ANIMAL NUTRITION

Biology 3300.001
Science and Technology (ST) 107
TR 2:00-3:15 PM

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COURSE DESCRIPTION: This course examines the dietary requirements of both companion animals and livestock. It includes the anatomy, physiology and biochemistry of the gastrointestinal system, nutrient acquisition and use, feed additives, metabolic diseases and diet therapy. I will take a comparative approach focusing on companion animals and livestock but will also discuss nutrient requirements and health of reptiles (alligators, lizards, turtles) and fish. I will use the human body as an example to discuss the general physiology of the digestive system in mammals. Activities that characterize animal nutrition include: a) molecular mechanisms of nutrient absorption, transport, storage and metabolism and the control of these processes; b) the relationship of diet, animal health and performance; c) means of improving the quality of animal feeds; d) assessment of nutrient status of animals.

The instructor of this course will provide the students with: (1) information in the form of lectures, films, handouts, assigned readings and supplemental readings; (2) advice, supervision and guidance.

PREREQUISITE: BIOL 1407 and CHEM 3411. Prerequisite or Corequisite: CHEM 3412.


REQUIRED E-MAIL: All students must have a Texas A&M University-Corpus Christi e-mail account. Make sure that you can access and use it because, for students in my classes, it is the only e-mail address to which I will reply. Please go to http://www.tamucc.edu/ise.html to obtain a new islander account.
# TENTATIVE LECTURE SCHEDULE:

<table>
<thead>
<tr>
<th>Week</th>
<th>Content</th>
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<tbody>
<tr>
<td>1 (January 12)</td>
<td>Introduction</td>
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<tr>
<td>2 (January 17, 19)</td>
<td>Importance of nutrition; Comparative digestive Anatomy</td>
</tr>
<tr>
<td>3 (January 24, 26)</td>
<td>Nutrition of plants and animals; Why and how to study nutrition</td>
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<tr>
<td>4 (January 31; February 2)</td>
<td>Digestion, Absorption and Metabolism</td>
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<tr>
<td>5 (February 7, 9)</td>
<td>Digestion, Absorption and Metabolism of nutrients</td>
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<tr>
<td>6 (February 14, 16)</td>
<td><strong>Test 1: 2/14;</strong> Digestion, Absorption and Metabolism of nutrients</td>
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<tr>
<td>7 (February 21, 23)</td>
<td>Digestion, Absorption and Metabolism of nutrients</td>
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<tr>
<td>8 (February 28; March 1)</td>
<td>Digestion, Absorption and Metabolism of nutrients</td>
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<tr>
<td>9 (March 6, 8)</td>
<td>Digestion, Absorption and Metabolism of nutrients</td>
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<tr>
<td><strong>10 (March 12 to 16)</strong></td>
<td>Spring break</td>
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<tr>
<td>11 (March 20, 22)</td>
<td>Health and specific nutrition: Cat and dog; <strong>Test 2: 3/22</strong></td>
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<tr>
<td>12 (March 27, 29)</td>
<td>Health and specific nutrition: Horses</td>
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<tr>
<td>13 (April 3, 5)</td>
<td>Health and specific nutrition: Rabbit</td>
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<tr>
<td>14 (April 10, 12)</td>
<td>Health and specific nutrition: Ruminants</td>
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<tr>
<td>15 (April 17, 19)</td>
<td>Health and specific nutrition: Birds and reptiles</td>
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<tr>
<td>16 (April 24, 26)</td>
<td><strong>Test 3: 4/24;</strong> Health and specific nutrition: Fish</td>
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<tr>
<td><strong>May 1</strong></td>
<td>Last day of classes; review for final</td>
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<tr>
<td><strong>May 8 at 1345</strong></td>
<td>Final exam (Comprehensive)</td>
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**FINAL GRADING:** The final grading scale will also be determined at the end of the semester, but the cut-off for each grade will be no higher than the following:

\[
A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\% > F
\]

**LECTURE EXAMINATIONS:** I will give three examinations and one final during the course. I will be taking questions for these tests primarily from material covered in the lectures. Examinations will be multiple-choice, labeling, short answer questions and/or drawings. The three lecture examinations are sequential (i.e., each examination covers material from one specific section of the course). The final examination is comprehensive (i.e., covers material from the entire course).

