

**Basic Athletic Training**  
**Tuesdays; 5:10 to 8:00 PM; 285 SFH**

**Instructor:** Blain Empey, MSPT, ATC, (Call me Blain)  
 Office: 1135 SFH, office hours M-F 11:00 to 5:00 or by appt.  
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**Text:** Arnhem/Prentice: Principles of Athletic Training

**Requirements:**

1. Weekly quizzes (30%)
2. Three unit tests (15% each)
3. Paper Patients (25%)
4. Two Abstracts (pass/fail)
5. Homework (pass/fail)
6. Final exam (pass/fail)

**Grading:**

- |          |          |
|----------|----------|
| 94-100=A | 73-76=C  |
| 90-93=A- | 70-72=C- |
| 87-89=B+ | 67-69=D+ |
| 83-86=B  | 63-66=D  |
| 80-82=B- | 60-62=D- |
| 77-79=C+ | 0-59=E   |

- Objectives:**
1. Review general responsibilities, roles, and tasks of athletic trainers, physical therapists, and other allied health professionals involved in sports medicine.
  2. Learn assessment, first aid, and treatments for common musculoskeletal injuries.
  3. Examine methods of injury prevention including conditioning principles, environmental hazards, and protective equipment.
  4. Learn and utilize resources available to sports medicine professionals.
  5. Apply knowledge to practical situations.

**Schedule:**

DATE	TOPIC	DATE	TOPIC
Sep. 2	Orientation Intro to sports Medicine Conditioning	Oct. 21	Knee: Tibiofemoral
Sep. 9	Conditioning Heat Illness	Oct. 28	Knee: Patellafemoral Review for Test 2
Sep. 16	Classification of Injury	Nov. 4	Thigh/Hip/Pelvis Internal Injury Week of Test 2
Sep. 23	Emergency Procedure First Aid Review for Test 1	Nov. 11	Head Injury
Sep. 30	Injury Assessment Evaluation Week of Test 1	Nov. 18	Shoulder
Oct 7	Modalities and Rehab Case study	Nov. 25	Happy Thanksgiving!
		Dec. 2	Elbow Wrist/Hand Review for Test 3
Oct. 14	Foot Ankle Lower Leg	Dec. 9	Spine Week of Test 3

**Weekly quizzes:** A quiz will be given every class period emphasizing material covered in the previous lecture and reading for the current lecture. Quizzes will be given promptly at the beginning of class, will take no more than five to ten minutes, and can not be taken later or made up. However, the lowest three scores will be dropped, allowing for sickness, unavoidable lateness, etc. This system rewards attendance, reviewing material before class, and being on time. *First quiz on September 9 on the syllabus and topics covered September 2.*

**Homework:**

*Assignment 1:* Visit me in the athletic training room in small groups. The purpose of this assignment is to help me get to know you, and provide an opportunity for you to get a free tour of BYU's most excellent facility. I will arrange for times (mostly right after class) and have you sign up early in the semester.

*Assignment 2:* Choose the appropriate option, due September 9:

1. Students interested in Physical Therapy as a career: Look at the web site [www.apta.org](http://www.apta.org) and click on the link titled 'Information for: Students'. Browse the links on that page and write a short description of things you learned or found interesting.
2. All other students: Go to [www.nata.org](http://www.nata.org) and click on 'Resources for: Public'. Browse the links on that page (especially the section titled 'Athletic Training Info'). Write a short description of things you learned or found interesting.

*Assignment 3:* Send me e-mail by 10-14 and answer the following questions (short or long):

1. How is the semester going for you, (life in general and in this class)?
2. Name at least one thing you like about this class.
3. How can *we* improve the class?
4. Did the first test reflect the truth? What could be improved with testing?
5. Other comments?

*Assignment 4:* Due on or before November 11:

Look at the list of web-sites provided (last page of the syllabus). Choose one that interests you, browse, and write something you learned from that site. These are just suggestions; you can choose any site that relates to sports medicine.

*Assignment 5:* Use a scientific search engine (Medline, byline, one of the above addresses, etc.) to help you find at least one of the two abstracts due. Write how you found the article (which address, key words used, etc.) under the reference. You don't find the actual article on the internet, just a title or abstract or such that leads you to finding it in the library. You must still read the entire article. Some are online, many are not!

**Details regarding homework:** The above assignments are pass/fail. If you fail the homework, you have opportunity to try again. If you fail to try again, or fail to do it initially, your grade goes down one level (for example from a B+ to a B) for each assignment missed. I will let you know if I have not received your assignment. Please keep a copy of your work so you can re-submit it if necessary.

