Meeting Time: T/R 10:50 a.m.-12:05 p.m.
Meeting Location: Silcox Center, 146
Instructor: Zach Adams, MS, ATC
Office: 0137 TD Arena
Office Hours: By Appointment
Office Phone: 843.953.6540
E-mail: adamszd@cofc.edu
Course Website: Hosted by OAKS
Prerequisites: Admittance into the Athletic Training Education Program, successful completion of ATEP 245, 245L, 345, 345L
Co-requisites: ATEP 346
Required Texts:
  II. Supplemental Readings on OAKS.

Lab Course Description: This laboratory course is a co-requisite to ATEP 346 Athletic Injury Evaluation II and is designed to develop the student’s psychomotor skills of examination and assessment of athletic injuries occurring to the spine and torso areas of the human body.

Course Objectives: Upon successful completion of this course the student should be able to:
  I. Explain the components of the primary and secondary survey.
  II. Differentiate between injury recognition, assessment, and diagnosis.
  III. Describe common injuries to the head, face, spine, abdomen, and thorax incurred by athletes and others involved in physical activity.
  IV. Describe and demonstrate physical examination techniques for the human face, head, spine, abdomen, and thorax such as (a) taking a history, (b) inspection and observation, (c) palpation, (d) range of motion assessment, (e) ligament testing, (f) neurological assessment, (g) special tests, (h) functional testing.
  V. Gather objective assessment data through assessment techniques such as (a) goniometric assessment and (b) manual muscle testing.
  VI. Use the information obtained during an examination (of the head, spine, abdomen, or thorax) to (a) determine when to refer an injured patient for further or immediate medical attention, and to (b) safely return the patient to physical activity.
  VII. Describe the components of medical documentation.
  VIII. Use correct anatomical nomenclature to communicate (written and oral) physical examination findings to medical and health care professionals.
5th Edition Educational Competencies: The content of this course will in part or completely cover the following competencies from the 5th edition of the NATA Educational Competencies:

<table>
<thead>
<tr>
<th>AC-36</th>
<th>Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-36b</td>
<td>brain injury including concussion, subdural and epidural hematomas, second impact syndrome and skull fracture</td>
</tr>
<tr>
<td>AC-36c</td>
<td>cervical, thoracic, and lumbar spine trauma</td>
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<tr>
<td>AC-36g</td>
<td>internal hemorrhage</td>
</tr>
<tr>
<td>CE-5</td>
<td>Describe the influence of pathomechanics on function.</td>
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<tr>
<td>CE-16</td>
<td>Recognize the signs and symptoms of catastrophic and emergent conditions and demonstrate appropriate referral decisions.</td>
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<tr>
<td>CE-20c</td>
<td>palpation</td>
</tr>
<tr>
<td>CE-20e</td>
<td>selective tissue testing techniques / special tests</td>
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<tr>
<td>CE-20f</td>
<td>neurological assessments (sensory, motor, reflexes, balance, cognitive function)</td>
</tr>
<tr>
<td>CE-20g</td>
<td>respiratory assessments (auscultation, percussion, respirations, peak-flow)</td>
</tr>
<tr>
<td>CE-20h</td>
<td>circulatory assessments (pulse, blood pressure, auscultation)</td>
</tr>
<tr>
<td>CE-20i</td>
<td>abdominal assessments (percussion, palpation, auscultation)</td>
</tr>
<tr>
<td>CE-21a</td>
<td>Assessment of posture, gait, and movement patterns</td>
</tr>
<tr>
<td>CE-21h</td>
<td>Neurologic function (sensory, motor, reflexes, balance, cognition)</td>
</tr>
<tr>
<td>CE-21j</td>
<td>Pulmonary function (including differentiation between normal breath sounds, percussion sounds, number and characteristics of respirations, peak expiratory flow)</td>
</tr>
<tr>
<td>PHP-17c</td>
<td>Traumatic brain injury</td>
</tr>
<tr>
<td>TI-17</td>
<td>Analyze gait and select appropriate instruction and correction strategies to facilitate safe progression to functional gait pattern.</td>
</tr>
<tr>
<td>TI-18</td>
<td>Explain the relationship between posture, biomechanics, and ergodynamics and the need to address these components in a therapeutic intervention.</td>
</tr>
</tbody>
</table>

