SEMESTER: Fall 2017
COLLEGE: School of Health and Sports Science
DEPARTMENT: Kinesiology

FACULTY:
Dr. Melissa Thomas, Ed.D, ATC
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Office hours: Monday 1:00-3
Tuesday 10:00-11:00 and 12-
Wednesday 1:30-3:00
Thursday 10:00-2:00

COURSE: KIN 361 General Medical Conditions and Pharmacology
CREDIT: 3 SEMESTER HOURS

DEFINITION OF CREDIT HOUR:
One credit hour is equivalent to fifteen hours of faculty instruction and a minimum of thirty hours of student reading and work on other assignments in addition to class time. Online classes involve equivalent amounts of time for instruction and coursework.

PREREQUISITE:
Admission to Athletic Training Program or permission of Instructor

COURSE DESCRIPTION:
This course is designed to present a collection of knowledge, skills and values that the athletic training student must possess to recognize, evaluate, treat and refer, when appropriate, general medical conditions and disabilities of athletes and others involved in physical activity. The second half of the course teaches the theories of pharmacologic applications including awareness
of the indications, contraindications, precautions and interactions of medications and the current governing regulations.

**COURSE OBJECTIVES:**

CAATE Competencies assigned to KIN 361 are located under Appendix A

***EVERYONE MUST HAVE ACCESS TO THEIR RAMMAIL ACCOUNT FOR THIS COURSE!!!!

**TEXTBOOK(S) AND OTHER MATERIALS:**

** Cuppett, M. & Flannagan, K. General Conditions in the athlete. Third Ed. Human Kinetics  
   ISBN 978-1-4925-3350-4  
** Access to umportal.umobile.edu  
** Access to Canvas  
** Access to ramsmail

**REQUIRED ACTIVITIES:**

Case Studies
Discussions
Oral Practicums
Group Project
Research assignment

**ATTENDANCE POLICY:**

Your attendance will be checked every class. Each class you will be awarded points for attendance and participation. If you miss class, then you miss those points for the day. Excused absences are given for physician’s appointments, intercollegiate sports travel, and UM related trips from other areas on campus. It is your responsibility to make up any missed work. You will have 1 week from the time of absence to make up any quiz or test that was missed. After that timeframe a grade of 0 will be given.

**DROP DATE:**

The last day courses may be dropped without the “F” penalty is November 7, 2017.

**ADA STATEMENT:**

It is the policy of the University of Mobile to provide reasonable accommodations for persons with disabilities as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Eligibility for services requires prior documentation of the disability. The Academic Advisor and the Disability Services Coordinator, Mrs. Julia Lucy, coordinate support services for students with disabilities and are accommodation resources for faculty and administration.

**TUTORING AND WRITING ASSISTANCE:**
Tutoring in a variety of areas and writing assistance are available free of charge to UM students through Tutor.com (online tutoring service accessible in all UM course sites). Writing assistance is also available from student tutors on campus through UM’s Writing Center. Students may schedule Writing Center appointments by calling 251-442-2377.

ONLINE COURSE SITE:

A course site for this section can be found in MyUM on the Academic tab, either under My Courses or in Canvas. Faculty members may assign online tests that require identification verification measures. These measures may require additional fees. In order to comply with the Higher Education Act, which requires verification of student identity in online work, all online coursework submitted to the faculty member must be completed by secure login and passcode or sent from the student’s official University E-MAIL ACCOUNT.

TUTORING AND WRITING ASSISTANCE:

Tutoring in a variety of areas and writing assistance are available free of charge to UM students through UM’s Student Success (located behind Weaver Hall). Utilize the link below to schedule an appointment with a tutor online or call Student Success at 251-442-2377. Walk-Ins will be served if tutors are available. \( \text{https://umportal.umobile.edu/ICS/Campus\_Life/Tutoring/} \) (Links to an external site.) Tutor.com (online tutoring service) is available to students enrolled in online sections within the online course sites.

COURSE OUTLINE:

Week 1
- Syllabi review
- First day quiz- What do you know?
- Lecture- Text Chapters 1 and 2
- **Lab/ Practical- Review Vital Signs, cranial nerves, percussion, reflexes**

Week 2
- Lecture- Chapter 3- Diagnostic Testing and Imaging

Week 3
- Lecture- Chapter 4- Principles of Pharmacology
  - Chapter 5- Therapeutic Drug Categories

Week 4
- Lecture- Chapter 7- Respiratory System
- Lecture- Chapter 8- Cardiovascular System
- **Lab/ Practical- Lungs/ Heart auscultation, review of chest xray, ekg readings, marfan screening, nebulizer, inhalers, O2, CPR, AED**
Week 5