**Computer lab:** The computer lab in this building is in 192 SFH (almost directly under this classroom). Hours are 7:45 am to 7:00 pm. You can use computers there to complete any of these assignments. Bring your own disc if you want to save, bring your signature card if you want to print, and bring ID.

**Late work:** Work worth points will be deducted one point per day late. Pass/Fail work will not be penalized. However, I keep track if you hand pass/fail work in late. At the end of the semester, if you have a pattern of late work and are between grades, I choose the lower grade for you. For example, if you had 93.72 total points in the class, you would get an A if you were on time, and an A- if you were late with abstracts, paper pts., or homework.

**Tests:** The following tests (subject to change) will be given in the testing center during fall semester hours:

Test	Covers material from	Review on	In testing center from
1	September 10 to September 30	September 23	October 1-4
2	October 7 to November 4	October 28	November 5-8
3	November 11 to December 9	December 2	December 10, 11

If you have an emergency, call me immediately and we will reschedule your test. If you get testing center anxiety and would rather take the test in my office, let me know ahead of time. All unit tests are closed book.

**Final Exam:** The final exam is scheduled to be held in class on Tuesday, December 16 from 8 to 10 p.m. It is comprehensive. I will provide several paper patients and you will describe what you would do, as an athletic trainer, for your athletes. The final is a pass/fail test, meaning you must take it and pass to pass the class; however, it has no bearing on your grade. This allows you one last chance to review your notes, and then face realistic situations with your new knowledge without the pressure of having your grade on the line. Passing means 75% or above.

**Lecture Notes:** I am placing my Power Point presentations on Blackboard if you want to copy them and take notes on them in class. You are free to take notes on blank paper if you would rather. However, you may find them useful. I recommend you print them before class and take notes to the side. I do not have *everything* written in these notes, so if you utilize them you should follow along as I lecture and add any information not included.

**Miscellaneous:** Beginning anatomy (PDBIO 220 or equivalent) is a pre-requisite. Although coaching minors are not required to take anatomy to get the degree, the class still requires it. Please see me if you are concerned. It is possible to get a good grade without having taken anatomy, but it is harder. Concurrent registration in ES 321 is required.

**Office hours:** It is important to me that you feel I am available to help you. My office hours are the hours I am usually in the training room. Please feel free to come by at any time. If I am super busy with the athletes, I will try to get an athletic training student to help me so I can help you. Sometimes I will be too busy; please, do not be offended if I ask you to come back (busiest times are generally from 11:00 AM to noon). If I am not there when you come by, ask the secretary or leave a note in my box and I will call you (I often go out to practices, noon to 3:00 PM). Of course, you may make an appointment with me, too. Call me at work or at home if you need to (I usually go to bed by 10:30). Feel free to visit me at the volleyball courts!

**Quality = Professional:** Imagine yourself buying a beautiful, well-equipped sports medicine facility. You want your patients to get the best treatment in the entire region. You hire a marketing professional to recruit local physicians to refer patients to your brand new clinic. Now is the time to write a report on one of these patients and send it to a doctor who has referred several clients to you. With that scenario in mind, would you use a dot matrix printer on thin, yellowing paper? Would you send the report, even though the printer ran out of ink and smeared? Would you write it by hand? Would you allow the tiniest spelling error to escape your notice? Let us pretend you are a terrible writer. Would you go ahead and send your letter with poor grammar and hope this doctor fails to notice? Would you allow any excuse for the doctor getting it late, three days after the patient sees him? Rather, you would probably hire a secretary or use your spouse or colleague to proof it before it got out the door. You would laser print it on nice letterhead. The moral to this story is that **professional work equals quality work**. I deduct points for poor presentation with written work. Late work loses one point for each day late. Late means after I ask for it in class. (Letterhead on bond paper is not required.)

**Documenting your work:** Two abstracts plus four paper patients (or so) plus five homework assignments plus thirteen quizzes all times 30 students equals 720 pieces of work I must keep track of, not including tests. Please take precautions for my mistakes and **keep copies of your work!** At the end of the semester you may check that I have it all if you want. I delegate this responsibility to you and my failure is your failure here. Please keep returned quizzes, paper patients, and abstracts in your records. If you don't have it and I don't have it, it wasn't done.

**Forgiveness or Justice versus mercy:** Justice in the class means I have to be regimental about penalties in order to be fair to the student who sacrifices to get everything in on time, etc. The forgiveness part comes in dropping low score quizzes or missed quizzes. One point off of one or two homework assignments for emergencies like failed discs or printers will not make a difference in your grade; don't be worried about these problems or lost points. If you are worried, get it done in plenty of time in case something out of your control goes wrong. If you are ill, have family emergencies, are an athlete who travels, and so on, I will be very merciful. My only request is that you see me before you miss class or assignments whenever possible. Call me the next day if something happens! I need/want to know! If you have trouble taking tests in the testing center, arrange with me to take it in my office. If you do not understand an assignment, contact me, even if it is the night before (not too late!).

