## **Late Assignment Policy**

*All dates and times posted are for U.S. Eastern Standard time. It is your responsibility to know how that translates to your time zone and to submit/complete Assignments, Discussions and tests per these posted deadlines. All assignment due dates are posted on the Assignments page.*

Students are expected to submit assignments by the due dates listed in the classroom. Late assignments, including but not limited to Assignments, Discussions, posts and responses, quizzes, and exams, may or may not be accepted after the course end date. Submitting an assignment after the due date may result in a penalty of up to 10% of the grade per day late, not to exceed a maximum 50% of the grade. The amount of the penalty is at the faculty member's discretion. Faculty recognize that students have limited time and may

be more flexible if potential delays are communicated ahead of time. The University Late Policy can be found in the [Student Handbook here](#).

\*Doctoral and Programs with specialty accreditation may have different late policies.

\*\*Students with DSA accommodations may have different late policies applied. For more information regarding our DSA services, please contact [DSA@apus.edu](mailto:DSA@apus.edu).

## **Netiquette**

Online universities promote the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Forums on the Internet, however, can occasionally degenerate into needless insults and “flaming.” Such activity and the loss of good manners are not acceptable in a university setting – basic academic rules of good behavior and proper “Netiquette” must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the Forum of others.

## **Humor Note:**

Despite the best of intentions, jokes and especially satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add “emoticons” to help alert your readers: ;-), :) )

## **Disclaimer Statement**

Course content may vary from the outline to meet the needs of this particular group.

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# **Communications**

## **Student Communication**

To reach the instructor, please communicate through the MyClassroom email function accessible from the Classlist of the Course Tools menu, where the instructor and students email addresses are listed, or via the Office 365 tool on the Course homepage.

- In emails to instructors, it's important to note the specific course in which you are enrolled. The name of the course is at the top center of all pages.
- Students and instructors communicate in Discussion posts and other learning activities.
- All interactions should follow APUS guidelines, as noted in the [Student Handbook](#), and maintain a professional, courteous tone.
- Students should review writing for spelling and grammar.
- [Tips on Using the Office 365 Email Tool](#)

## **Instructor Communication**

The instructor will post announcements on communications preferences involving email and Instant Messaging and any changes in the class schedule or activities.

- Instructors will periodically post information on the expectations of students and will provide feedback on assignments, Discussion posts, quizzes, and exams.
  - Instructors will generally acknowledge student communications within 24 hours and respond within 48 hours, except in unusual circumstances (e.g., illness).
  - The APUS standard for grading of all assessments (assignments, Discussions, quizzes, exams) is five days or fewer from the due date.
  - Final course grades are submitted by faculty no later than seven days after the end date of the course or the end of the extension period.
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# University Policies

Consult the [Student Handbook](#) for processes and policies at APUS. Notable policies:

- [Drop/Withdrawal Policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Academic Dishonesty / Plagiarism](#)
- [Disability Accommodations](#)
- [Student Deadlines](#)
- [Video Conference Policy](#)

## Mission

The [mission of American Public University System](#) is to provide high quality higher education with emphasis on educating the nation's military and public service communities by offering respected, relevant, accessible, affordable, and student-focused online programs that prepare students for service and leadership in a diverse, global society.

## Minimum Technology Requirements

- Please consult the catalog for the minimum hardware and software required for [undergraduate](#) and [graduate](#) courses.
- Although students are encouraged to use the [Pulse mobile app](#) with any course, please note that not all course work can be completed via a mobile device.

## Disclaimers

- Please note that course content – and, thus, the syllabus – may change between when a student registers for a course and when the course starts.
- Course content may vary from the syllabus' schedule to meet the needs of a particular group.