SPPT 6130 The Female Athlete Course Syllabus
4 weeks, Self-directed

Course Dates: January – February (SPTC Electives), May – June (SPTC electives),

Course Author: Teresa L. Schuemann Teresa@EIMPT.com, Biography

Course Stakeholders: Co-instructors - Teresa L. Schuemann, Anne Bierman, Barb Hoogenboom
Subject Matter Experts: Teresa L. Schuemann and Anne Bierman
Program directors(s): Teresa L. Schuemann
Administrators: Fx Team Jennifer Stone

Course Contact Info: All questions related to this course should be directed to info@eimpt.com or you can call the office directly at 1-888-709-7096. To expedite a response to your request please include Course Name and Number, your question, the URL to the webpage related to the question, and a screenshot of what you see on your screen.

Course Level: Intermediate
BOCATC Level of Education: Essential
ATC Domains: Injury and Illness Prevention and Wellness Promotion; Examination, Assessment, and Diagnosis; Immediate and Emergency Care; and Therapeutic Intervention.

Course Description: This course provides current best-evidence for the management of the female athlete. It will include topics such as The Triad (formerly known as the Female Athlete Triad), relative energy deficiency in sports (RED-S), gender differences with anatomy/physiology, sports biomechanics, medical conditions such as cardiac and sports concussion, life spectrum issues including pregnancy and master athlete issues. The participant will explore and demonstrate competency in the management spectrum of the female athlete from injury prevention, pre-participation screening to rehabilitation and performance enhancement.

Course Learning Goal: Upon completion of this course a successful learner will be able to manage the female athlete along the entire management spectrum: Injury prevention, acute injury & illness management, rehabilitation, and performance enhancement based on the current, best evidence.

Practice Gap: Female athletes represent a growing percentage of athletes yet many medical professionals do not have the knowledge to clinically apply the sex differences of anatomy, sports biomechanics, medical conditions, differential diagnosis, and life spectrum issues in the athletic management of this unique population. Medical professionals have become increasingly familiar with the concept of the Female Triad, but the expansion to Relative Energy Deficiency in Sports (RED-S) is inconsistently understood and applied. Athletes should regularly be screened for the unhealthy aspect of Triad components with specific attention and intervention for low energy availability and relative energy deficiency to assist in the prevention of the consequential bone effects and hormonal effects that can jeopardize the health and wellness of our athletes. Quick recognition of gender differences and appropriate management of cardiac and sports concussion is essential as well as the appropriate management of life spectrum issues of the female athlete like pregnancy or menopause is necessary for the appropriate management of the female athlete throughout her life.
Clinical Bottom Line: The percentage of female athletes at the high school, collegiate and olympic level has continued to grow since the adoption of Title IX legislation in 1972 and is now approaching over 50%. Sports medical professionals must gain a knowledge base of the gender differences (anatomical, physiological, sports biomechanics) to allow implementation of these concepts in the management of the female athlete. One example includes the Triad concept which Dr. Otis et al (1997) first described three, inter-related yet independent entities in female athlete is the late 1990’s that were contributing to unhealthy states and centered around low energy availability (LEA). DeSouza et al (2014) later expanded these concepts to include spectra of these three entities to demonstrate that a healthy state can be attained with interventions and energy availability balance. Nattiv et al (2021) expanded the Triad spectrum as it applies to the male athlete and Mountjoy described medical entities beyone the Triad spectrum that are also affected by relative energy availability. Fredricson et al present an approach of risk assessment that guides the recommendations for return to sport participation for these athletes with LEA or RED-S. This and other concepts to appropriately prescribe exercise for the pregnant female athlete pregnancy and the one going through menopause will allow the sports medicine professional to manage this specialty population throughout their lives.

Objectives:
By the end of the course, a successful learner will be able to:
- Compare and contrast gender differences (anatomical, physiological, sports biomechanics) to allow implementation of these concepts in the management of the female athlete.
- Describe The Triad concept, comparing it to relative energy deficiency in sports (RED-S) and its implications for the female athlete.
- Practice Triad screening and pre-participation addendum for the female athlete.
- Identify faulty sports biomechanics in a female athlete and appropriately employ evidence-based corrective training strategies.
- Employ evidence-based movement screening processes to identify injury risk.
- Prescribe an evidence-based corrective exercise program to correct identified injury risk factors.
- Analyze gender differences with specific medical considerations with acute coronary syndromes and sports concussion for implementation in your clinical practice.
- Prescribe evidence-based management strategies to successfully rehabilitate a Musculo-skeletally injured female athlete.
- List and appropriately apply exercise considerations in your exercise prescription for the pregnant athlete.
- Predict and observe aspects of aging with the female athlete to appropriately manage the master and senior female athlete.

Target Audience: PT/PTA, ATC, MD (Sports medicine)

Academic Credits: __0.5__Academic Credits are credits counting toward EIM Program Completion and Certification. A range of suggested educational hours are used to determine Academic Credits. Per ABPTRFE, educational hours are program hours that are not specific to patient-care clinic hours. Some examples of educational hours include didactic coursework, research activities, teaching, journal clubs, lab/simulated work, observation, required readings.