**Extra credit:** I do not provide extra credit work. Time spent on these projects would be better spent studying the material or in my office getting individual help.

**Common courtesy:** Please just turn off your phones or at least on silent. Text messaging while in class is rude and distracting. Reading other material like newspapers, studying for other classes, and chatting with your neighbor is also quite distracting to a teacher. If you have to leave early, I'm not offended; just sit in the back that day! Purposely putting your head down on your desk and taking a nap is ten times worse than inadvertently nodding off. Go out to the hall and sit on the couch! If coming to class is a waste of time for you, come and take the quiz and then leave. I'm not offended by that; just don't ask for help outside of class.

**Application for the athletic training program:** If you are considering application for admittance into the athletic training program, we will discuss what you should do when those applications are delivered to me (a few weeks into the semester).



## ABSTRACTS

Use the syllabus and/or lecture notes to find a topic that interests you. Find an article from one of these listed journals, or one I pre-approve on that subject. Read the article and write an 'abstract' or synopsis of it following the format below. The type of article I want you to find will also follow that format. If it doesn't, don't use it for this class. Keep it simple enough that you write one page or less but detailed enough that anyone in the class could read it and glean knowledge from your work. Hand it in on the day we discuss that topic. Participate in class, using the information you learned from the article, if it applies. You must hand in one abstract on or before October 7. You may not hand in abstracts on the last day of class.

The objective of this assignment is to introduce you to *primary research* in sports medicine journals, and to give you experience in finding and reading current research without the headache of a huge paper. Also see homework #5: you must use the internet somehow to find one of these two assigned abstracts. Use Medline or other scientific search engine to find an article. Normally, you will find a title, journal, author(s), call number, and abstract online. From here you must find the entire article in the library and read it. If you find the entire article on line, great!

Almost every semester I have to confront students who plagiarize. And almost every student has simply made the mistake of reading only the article's abstract and using terminology which too closely parallels the original article. Too avoid this mistake, please read the entire article and write in your own words, even if it seems simple to you. Even if you do this as an honest mistake, plagiarism results in a failed assignment and possible referral to the honor code office.

### The following journals are approved sources for articles:

*Athletic Training: GV561.A83X	International Journal of Sports Medicine: RC1200.I57X
*Physical Therapy: RM695.P48X	Journal of Sports Medicine and Physical Fitness: RC1200.J68X
*The American Journal of Sports Medicine: RC1200.J66	American Journal of Phys Medicine and Rehabilitation: RM735.A103
*Physical Fitness/Sports Medicine (bibliography): RC1210.X1 P49	Archives of Physical Medicine and Rehabilitation: RM695.A72X
*Journal of Orthopedic and Sports Physical Therapy RD701.J69	Strength and Conditioning: GV514.N37X
Medicine and Science in Sports and Exercise: RC1200.M44	<b><i>I do not accept The Physician and Sportsmedicine.</i></b>
Canadian Journal of Applied Sports Sciences: RC1210.C35X	(* Best bet for applicable topics)

### Checklist of instructions

#### Good abstracts checklist:

- Use one of the above journals.
- Use a journal from 2005 to 2008.
- Write one page only, typed.
- Write a reference (see instructions).
- Use sports medicine topics only.
- Hand in on the day we discuss that subject.
- Use the information to participate in class.

#### Common mistakes checklist:

- Use case studies.
- Copy the abstract provided in the journal.
- Write more than one page.
- Write a non-sports medicine article.
- Hand in two abstracts the same day.
- Write by hand.
- Use The Physician and Sportsmedicine.

Use the following format.

**Name: (your name)**

**Title: (Include the full title of the article)**

**Problem:**

**Methods:**

**Results:**

**Conclusions:**

**Reference:** (*The reference must be perfect or I deduct one or two points. See the next page, it is not difficult.*)

## Referencing

Referencing for professional journals varies. However, I require you to learn and use the AMA format, which is used in most of the fields you are studying; the format below is specifically used in the Journal of Athletic Training. The following are a few different examples to help you. These are not the only situations you will encounter, but are the most common. See the *AMA Manual of Style* for specifics.