- If your average grade from the three lecture exams is a **B or higher**, you can skip the final.
• You must take the final if your average grade from the three lecture exams is a C or lower. If you do not take the final (i.e., as stated in the previous sentence), I will count the final as a zero and it will be part of your grade for the course.

• The final is redemptive. In other words, if you earn a higher score on the final than on one of your lecture exams, it will be doubled to replace your lowest examination grade: The average of the two highest non-final examinations plus double (2x) the final examination. Taking the final will not hurt you, it can only benefit you.

Because of this flexibility, however, no make-up examinations are allowed, except in extreme emergency situations.

**BONUS POINTS:** No individual extra credit assignments will be available in this class. I may provide opportunities for the entire class to earn additional bonus points (e.g., attendance, video assignments, written reports, library or web exercises, un-announced quizzes, etc.). Such opportunities may be offered or announced only once, so be in class, be on time and stay for the entire period. Extra points are also built into all examinations (as extra questions). **Bonus points (from quizzes, exercises, etc.) cannot be made up**—period.

**Miscellaneous:** Bring two #2 pencils to each lecture examination (including the final examination); I neither provide nor sell pencils. I will provide Scantron sheets for you. After an examination is returned, you have one (1) week to notify me of clerical, mathematical, and/or other errors. I will rectify any such errors, but I will not change a legitimate grade just because you "need" it. I am available for consultation and extra help, but it is the student's responsibility to request help.

**Spelling and Legibility:** Spelling counts—in both lecture and in laboratory. To be considered for partial credit, your answer must phonetically sound like the word that you are trying to spell. Examples of answers that are incorrect:

- Grossly misspelled words (e.g., "creuvrfian pleat" for "cribriform plate").
- Ambiguous answers (e.g., "tibula"—could be "tibia," could be "fibula").
- Illegible answers (e.g., "ep-squiggle-squiggle-squiggle" for "epididymis").

**STUDENT LEARNING OUTCOMES:** This course seeks to give students an understanding of comparative animal nutrition focusing on companion animals such as dogs, cats, fish and birds as well as horses, cows and sheep. Although the main emphasis of this course is an understanding of the structure and function of the digestive system, we will also discuss how abnormal conditions serve as natural experiments that help to elucidate normal structure and function. **To do well in the course, students**
ANIMAL NUTRITION

must attend and participate in lectures, read the assigned material and mentally organize information from their instructors, their readings and their laboratory work. For all components that are examined within each topic in the schedule, the student will be expected to:

- Understand and correctly use scientific terminology.
- Recognize and identify structures in the animal digestive systems.
- Understand and explain how structures and their components interact to perform one or more functions.
- Understand the basic anatomy of digestion as it relates to nutrition.
- Understand molecular mechanisms of nutrient absorption, transport, storage and metabolism and the control of these processes.
- Be able to identify what constitutes a complete diet and why.
- Understand the relationship of diet, animal health and performance.

DISABILITY AND VETERANS’ SERVICES: Texas A&M University-Corpus Christi is committed to providing persons with disabilities an equal opportunity to access campus facilities, resources and programs. The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. Support and accommodations are also available for returning veterans who experience cognitive and/or physical access issues in the classroom or on campus. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

RELIGIOUS HOLIDAYS: Any student who will miss class and/or test days because of recognized religious holidays should notify me as soon as possible so we can make alternative arrangements. Prior notification is required for such absences to be excused.

ATTENDANCE POLICIES: Attendance is the student’s responsibility and students are expected to attend every class.

ABSENCES: You are responsible for the material covered and assignments made in every lecture and laboratory regardless of whether you attend it. “I came in late and didn’t hear about the assignment,” is never an acceptable excuse. It is always your responsibility to determine what happened in class or laboratory during your absence. If you are absent, tardy, or leave early, I will provide you with copies of assignments (including “bonus point” assignments) and handouts if—and only if—you ask for them. (In
other words, I will not, “track down” absentees to make sure that they know about assignments.) You must obtain class or laboratory notes from other students (i.e., I do not “share” my notes).

Points missed because of an unexcused absence (including tardiness and leaving early) cannot be recovered. An excused absence allows us to make alternative arrangements for completing assignments. The documentation required for an absence to be excused must be…

- from an appropriate source (e.g., doctor, dentist, funeral director) who states the nature of the event that caused (or will cause) your absence.
- in writing, on official stationery, and signed. (I do not return excuses to you.) Telephone calls, Faxes, and e-mails are not acceptable.
- presented prior to the absence for a scheduled event (e.g., university-sponsored activity, recognized religious holiday, military service).
- presented no more than one week after the date of an unexpected absence.