1. Explain the importance of monitoring a patient following a head injury, including the role of obtaining clearance from a physician before further patient participation.
2. Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:
   a. brain injury including concussion, subdural and epidural hematomas, second impact syndrome and skull fracture
   b. cervical, thoracic, and lumbar spine trauma
   c. internal hemorrhage
3. Obtain a medical history appropriate for the patient’s ability to respond.
4. Differentiate between normal and abnormal physical findings (e.g., pulse, blood pressure, heart and lung sounds, oxygen saturation, pain, core temperature) and the associated pathophysiology.
5. Explain diagnostic accuracy concepts including reliability, sensitivity, specificity, likelihood ratios, prediction values, and pre-test and post-test probabilities in the selection and interpretation of physical examination and diagnostic procedures.
6. Apply clinical prediction rules (e.g., Ottawa Ankle Rules) during clinical examination procedures.
7. Obtain a thorough medical history that includes the pertinent past medical history, underlying systemic disease, use of medications, the patient’s perceived pain, and the history and course of the present condition.

8. Differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient's treatment/rehabilitation program, and make modifications to the patient's program as needed.

9. Demonstrate the ability to modify the diagnostic examination process according to the demands of the situation and patient responses.

10. Recognize the signs and symptoms of catastrophic and emergent conditions and demonstrate appropriate referral decisions.

11. Use clinical reasoning skills to formulate an appropriate clinical diagnosis for common illness/disease and orthopedic injuries/conditions.

12. Incorporate the concept of differential diagnosis into the examination process.

13. Determine criteria and make decisions regarding return to activity and/or sports participation based on the patient’s current status.

14. Use standard techniques and procedures for the clinical examination of common injuries, conditions, illnesses, and diseases including, but not limited to:
   a. history taking
   b. inspection/observation
   c. palpation
   d. functional assessment
   e. selective tissue testing techniques / special tests
   f. neurological assessments (sensory, motor, reflexes, balance, cognitive function)
   g. respiratory assessments (auscultation, percussion, respirations, peak-flow)
   h. circulatory assessments (pulse, blood pressure, auscultation)
   i. abdominal assessments (percussion, palpation, auscultation)

15. Assess and interpret findings from a physical examination that is based on the patient’s clinical presentation. This exam can include:
   a. Assessment of posture, gait, and movement patterns
   b. Palpation
   c. Muscle function assessment
   d. Assessment of quantity and quality of osteokinematic joint motion
   e. Capsular and ligamentous stress testing
   f. Joint play (arthrokinematics)
   g. Selective tissue examination techniques / special tests
   h. Neurologic function (sensory, motor, reflexes, balance, cognition)
   i. Cardiovascular function (including differentiation between normal and abnormal heart sounds, blood pressure, and heart rate)
   j. Pulmonary function (including differentiation between normal breath sounds, percussion sounds, number and characteristics of respirations, peak expiratory flow)
   k. Gastrointestinal function (including differentiation between normal and abnormal bowel sounds)
   l. Ocular function (vision, ophthalmoscope)
   m. Function of the ear, nose, and throat (including otoscopic evaluation)
   n. Dermatological assessment
16. Determine when the findings of an examination warrant referral of the patient.
17. Identify the common congenital and acquired risk factors and causes of musculoskeletal injuries and common illnesses that may influence physical activity in pediatric, adolescent, adult, and aging populations.
18. Describe the principles and concepts of body movement, including normal osteokinematics and arthrokinematics.
19. Describe the influence of pathomechanics on function.
20. Describe the basic principles of diagnostic imaging and testing and their role in the diagnostic process.
21. Identify the patient’s participation restrictions (disabilities) and activity limitations (functional limitations) to determine the impact of the condition on the patient’s life.
22. Explain the role and importance of functional outcome measures in clinical practice and patient health-related quality of life.
24. Define evidence-based practice as it relates to athletic training clinical practice.
25. Apply and interpret clinical outcomes to assess patient status, progress, and change using psychometrically sound outcome instruments.
26. Explain the role of evidence in the clinical decision making process.
27. Describe and contrast research and literature resources including databases and online critical appraisal libraries that can be used for conducting clinically-relevant searches.
28. Specify when referral of a client/patient to another healthcare provider is warranted and formulate and implement strategies to facilitate that referral.
29. Identify modifiable/non-modifiable risk factors and mechanisms for injury and illness.
30. Fabricate and apply taping, wrapping, supportive, and protective devices to facilitate return to function.
31. Analyze gait and select appropriate instruction and correction strategies to facilitate safe progression to functional gait pattern.
32. Explain the relationship between posture, biomechanics, and ergodynamics and the need to address these components in a therapeutic intervention.