1. Use the full last name with the first names in initial(s) without a comma in between:  
Correct: Empey B.  
Harrison WH.  
Incorrect: Empey, B.  
Jackson, Robert H.
2. Use commas between multiple authors with a period after the last one:  
Correct: Empey B, Harrison WH.  
Fox R, Nix S, Lux J, Wax T, Tex A, Klitgaard H.  
Incorrect: Clark, K; Lane, L; Olsen, J;
3. Do not use titles such as Ph.D, MD, MS, and etcetera:  
Incorrect: Stacey D, PhD.; Graham, M, MD.
4. Write the title of the article first as if it were a normal sentence (do not capitalize every word, place a period at the end of the title).  
Correct: A model for a policy on HIV/AIDS and athletics.  
Athletic training: Implementing high school programs.  
Incorrect: Reliability of Ground Reaction Forces During Vertical Jump:
5. Write the title of the Journal. You may abbreviate, and should use capital letters.
6. Use periods after each of the above sections: Author. Title. Journal.  
Correct: Lott J. Knee exam in high schools. Athletic Training.  
Incorrect: Lott J; Knee exam in high schools, Athletic Training:
7. After the journal title, indicate the date, volume, and page in that order. Use the following punctuation: date (year only) followed by a semicolon, volume followed by a colon, and page numbers separated by a hyphen and followed by a period. Do not use any spaces between the numbers or the punctuation. If there is a number or subsection of a volume, use parentheses after the volume.  
Correct: 1997;12:199-201.  
1995;7(2):12-18.  
Incorrect: 1993, Vol. 9, pg 111-120.  
Volume 1, page 55. 1990.

Example:

Knight KL, Ingersoll CD. Structure of a scholarly manuscript: 66 tips for what goes where. Athletic Training. 1996;31(3):201-206.



## PAPER PATIENT ASSIGNMENTS

Paper patients are practical situations you may encounter as an athletic trainer, coach, other professional, or even as a parent. The objective of this assignment is to give you an opportunity to integrate the academic with the practical. Please approach each patient as if you were the athletic trainer (not the coach, etc.). Pretend it is a real situation and describe in detail how you solve the problem. A total of four paper patients are due by the end of the semester.

**Required: Paper patient number 1 and 2!** We will discuss these two in class in detail. You will need to write it up as instructed below and hand it in the class after we talk about it. Please work individually when writing these two, even though we went through it as a class.

**Do two paper patients individually.** In addition to the two required paper patients, choose two more to do individually.

**Coaches:** Do the two required paper patients (1 and 2), but only one other paper patient (choose one from number 3-8). Instead of the fourth required by the rest of the class, do the coaching assignment (below).

**Writing it up:** No specific format is required unless instructed. Use correct grammar, but do not write it like an essay. Rather, write a narrative; meaning, describe it to me like you are telling me a story. It must be typed. Most people use one or two pages to write it up; however, I do not assign length (it must be just right).

Paper patient #1: Discussion on September 23, paper patient due on October 7. **REQUIRED**

At the first football game of the season, one of the defensive linemen on your team spears an opposing player (despite your instructions otherwise) and goes down. As you proceed on to the field, you note he is not moving. When you reach him, you find he is unconscious and not breathing, but has a pulse.

1. Describe the appropriate emergency procedure for this athlete.
2. He starts to breathe independently, then becomes conscious, and complains of pain and numbness in his neck and arms. Describe what you would do now, including the appropriate spine injury evaluation (NOT the secondary survey).

Paper patient #2: Discussion on October 7, paper patient due on October 21. **REQUIRED**

A sprinter suddenly grabs the back of her leg and limps across the finish line last during the last race of the day. You evaluate her and find a second degree hamstring strain. For the first 36 hours, you treat her with RICE. Write a problem list, short and long term goals, and a basic rehabilitation program for the sub-acute and chronic phase of her injury. This program should be specific to the injury. Do not write this out, use a list format.

Paper patient #3: Due October 28.

During Two-a-day Football practice in August, you see a running back off by himself leaning against the fence. You approach him and suspect heat stroke after an evaluation. Why do you suspect this and what do you do?

Paper patient #4: Due November 4.

A volleyball player comes down from a jump and lands on someone's foot. You evaluate him immediately and find a grade two ankle sprain. Describe your acute and sub-acute care for this athlete.

Paper patient #5: Due November 11.

A basketball player tore his ACL and had reconstructive surgery. He has been going to a physical therapy clinic for some time now, and is nearing return to sport. You work at the high school through the clinic; now you are to devise a **sport specific exercise protocol** at the last stage of his rehabilitation. List at least 5 exercises you could do with this athlete to fulfill this responsibility. Hint: adapt basketball drills to this problem; do **not** describe general exercises like squats. If you aren't familiar with basketball, ask someone.