Lecture- Chapter 9- Gastrointestinal System

Lab/ Practical- palpation of abdomen, auscultation

Week 6

Lecture- Chapter 10- Genitourinary and Gynecological Systems

Week 7

Comprehensive Midterm Exam

Week 8

Lecture- Chapter 11- Neurological System

Lab/ Practical- cranial nerves, dermatomes, myotomes, reflexes

Week 9

Lecture- Chapter 12- The Eye

Lab/ Practical- snellen eye chart, pupillary response, opthalmoscope

Week 10

Lecture- Chapter 13- Ear, Nose, Throat, and Mouth

Lab/ Practical- tuning fork, otoscope

Week 11

Lecture- Chapter 14- Systemic Disorders

Lab/ Practical- glucometer, temperature

Week 12

Lecture- Chapter 15- Infectious Diseases

Week 13

Lecture- Chapter 16- Dermatological Conditions

Week 14

Thanksgiving

Week 15

Lecture- Chapter 17- Musculoskeletal Disorders

Lab/ Practical- xrays, mri’s, CT scans
Week 16

Lecture- Chapter 18- Psychological and Substance Abuse Disorders
Lecture- Chapter 19- Working with Special Populations

OTHER:
Students will be required to adhere to the academic integrity policy and the dress code, which can be found in the Student Handbook. Please practice common courtesy by silencing and storing away cell phones during class periods.

COURSE TIMES:
Monday and Wednesday 8:00-9:20
Appendix A

Acute Care of Injuries and Illness

AC-2. Differentiate the roles and responsibilities of the athletic trainer from other pre-hospital care and hospital-based providers, including emergency medical technicians/paramedics, nurses, physician assistants, and physicians.

AC-3. Describe the hospital trauma level system and its role in the transportation decision-making process.

AC-6. When appropriate, obtain and monitor signs of basic body functions including pulse, blood pressure, respiration, pulse oximetry, pain, and core temperature. Relate changes in vital signs to the patient’s status.

AC-7. Differentiate between normal and abnormal physical findings (eg, pulse, blood pressure, heart and lung sounds, oxygen saturation, pain, core temperature) and the associated pathophysiology.

AC-9. Differentiate the types of airway adjuncts (oropharyngeal airways [OPA], nasopharyngeal airways [NPA] and supraglottic airways [King LT-D or Combitube]) and their use in maintaining a patent airway in adult respiratory and/or cardiac arrest.

AC-10. Establish and maintain an airway, including the use of oro- and nasopharyngeal airways, and neutral spine alignment in an athlete with a suspected spine injury who may be wearing shoulder pads, a helmet with and without a face guard, or other protective equipment.

AC-11. Determine when suction for airway maintenance is indicated and use according to accepted practice protocols.

AC-12. Identify cases when rescue breathing, CPR, and/or AED use is indicated according to current accepted practice protocols.

AC-13. Utilize an automated external defibrillator (AED) according to current accepted practice protocols.

AC-15. Utilize a bag valve and pocket mask on a child and adult using supplemental oxygen.

AC-16. Explain the indications, application, and treatment parameters for supplemental oxygen administration for emergency situations.

AC-17. Administer supplemental oxygen with adjuncts (eg, non-rebreather mask, nasal cannula).

AC-18. Assess oxygen saturation using a pulse oximeter and interpret the results to guide decision making.

AC-19. Explain the proper procedures for managing external hemorrhage (eg, direct pressure, pressure points, tourniquets) and the rationale for use of each.

AC-20. Select and use the appropriate procedure for managing external hemorrhage.

AC-21. Explain aseptic or sterile techniques, approved sanitation methods, and universal precautions used in the cleaning, closure, and dressing of wounds.

AC-22. Select and use appropriate procedures for the cleaning, closure, and dressing of wounds, identifying when referral is necessary.

AC-23. Use cervical stabilization devices and techniques that are appropriate to the circumstances of an injury.

AC-36. Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:

AC-36a. sudden cardiac arrest

AC-36b. brain injury including concussion, subdural and epidural hematomas, second impact syndrome and skull fracture

AC-36c. cervical, thoracic, and lumbar spine trauma

AC-36d. heat illness including heat cramps, heat exhaustion, exertional heat stroke, and hyponatremia

AC-36e. exertional sickling associated with sickle cell trait

AC-36f. rhabdomyolysis

AC-36g. internal hemorrhage

AC-36h. diabetic emergencies including hypoglycemia and ketoacidosis

AC-36i. asthma attacks
AC-36j. systemic allergic reaction, including anaphylactic shock
AC-36k. epileptic and non-epileptic seizures
AC-36l. shock
AC-36m. hypothermia, frostbite
AC-36n. toxic drug overdoses
AC-36o. local allergic reaction

Clinical Exam and Diagnosis

CE-6. Describe the basic principles of diagnostic imaging and testing and their role in the diagnostic process.

CE-10. 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.

CE-11. Explain the creation of clinical prediction rules in the diagnosis and prognosis of various clinical conditions.

CE-15. Demonstrate the ability to modify the diagnostic examination process according to the demands of the situation and patient responses.