**Professional Behavior:** Students are expected to conduct themselves as professionals and to demonstrate respect for the course instructor and peers with behavior that is conducive to a positive learning environment. Students are expected to be on time and present for each class session. Cell phones must be turned off prior to the beginning of class and stored away unless being utilized during class to complete an assignment as directed by the instructor. All assignments are to be completed and turned in on time. Late assignments will result in a reduced grade as determined by the instructor’s discretion and failure to turn in an assignment by the end of the term will result in a zero for that assignment.

**Attendance:** Students are expected to be present and on time to every class. Excused absences will be permitted for personal emergencies (personal and family related illness or death, documented with a note from a health care provider), religious observances, participation in University-sponsored activities (athletics or artistic performances), or government-required
activities (military service or jury duty). It is the student’s responsibility to communicate to the
instructor ahead of time about missing class via e-mail, telephone or in person. Missed work
must be made up and it is the student’s responsibility to arrange a make-up time. Missed exams
and quizzes can only be made up if there is a documented excused absence. Make-up quizzes
and exams must be scheduled in advance; otherwise the student will receive a zero. If you are
late to class on an exam day, you will be required to turn in your exam when the time limit has
been reached. Repeated tardiness and/or absences may result in a lowered grade.

**Honor Code And Academic Integrity:** It is expected that each student in this class will
conduct him or herself within the guidelines of the honor system. (See 2012-2013 Student
Handbook*) All academic work should be done with the high level of honesty and integrity that
this institution demands.

Incidents where the instructor determines the student’s actions are related more to a
misunderstanding will be handled by the instructor. A written intervention designed to help
prevent the student from repeating the error will be given to the student. The intervention,
submitted by form and signed both by the instructor and the student, will be forwarded to the
Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others
having knowledge of the incident to the Dean of Students. A student found responsible by the
Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the
course due to academic dishonesty. This grade will appear on the student’s transcript for two
years after which the student may petition for the X to be expunged. The student may also be
placed on disciplinary probation, suspended (temporary removal) or expelled (permanent
removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration—working together without permission-
- is a form of cheating. Unless the instructor specifies that students can work together on an
assignment, quiz and/or test, no collaboration during the completion of the assignment is
permitted. Other forms of cheating include possessing or using an unauthorized study aid
(which could include accessing information via a cell phone or computer), copying from others’
exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for
any assignment in this class without obtaining prior permission from the instructor.

* A complete version of the Honor Code and all related processes can be found in the Student

**Disability Statement:** This College abides by section 504 of the Rehabilitation Act of 1973 and
the Americans with Disabilities Act that stipulates no student shall be denied access to an
education “solely by reason of a handicap.” Disabilities covered by law include, but are not
limited to, learning disabilities and hearing, sight or mobility impairments. If you have a
documented disability that may have some impact on your work in this class and for which you
may require accommodations, please see an administrator at the Center of Disability Services,
(843) 953-1431 or me so that such accommodation may be arranged. If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, please feel free to come and discuss this with me during my office hours.