Paper patient #6: Due November 18.

You watch one of the softball players get hit in the head by a wild throw. You suspect a concussion because she is slightly disoriented when you first see her. Describe your head injury evaluation. She doesn't need to go to the emergency room, but what do you instruct her parents to do as they are leaving when the game is over?

Paper patient #7: Due December 2.

A swimmer has biceps tendinitis due to impingement. Describe your treatment program (modalities and exercises). Describe the exercises as you would explain them to an athlete.

Paper patient #8: Due December 9.

This paper patient is worth 10 points only, for those of you who procrastinated but still want a few points. Your athletic director (the boss) assigns you to present on sports medicine for the junior high school's career day. Describe your presentation, and include ideas to make it fun for the young-uns.

### **Coaching assignment:**

#### **Interview/Opinion paper, due by November 18 (can be earlier).**

This assignment is required for coaching majors/minors. Write it in place of a paper patient besides the two required.

Interview any coach with 5 or more years of actual coaching experience at the high school level (it can be a local coach or your coach at home, or whatever). Ask the following questions, and then write a synopsis of what you learned. You may interview more than one coach for several opinions. Include the coach's name and school.

1. Did you have any sports medicine training? If yes, what?
2. Do you have emergency first aid training? How comfortable are you with decision making in this area?
3. How often have you had to take care of injured athletes? How confident are you in caring for injured athletes? Do you enjoy this aspect of your job, if you have that responsibility?
4. Does your school employ a certified athletic trainer?

If yes:

What is the nature of athletic training coverage (full time, partial coverage, students...)?

What is your opinion of your athletic trainer/athletic trainers in general?

How often do you treat injured athletes even though you have an athletic trainer?

If no:

Who has responsibility for injured athletes, physicals, prevention of injuries, etc?

Who decides if the athlete is healthy enough to play after an injury? If it is you (the coach) do you think this is a conflict of interest?

Would you want an athletic trainer at your high school? Why/why not?

5. Include any other comments the coach thinks is important not covered by the above questions.

Finally, I want your opinion after having interviewed the coach. Answer:

Why might this class be important/not important for you as a coach?

Why you would want/not want a trainer when you are a coach?

The purpose of this assignment is to answer your question: Why do I have to take this class? I am interested to know what you and the coach you interview think. Don't worry about being frank; the grade for this paper is on format only, not content (even if the answer ends up being 'this class is a total waste of time').

## **Some Web Sites**

Aacsm.org  
Americangeriatrics.org  
Apta.org (physical therapy)  
Foot.com  
Footandankle.com  
Gcmas.org (gait and clinical movement)  
Healthfinder.org  
Isbweb.org (Internatl. Society of biomechanics)  
Nata.org (athletic training)  
Niams.nih.gov (arthritis, musculoskeletal, skin diseases)  
Oandp.org (orthoses and prosthetics)  
Physsportsmed.com  
Pubmed.gov (Nat. library of medicine—database of medical literature)  
Spine.org  
Spinejournal.com  
Sportssci.org

### **Finding journal articles through the BYU home page:**

- Find the BYU home page ([www.byu.edu](http://www.byu.edu))
- Under the student section, click on Libraries
- Click on Harold B. Lee Library
- Click on Databases and Periodical Indexes
- Under 'Database by subject' click on Medicine or on Nursing and Health
- I recommend Medline but you can use any of these databases.