Contact Hours/CEU/CCUs: 11.75 contact hours/11.75 educational hours/1.2 CEU/11.75 CCU
The assignment of Texas PT CCUs does not imply endorsement of specific course content, products or clinical procedures by TPTA or TBPTE.
EIM Program Applicability: Sports PT Residency program; One of the electives for the Sports PT Certificate program

Prerequisites: SPPT 6510 Sports Competencies (online and WI) for program participants

Course content:

1. All online content will be delivered through the learning management system. You will receive your login information with your program/course registration.
2. The course syllabus contains everything you need including weekly instructions.
3. The recorded video lectures are posted each week in the learning management system.
4. The required readings are also found each week in the corresponding course module

Course materials:

Readings/Articles
Required and supplementary articles are listed in each weekly module and can be downloaded for viewing and saving to your personal library from the Learning Management System.

Lectures/Presentations
Videos of recorded PowerPoint lectures for each module are in the corresponding module of the course in the Learning Management System.

Course Delivery Method: Virtual Asynchronous

Learner expectations:

You will have 4 weeks to complete the online content. Each week you should complete all required readings, video lectures and learning activities. After each module you should complete developing one exam question for that module. After going through the content for this course, you will complete the comprehensive course quiz. All course requirements must be completed by 11:49pm on Saturday of the 4th/final week of the course.

Grading:

Grades are based on the completion of all online course content and participation. To pass the course, you need to achieve a minimum of 73%. Learners who are in a credentialed program (i.e., ortho residency, sports residency) must achieve a minimum of 80% to pass the course. Course grade is based on final course quiz score.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Delivery</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Course Introduction</td>
<td>Discussion forum – Instructor &amp; Learner Introductions</td>
<td>3%</td>
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<tr>
<td>Module 1: Gender Differences</td>
<td>Graded Survey</td>
<td>2%</td>
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<td>Module 1: Gender Differences</td>
<td>Module 1 Quiz</td>
<td>10%</td>
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### Module 1: Gender Differences

**Course Assignments/Course Schedule (this represents a timed outline of content)**

<table>
<thead>
<tr>
<th>Module 1: Gender Differences</th>
<th>Graded Survey M1 Multiple-choice Final Exam Question</th>
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<tbody>
<tr>
<td>Module 1: Gender Differences</td>
<td>Graded Survey: Diving Deeper #1</td>
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<tr>
<td>Module 2: Medical Implications</td>
<td>Graded Survey</td>
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<td>Module 2: Medical Implications</td>
<td>Module 2 Quiz</td>
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<tr>
<td>Module 2: Medical Implications</td>
<td>Graded Survey M2 Multiple-choice Final Exam Question</td>
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<tr>
<td>Module 2: Medical Implications</td>
<td>Graded Survey Diving Deeper #2</td>
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<td>Module 3: Management Spectrum</td>
<td>Graded Survey</td>
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<td>Module 3: Management Spectrum</td>
<td>Module 3 Quiz</td>
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<td>Module 3: Management Spectrum</td>
<td>Graded Survey M3 Multiple-choice Final Exam Question</td>
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<td>Module 3: Management Spectrum</td>
<td>Graded Survey Diving Deeper #3</td>
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<td>Module 4: Life Spectrum Issues</td>
<td>Graded Survey</td>
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<td>Module 4: Life Spectrum Issues</td>
<td>Module 4 Quiz</td>
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<tr>
<td>Module 4: Life Spectrum Issues</td>
<td>Graded Survey M4 Multiple-choice Final Exam Question</td>
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<tr>
<td>Module 4: Life Spectrum Issues</td>
<td>Graded Survey Diving Deeper #4</td>
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<td>Course Final examination</td>
<td>Final Examination</td>
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<td>Course Final thoughts</td>
<td>Discussion forum – Course final thoughts Recording</td>
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**Module 1: Gender Differences**

**Module 1: Compare and contrast gender differences (anatomical, physiological, sports biomechanics) to allow implementation of these concepts in the management of the female athlete**

**Module 1 – required video lectures**
- Schuemann History of Female Athletics 2022 (7:59 min)
- Schuemann Gender Differences: Anatomical & Structural 2022 (15:22 min)
- Schuemann Gender Differences: Physiology & Neuromuscular 2022 (14:07 min)