CE-20. Use standard techniques and procedures for the clinical examination of common injuries, conditions, illnesses, and diseases including, but not limited to:

CE-20g. respiratory assessments (auscultation, percussion, respirations, peak-flow)
CE-20h. circulatory assessments (pulse, blood pressure, auscultation)
CE-20i. abdominal assessments (percussion, palpation, auscultation)
CE-20j. other clinical assessments (otoscope, urinalysis, glucometer, temperature, ophthalmoscope)

CE-21. Assess and interpret findings from a physical examination that is based on the patient’s clinical presentation. This exam can include:

CE-21i. Cardiovascular function (including differentiation between normal and abnormal heart sounds, blood pressure, and heart rate)
CE-21j. Pulmonary function (including differentiation between normal breath sounds, percussion sounds, number and characteristics of respirations, peak expiratory flow)

CE-21k. Gastrointestinal function (including differentiation between normal and abnormal bowel sounds)

CE-21l. Genitourinary function (urinalysis)

CE-21m. Ocular function (vision, ophthalmoscope)

CE-21n. Function of the ear, nose, and throat (including otoscopic evaluation)

CE-21o. Dermatological assessment

CE-21p. Other assessments (glucometer, temperature)

Clinical Integration Proficiencies

CIP-3. Develop, implement, and monitor prevention strategies for at-risk individuals (eg, persons with asthma or diabetes, persons with a previous history of heat illness, persons with sickle cell trait) and large groups to allow safe physical activity in a variety of conditions. This includes obtaining and interpreting data related to potentially hazardous environmental conditions, monitoring body functions (eg, blood glucose, peak expiratory flow, hydration status), and making the appropriate recommendations for individual safety and activity status.

CIP-5. Perform a comprehensive clinical examination of a patient with a common illness/condition that includes appropriate clinical reasoning in the selection of assessment procedures and interpretation of history and physical examination findings in order to formulate a differential diagnosis and/or diagnosis. Based on the history, physical examination, and patient goals, implement the appropriate treatment strategy to include medications (with physician involvement as necessary). Determine whether patient referral is needed, and identify potential restrictions in activities and participation. Formulate and communicate the appropriate return to activity protocol.
**CIP-6.** Clinically evaluate and manage a patient with an emergency injury or condition to include

the assessment of vital signs and level of consciousness, activation of emergency action plan, secondary assessment, diagnosis, and provision of the appropriate emergency care (eg, CPR, AED, supplemental oxygen, airway adjunct, splinting, spinal stabilization, control of bleeding).

**Professional Development**

**PD-9.** Specify when referral of a client/patient to another healthcare provider is warranted and formulate and implement strategies to facilitate that referral.

**Prevention and Health Promotion**

**PHP-15.** Use a glucometer to monitor blood glucose levels, determine participation status, and make referral decisions.

**PHP-16.** Use a peak-flow meter to monitor a patient’s asthma symptoms, determine participation status, and make referral decisions.

**PHP-17.** Explain the etiology and prevention guidelines associated with the leading causes of sudden death during physical activity, including but not limited to:

**PHP-17a.** Cardiac arrhythmia or arrest

**PHP-17b.** Asthma

**PHP-17c.** Traumatic brain injury

**PHP-17d.** Exertional heat stroke

**PHP-17e.** Hyponatremia

**PHP-17f.** Exertional sickling

**PHP-17g.** Anaphylactic shock

**PHP-48.** Explain the known usage patterns, general effects, and short- and long-term adverse effects for the commonly used dietary supplements, performance enhancing drugs, and recreational drugs.
PHP-49. Identify which therapeutic drugs, supplements, and performance-enhancing substances are banned by sport and/or workplace organizations in order to properly advise clients/patients about possible disqualification and other consequences.

**Therapeutic interventions**

**TI-21.** Explain the federal, state, and local laws, regulations and procedures for the proper storage, disposal, transportation, dispensing (administering where appropriate), and documentation associated with commonly used prescription and nonprescription medications.

**TI-22.** Identify and use appropriate pharmaceutical terminology for management of medications, inventory control, and reporting of pharmacological agents commonly used in an athletic training facility.

**TI-23.** Use an electronic drug resource to locate and identify indications, contraindications, precautions, and adverse reactions for common prescription and nonprescription medications.

**TI-24.** Explain the major concepts of pharmacokinetics and the influence that exercise might have on these processes.

**TI-25.** Explain the concepts related to bioavailability, half-life, and bioequivalence (including the relationship between generic and brand name drugs) and their relevance to the patient, the choice of medication, and the dosing schedule.

**TI-26.** Explain the pharmacodynamic principles of receptor theory, dose-response relationship, placebo effect, potency, and drug interactions as they relate to the mechanism of drug action and therapeutic effectiveness.

**TI-27.** Describe the common routes used to administer medications and their advantages and disadvantages.

**TI-28.** Properly assist and/or instruct the patient in the proper use, cleaning, and storage of drugs commonly delivered by metered dose inhalers, nebulizers, insulin pumps, or other parenteral routes as prescribed by the physician.
TI-29. Describe how common pharmacological agents influence pain and healing and their influence on various therapeutic interventions.

TI-30. Explain the general therapeutic strategy, including drug categories used for treatment, desired treatment outcomes, and typical duration of treatment, for the following common diseases and conditions: asthma, diabetes, hypertension, infections, depression, GERD, allergies, pain, inflammation, and the common cold.

TI-31. Optimize therapeutic outcomes by communicating with patients and/or appropriate healthcare professionals regarding compliance issues, drug interactions, adverse drug reactions, and sub-optimal therapy.