## EXSC 320

### *Instructed*

- RM-C1 Explain the risk factors associated with physical activity.
- RM-C2 Identify and explain the risk factors associated with common congenital and acquired abnormalities, disabilities, and diseases.
- RM-C4 Identify and explain the recommended or required components of a preparticipation examination based on appropriate authorities' rules, guidelines, and/or recommendations.
- RM-C5 Describe the basic concepts and practice of wellness screening.
- RM-C6 Describe the general principles of health maintenance and personal hygiene, including skin care, dental hygiene, sanitation, immunizations, avoidance of infectious and contagious diseases, diet, rest, exercise, and weight control.
- RM-C7 Explain the importance for all personnel to maintain current certification in CPR, automated external defibrillator (AED), and first aid.
- RM-C8 Explain the principles of effective heat loss and heat illness prevention programs. Principles include, but are not limited to, knowledge of the body's thermoregulatory mechanisms, acclimation and conditioning, fluid and electrolyte replacement requirements, proper practice and competition attire, and weight loss.
- RM-C9 Explain the accepted guidelines, recommendations, and policy and position statements of applicable governing agencies related to activity during extreme weather conditions.
- RM-C10 Interpret data obtained from a wet bulb globe temperature (WBGT) or other similar device that measures heat and humidity to determine the scheduling, type, and duration of activity.
- RM-C12 Explain the components and purpose of periodization within a physical conditioning program
- RM-C13 Identify and explain the various types of flexibility, strength training, and cardiovascular conditioning programs. This should include the expected effects (the body's anatomical and physiological adaptation), safety precautions, hazards, and contraindications of each.
- RM-C16 Explain the basic principles associated with the use of protective equipment, including standards for the design, construction, fit, maintenance and reconditioning of protective equipment; and rules and regulations established by the associations that govern the use of protective equipment; and material composition.
- RM-C17 Explain the principles and concepts related to prophylactic taping, wrapping, bracing, and protective pad fabrication
- RM-C18 Explain the principles and concepts related to the fabrication, modification, and appropriate application or use of orthoses and other dynamic and static splints. This includes, but is not limited to, evaluating or identifying the need, selecting the appropriate manufacturing material, manufacturing the orthosis or splint, and fitting the orthosis or splint.
- RM-C19 Explain the basic principles and concepts of home, school, and workplace ergonomics and their relationship to the prevention of illness and injury.
- RM-C20 Recognize the clinical signs and symptoms of environmental stress.
- RM-P6 Obtain, interpret, and make decisions regarding environmental data. This includes, but is not limited to the ability to:

- RM-P6.2 Formulate and implement a comprehensive, proactive emergency action plan specific to lightening safety
- PA-C3 Explain normal and abnormal circulation and the physiology of fluid homeostasis.
- PA-C4 Identify the normal acute and chronic physiological and pathological responses (e.g., inflammation, immune response, and healing process) of the human body to trauma, hypoxia, microbiologic agents, genetic derangements, nutritional deficiencies, chemicals, drugs, and aging affecting the musculoskeletal and other organ systems, and musculoskeletal system adaptations to disuse.
- PA-C5 Describe the etiology, pathogenesis, pathomechanics, signs, symptoms, and epidemiology of common orthopedic injuries, illnesses and diseases to the body's systems.
- PA-C6 Describe the body's responses to physical exercise during common diseases, illnesses, and the injury.
- DI-C4 Explain directional terms and cardinal planes used to describe the body and the relationship of its parts.
- DI-C5 Describe the principles and concepts of body movement including functional classification of joints, arthrokinematics, normal ranges of joint motion, joint action terminology, and muscle groups responsible for joint actions (prime movers, synergists), skeletal muscle contraction, and kinesthesia/proprioception.
- DI-C6 Describe common techniques and procedures for evaluating common injuries including taking a history, inspection/observation, palpation, functional testing, special evaluation techniques, and neurological and circulatory tests.
- DI-C7 Explain the relationship of injury assessment to the systematic observation of the person as a whole.
- DI-C8 Describe the nature of diagnostic tests of the neurological function of cranial nerves, spinal nerves, and peripheral nerves using myotomes, dermatomes, and reflexes.
- DI-C10 Explain the roles of special tests in injury assessment.
- DI-C12 Describe strength assessment using resistive range of motion, break tests, and manual muscle testing.
- DI-C14 Describe the clinical signs and symptoms of environmental stress.
- DI-C17 Describe the components of medical documentation (e.g. SOAP, HIPS and HOPS).
- MC-C4 Describe and know when to refer common eye pathologies from trauma and/or localized infection (e.g., conjunctivitis, hyphema, corneal injury, sty, scleral trauma).
- MC-C5 Describe and know when refer common ear pathologies from trauma and/or localized infection (e.g., otitis, ruptured tympanic membrane, impacted cerumen).
- MC-C6 Describe and know when to refer common pathologies of the mouth, sinus, oropharynx, and nasopharynx from trauma and/or localized infection (e.g., gingivitis, sinusitis, laryngitis, tonsillitis, pharyngitis).
- MC-C10 Explain the possible causes of sudden death syndrome.
- MC-C21 Describe and know when to refer common injuries or conditions of the teeth (e.g., fractures, dislocations, caries).
- MC-C22 Explain the importance and proper procedures for measuring body temperature (e.g., oral, axillary, rectal).
- AC-C1 Explain the legal, moral, and ethical parameters that define the scope of first aid and emergency care and identify the proper roles and responsibilities of the certified athletic trainer.