| 37 minutes |

**Module 1 – required readings**

<p>| 78 minutes |</p>
<table>
<thead>
<tr>
<th>EIM Evidence In Motion</th>
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<tr>
<td><strong>Module 1 – optional resources</strong></td>
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<td><strong>Module 1 – assignment</strong></td>
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<tr>
<td><strong>Module 2: Medical Implications of the Female Athlete</strong></td>
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<td><strong>Module 2:</strong></td>
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<tr>
<td>• Describe The Triad concept, comparing it to relative energy deficiency in sports (RED-S) and its implications for the female athlete.</td>
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<td>• Complete screening and pre-participation addendum for the female athlete with respect to the Triad.</td>
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<td>• Recognize some gender differences with specific medical considerations with acute coronary syndromes and sports concussion.</td>
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<td><strong>Module 2 – required video lectures</strong></td>
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<tr>
<td>• Schuemann The Triad: History &amp; Prevalence 2022 (9:48 min)</td>
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<td>• Schuemann The Triad Spectrums 2022 (9:09 min)</td>
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<td>• Schuemann The Triad Management Spectrum: Injury Prevention &amp; Screening 2022 (8:34 min)</td>
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<td>• Schuemann The Triad Management Spectrum: Multidisciplinarian Treatment 2022 (12:53 min)</td>
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<td><strong>Total Time:</strong> 83 minutes</td>
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<td>Module 2 – required readings</td>
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<tr>
<td>Schuemann Relative Energy Deficiency in Sports (RED-S) 2022 (8:02 min)</td>
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<td>Schuemann The Triad &amp; RED-S: Return to Play 2022 (10:10 min)</td>
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<tr>
<td>Schuemann The Triad &amp; RED-S: Performance Enhancement &amp; Summary 2022 (11:07 min)</td>
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<tr>
<td>Schuemann Sports-related Concussion 2022 (8:15min)</td>
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<tr>
<td>Schuemann Cardiovascular emergencies in Females 2022 (5:11 min)</td>
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<th>Module 2 – optional resources</th>
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### Module 2 - assignment

### Module Quiz #3: Medical implications of the Female Athlete
- Peer review assignment Female Athlete Triad Administration Questionnaire
- Diving Deeper Medical Implications for the Female Athlete
- Graded Survey: Module 2 question generation

### Module 3: Management Spectrum of the Female Athlete

**Module 3:**
- Identify faulty sports biomechanics in a female athlete and appropriately employ evidence-based corrective training strategies.
- Employ evidence-based movement screening processes to identify injury risk and prescribe a corrective exercise program.
- Prescribe evidence-based management strategies to successfully rehabilitate a Musculo skeletally injured female athlete.

### Module 3 – required video lectures
- Bierman Injury Prevalence 2022 (17:40 min)
- Bierman LE Rehabilitation: 3-Pronged Approach 2022 (9:46 min)
- Bierman LE Rehabilitation: Identify 2022 (10:12 min)
- Bierman LE Rehabilitation: Correct 2022 (8:10 min)
- Bierman LE Rehabilitation: Prevention 2022 (19:08 min)
- Bierman UE Rehabilitation 2022 (22:10 min)
- Bierman Axial Rehabilitation 2022 (20:02 min)
- Bierman Performance Enhancement 2022 (9:14 min)

### Module 3 – required readings
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<th>Evidence In Motion</th>
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### Module 3 – optional resources

- **Neuromuscular Interventions for the Lumbopelvic Region presentation** by Casey Unverzagt.

**Module 3 – assignment**
- Module Quiz #3: Medical implications of the Female Athlete
- Peer review assignment Female Athlete Triad Administration Questionnaire
- Diving Deeper Medical Implications for the Female Athlete
- Graded Survey: Module 3 question generation

**Module 4: Life Spectrum Issues in Female Athletes**

**Module 4:** List and discuss the aspects of aging with the female athlete to enable implementation of concepts in the management of the master female athlete.

**Module 4 – required video lectures**
- Schuemann Female Athlete & Pregnancy: Introduction 2022 (9:54 min)
- Schuemann Exercise Recommendations: Pregnancy 2022 (8:06 min)
- Schuemann Rehabilitation Considerations throughout Pregnancy 2022 (14:03 min)
- Schuemann Post-partum defined & Exercise Considerations 2022 (9:54 min)
- Schuemann Post-partum Dysfunction 2022 (11:02 min)
- Diastasis Recti Evaluation (*currently in Canvas Studio with Lucie Khadduri*) (3:52)
- Schuemann Post-partum Considerations: Return to Running 2022 (9:59 min)
- Schuemann Pelvic Girdle dysfunction: Part 1 2022 (10:30 min)
- Schuemann Pelvic Girdle dysfunction: Part 2 2022 (8:50 min)
- External pelvic floor muscular assessment
- Schuemann Menopause & Osteoporosis 2022 (7:37 min)
- Schuemann Osteoporosis Exercise Prescription (15:56 min)
# Module 4 – required readings


# Module 4 – optional resources


**Module 4 – assignment**

- Module 4 Quiz
- Discussion forum Implementation of Pelvic Health programs with peer review and feedback
- Graded Survey Diving Deeper #4
- Graded Survey: Final examination Multiple-choice question Module 1

**SUMMARY OF ONLINE TIME REQUIREMENTS**

| Required Video Lectures | 5 hours, 27 minutes |
| Required readings | 4 hours, 31 minutes |
| Assignments | 1 hour 50 minutes |
| TOTAL TIME REQUIREMENTS | 708 minutes. 11 hours 48 minutes |

**Academic Integrity:** Each learner in this course is expected to abide by the Evidence in Motion Academic Integrity Pledge provided in every course.

**References:**


Newmann DA. Kinesiology of the hip: a focus on muscular action. JOSPT 2010; 40(2): 82-94.


View EIM Cancellation Policy

Date of Last Course Update: Summer 2020