**Evaluation Criteria:**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
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<tbody>
<tr>
<td>Lab Assignments/Case Studies</td>
<td>200 pts</td>
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<tr>
<td>Midterm Practical Examination</td>
<td>50 pts</td>
</tr>
<tr>
<td>Final Practical Examination</td>
<td>100 pts</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td><strong>350 pts</strong></td>
</tr>
</tbody>
</table>

**Final Course Grade:** Totaling the number of points earned and dividing it by the total number of available points will calculate/determine the final grade. The final grade for this course will be assigned based solely upon the percentage of points earned. No other factor will be considered. The grade will be assigned according to the following table:

- A  >90%
- A-  89 – 88%
- B+  87 – 85%
- B   84 – 80%
- B-  79 – 78%
- C+  77 – 75%
- C   74 – 70%
- C-  69 – 68%
- D+  67 – 66%
- D   65 – 64%
- D-  63 – 62%
- F   <62%

**Details of Evaluation Criteria:**

**Lab Assignments/Case Studies**
Each lab will have an assignment associated with it to enhance learning. These sheets will be posted on OAKS and should be printed before coming to lab. You should also dress appropriately (shorts/t-shirt) for every lab. Failure to provide the appropriate supplies will result in a 2 pt deduction from that day’s lab assignment.

**Practical Examinations**
A practical examination will be given at the midterm and conclusion of the semester covering the evaluation skills acquired during the class. These exams will be given during the regular class periods for the week listed on the course schedule.
<table>
<thead>
<tr>
<th>Date, Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/25, Tues</td>
<td>Introduction</td>
</tr>
<tr>
<td>8/27, Thurs</td>
<td>Review of Clinical Examination</td>
</tr>
<tr>
<td>9/1, Tues</td>
<td>Posture Assessment</td>
</tr>
<tr>
<td>9/3, Thurs</td>
<td>Posture Assessment/Alignment</td>
</tr>
<tr>
<td>9/8, Tues</td>
<td>Gait Analysis</td>
</tr>
<tr>
<td>9/10, Thurs</td>
<td>Gait Analysis Interpretation and Clinical Implications</td>
</tr>
<tr>
<td>9/15, Tues</td>
<td>Development of Posture/Gait Screening Tool</td>
</tr>
<tr>
<td>9/17, Thurs</td>
<td>Head &amp; Face</td>
</tr>
<tr>
<td>9/22, Tues</td>
<td>Head &amp; Face</td>
</tr>
<tr>
<td>9/24, Thurs</td>
<td>Head &amp; Face</td>
</tr>
<tr>
<td>9/29, Tues</td>
<td>Concussion Assessment</td>
</tr>
<tr>
<td>10/1, Thurs</td>
<td>Concussion Management</td>
</tr>
<tr>
<td>10/6, Tues</td>
<td>Cervical Spine</td>
</tr>
<tr>
<td>10/8, Thurs</td>
<td>Cervical Spine</td>
</tr>
<tr>
<td>10/13, Tues</td>
<td>Cervical Spine Injury Management</td>
</tr>
<tr>
<td>10/15, Thurs</td>
<td>Midterm Practical Exam</td>
</tr>
<tr>
<td>10/20, Tues</td>
<td>FALL BREAK NO CLASS</td>
</tr>
<tr>
<td>10/22, Thurs</td>
<td>Thorax &amp; Abdomen</td>
</tr>
<tr>
<td>11/27, Tues</td>
<td>Thorax &amp; Abdomen</td>
</tr>
<tr>
<td>10/29, Thurs</td>
<td>Thoracic &amp; Lumbar Spine</td>
</tr>
<tr>
<td>11/3, Tues</td>
<td>Thoracic &amp; Lumbar Spine</td>
</tr>
<tr>
<td>11/5, Thurs</td>
<td>Pelvis &amp; SI Joint</td>
</tr>
<tr>
<td>11/10, Tues</td>
<td>Pelvis &amp; SI Joint</td>
</tr>
<tr>
<td>11/12, Thurs</td>
<td>Hip</td>
</tr>
<tr>
<td>11/17, Tues</td>
<td>Hip</td>
</tr>
<tr>
<td>11/19, Thurs</td>
<td>Pelvis, SI Joint, &amp; The Hip</td>
</tr>
<tr>
<td>11/24, Tues</td>
<td>Review</td>
</tr>
<tr>
<td>11/26, Thurs</td>
<td>THANKSGIVING BREAK NO CLASS</td>
</tr>
<tr>
<td>12/1, Tues</td>
<td>Review: Putting It All Together</td>
</tr>
<tr>
<td>12/3, Thurs</td>
<td>Final Practical Exam</td>
</tr>
<tr>
<td>12/10, Thurs</td>
<td>FINAL EXAM 8-11</td>
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</tbody>
</table>