- AC-C5 Describe the principles and rationale of the initial assessment including the determination of whether the accident scene is safe, what may have happened, and the assessment of airway, breathing, circulation, level of consciousness and other life-threatening conditions.
- AC-C6 Differentiate the components of a secondary assessment to determine the type and severity of the injury or illness sustained.
- AC-C8 Describe pathological signs of acute/traumatic injury and illness including, but not limited to, skin temperature, skin color, skin moisture, pupil reaction, and neurovascular function.
- AC-C13 Describe the proper management of external hemorrhage, including the location of pressure points, use of universal precautions, and proper disposal of biohazardous materials.
- AC-C14 Identify the signs and symptoms associated with internal hemorrhaging.
- AC-C15 Describe the appropriate use of aseptic or sterile techniques, approved sanitation methods, and universal precautions for the cleansing and dressing of wounds.
- AC-C16 Describe the injuries and illnesses that require medical referral.
- AC-C17 Explain the application principles of rest, cold application, elevation, and compression in the treatment of acute injuries.
- AC-C18 Describe the signs, symptoms, and pathology of acute inflammation.
- AC-C19 Identify the signs and symptoms of head trauma, including loss of consciousness, changes in standardized neurological function, cranial nerve assessment, and other symptoms that indicate underlying trauma.
- AC-C20 Explain the importance of monitoring a patient following a head injury, including obtaining clearance from a physician before further patient participation.
- AC-C21 Define cerebral concussion, list the signs and symptoms of concussions, identify the methods for determining the neurocognitive status of a patient who sustains a concussion and describe contemporary concepts for the management and return-to-participation of a patient who sustains a concussion.
- AC-C22 Identify the signs and symptoms of trauma to the cervical, thoracic and lumbar spines, the spinal cord, and spinal nerve roots, including neurological signs, referred symptoms, and other symptoms that indicate underlying trauma and pathology.
- AC-C23 Describe cervical stabilization devices that are appropriate to the circumstances of an injury.
- AC-C24 Describe the indications, guidelines, proper techniques and necessary supplies for removing equipment and clothing in order to evaluate and/or stabilize the involved area.
- AC-C26 Identify the appropriate short-distance transportation method, including immobilization, for an injured patient.
- AC-C27 Identify the signs, symptoms, possible causes, and proper management of the following:
  - AC-C27a Different types of shock
  - AC-C27e Allergic, thermal, and chemical reactions of the skin (including infestations and insect bites)
- AC-C29 Identify the signs, symptoms, and treatment of patients suffering from adverse reactions to environmental conditions.

- AC-C30 Identify information obtained during the examination to determine when to refer an injury or illness for further or immediate medical attention.
- AC-P1 Survey the scene to determine whether the area is safe and determine what may have happened.
- TM-C1 Describe the physiological and pathological processes of trauma, wound healing and tissue repair and their implications on the selection and application of therapeutic modalities used in a treatment and/or rehabilitation program.
- EX-C4 Describe the appropriate selection and application of therapeutic exercises taking the following into consideration:
- EX-C4a The physiological responses of the human body to trauma
- EX-C4b The physiological effects of inactivity and immobilization on the musculoskeletal, cardiovascular, nervous, and respiratory systems of the human body
- EX-C4d The physiological adaptations induced by the various forms of therapeutic exercise, such as fast- versus slow-twitch muscle fibers
- EX-C8 Explain the effectiveness of taping, wrapping, bracing, and other supportive/protective methods for facilitation of safe progression to advanced therapeutic exercises and functional activities.
- PH-C4 Explain the concepts of pharmacokinetics (absorption, distribution, metabolism, and elimination) and the suspected influence that exercise might have on these processes.
- PH-C5 Explain the concepts related to bioavailability, half-life, and bioequivalence.
- PH-C6 Explain the general pharmacodynamic principles as they relate to the mechanism of drug action and therapeutic effectiveness (e.g. receptor theory, dose-response relationship, potency, and drug interactions).
- PH-C7 Describe the common routes used to administer medications (e.g., oral, inhalation, and injection) and their advantages and disadvantages.
- PS-C2 Explain the stress-response model and the psychological and emotional responses to trauma and forced inactivity.
- PS-C3 Describe the motivational techniques that the athletic trainer must use during injury rehabilitation and reconditioning.
- PS-C5 Describe the basic principles of general personality traits, associated trait anxiety, locus of control, and patient and social environment interactions.
- PS-C6 Explain the importance of providing health care information to patients, parents/guardians, and others regarding the psychological and emotional well being of the patient.
- PS-C7 Describe the roles and function of various community-based health care providers (to include, but not limited, to: psychologists, counselors, social workers, human resources personnel) and the accepted protocols that govern the referral of patients to these professionals.
- PS-C8 Describe the theories and techniques of interpersonal and cross-cultural communication among athletic trainers, their patients, and others involved in the health care of the patient.
- PS-C9 Explain the basic principles of counseling (discussion, active listening, and resolution) and the various strategies that certified athletic trainers may employ to avoid and resolve conflicts among superiors, peers, and subordinates.

- PS-C13 Describe the acceptance and grieving processes that follow a catastrophic event and the need for a psychological intervention and referral plan for all parties affected by the event.
- NU-C13 Explain consequences of improper fluid replacement.
- AD-C1 Describe organization and administration of preparticipation physical examinations and screening including, but not limited to, developing assessment and record-keeping forms that include the minimum recommendations from recognized health and medical organizations, scheduling of appropriate health and medical personnel, and efficient site use.
- AD-C2 Identify components of a medical record (e.g., emergency information, treatment documentation, epidemiology, release of medical information, etc.), common medical record-keeping techniques and strategies, and strengths and weaknesses of each approach and the associated implications of privacy statutes (Health Insurance Portability and Accountability Act [HIPAA] and Federal Educational Rights Privacy Act [FERPA]).
- AD-C3 Identify current injury/illness surveillance and reporting systems.
- AD-C10 Describe the various types of health insurance models (e.g., health maintenance organization [HMO], preferred provider organization [PPO], fee-for-service, cash, and Medicare) and the common benefits and exclusions identified within these models.
- AD-C11 Describe the concepts and procedures for third-party insurance reimbursement including the use of diagnostic (ICD-9-CM) and procedural (CPT) coding.
- AD-C12 Explain components of the budgeting process, including purchasing, requisition, bidding, and inventory.
- AD-C13 Describe basic architectural considerations that relate to the design of safe and efficient clinical practice settings and environments.
- AD-C16 Identify and describe basic components of a comprehensive emergency plan for the care of acutely injured or ill patients, which include (1) emergency action plans for each setting or venue; (2) personnel education and rehearsal; (2) emergency care supplies and equipment appropriate for each venue; (3) availability of emergency care facilities; (4) communication with onsite personnel and notification of EMS; (5) the availability, capabilities, and policies of community-based emergency care facilities and community-based managed care systems; (6) transportation; (7) location of exit and evacuation routes; (8) activity or event coverage; and (9) record keeping.
- AD-C17 Explain basic legal concepts as they apply to a medical or allied health care practitioner's responsibilities (e.g., standard of care, scope of practice, liability, negligence, informed consent and confidentiality, and others).
- AD-C18 Identify components of a comprehensive risk management plan that addresses the issues of security, fire, electrical and equipment safety, emergency preparedness, and hazardous chemicals.
- AD-C19 Describe strategic processes and effective methods for promoting the profession of athletic training and those services that athletic trainers perform in a variety of practice settings (e.g., high schools and colleges, professional and industrial settings, hospitals and community-based health care facilities, etc.).
- AD-C20 Differentiate the roles and responsibilities of the athletic trainer from those of other medical and allied health personnel who provide care to patients involved in physical activity and describe the necessary communication skills for effectively interacting with these professionals.

- AD-C21 Describe role and functions of various community-based medical, paramedical, and other health care providers and protocols that govern the referral of patients to these professionals.
- PD-C1 Explain the role and function of state athletic training practice acts and registration, licensure, and certification agencies including (1) basic legislative processes for the implementation of practice acts, (2) rationale for state regulations that govern the practice of athletic training, and (3) consequences of violating federal and state regulatory acts.
- PD-C2 Describe the process of attaining and maintaining national and state athletic training professional credentials.
- PD-C3 Describe the current professional development requirements for the continuing education of athletic trainers and how to locate available, approved continuing education opportunities.
- PD-C4 Describe the role and function of the governing structures of the National Athletic Trainers' Association.
- PD-C5 Differentiate the essential documents of the national governing, certifying, and accrediting bodies, including, but not limited to, the Athletic Training Educational Competencies, Standards of Practice, Code of Ethics, Role Delineation Study, and the Standards for the Accreditation of Entry-Level Athletic Training Education Programs.
- PD-C7 Describe the role and function of the professional organizations and credentialing agencies that impact the athletic training profession.
- PD-C9 Identify the objectives, scope of practice and professional activities of other health and medical organizations and professions and the roles and responsibilities of these professionals in providing services to patients.
- PD-C10 Identify the issues and concerns regarding the health care of patients (e.g., public relations, third-party payment, and managed care).
- PD-C16 Summarize the history and development of the athletic training profession.
- PD-C17 Describe the theories and techniques of interpersonal and cross-cultural communication among athletic trainers, patients, administrators, health care professionals, parents/guardians, and other appropriate personnel.