UNACCEPTABLE EXCUSES: Only unavoidable absences are excused, so you should schedule routine personal events (e.g., vacations, weddings, reunions, non-emergency medical or dental visits, parent-teacher conferences, household or auto repairs) to avoid conflicts with your classes. Oversleeping is never an acceptable excuse. Employment conflicts are not acceptable excuses for absences, tardiness, or leaving class early. (Once enrolled in a class, it is the student’s responsibility to arrange his or her work schedule so that no regularly scheduled class, laboratory, or examination time is missed). Texas waives jury duty for students, so jury duty is not an acceptable excuse. With a legitimate excuse, you may attend a different laboratory section (including a practical examination) during the same workweek, if—and only if—(1) there is room for you, and (2) you obtain permission from the instructor. If you arrange to take any test at an alternate time and do not show for that appointment, then you forfeit the opportunity to take the test except at its originally scheduled time. Special circumstances that may warrant giving an individual a make-up test will be referred to Dr. Eliot Chenaux, Vice President for Student Affairs. A make-up test given after the original test will be all written (i.e., no multiple choice or matching), and it will be administered on the last “Flex Day”.

LATE ASSIGNMENTS: You may always turn in assignments early. Except for excused absences, late assignments will not be accepted. If you know that you will have an excused absence when an assignment is due, you must turn in that assignment before its due date. You should turn in assignments that were missed because of an unexpected, excused absence as soon as possible, and the deadline for accepting this type of late assignment is one (1) week after the original due date.

Any situations for which you cannot provide an acceptable excuse as outlined above (e.g., “I have an excuse, but it is too personal to discuss with you”) will be referred to Dr. Eliot Chenaux, Vice President for Student Affairs.
EXPECTATIONS: You are adult University students. I will treat you as such, and I will expect you to act as such. You will act with courtesy and common sense. I will not tolerate disruptive, disrespectful, or abusive behavior/language directed toward anyone in this class (i.e., student or instructor). Violations range from talking during class to outright insubordination, and will result in penalties that range from the student being asked to stop to the student being “escorted” from the class - permanently. Cellular phones (including text messaging), pagers, and other “beepers” must be turned off in the classroom and laboratory. (I will make exceptions for certain “emergency” personnel, but you must see me to obtain this.) Children are not allowed in the rooms during lecture or laboratory periods, or when the child’s guardian is working or studying “after hours.”

LEARNING: Learning is more than just reading, taking notes and memorizing. Reading and taking notes puts information in short-term memory where it is forgotten quickly unless you do something with it. Memorizing, though important, is but the first step in the learning process. As university students, you should be able to link, combine and synthesize the bits of data that you memorize into useful concepts.

SCHOLASTIC DISHONESTY WILL NOT BE TOLERATED. It will be prosecuted to the full extent of University regulations (see the Student Handbook and the Catalog 2009-10: Texas A&M University-Corpus Christi). The following procedures will be enforced:

- You must be prepared to present a photo ID at all examinations.
- Different test forms may be prepared for a single examination. To ensure that the appropriate key will be used to grade your answer sheet, always follow instructions on the test or answer sheet, or given orally by the instructor.
- If you leave an examination room—for any reason—you must hand in your answer sheet and you will not be allowed to resume the examination. Attend to personal matters (e.g., rest room visits) before the examination.
- Be on time! Anyone arriving after someone has completed an examination and left the room will not be allowed to take that examination.
- Cheating and plagiarism are unacceptable behaviors.

GRADE APPEALS: As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student
Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Academic Advising:** The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College’s Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

**SUPPLEMENTAL INSTRUCTION (SI), TUTORING AND OTHER SERVICES:** To be successful in this course, and most others, you must cultivate good note-taking skills, organization skills, study habits, and test-taking strategies from the very beginning. Your lecture and laboratory instructors are always available for help, but don’t wait until it is too late! Students who have done well in this class in the past may have been hired to lead Supplemental Instruction (SI) sessions outside of class meeting times. You will receive a schedule of SI sessions separately from this syllabus. Please take advantage of your SI leader’s expertise. Attend SI sessions on a regular basis; don’t wait until the session before an examination to start attending SI sessions. A great way to prepare for the comprehensive final is to attend the SI session just after an examination. At these sessions, your SI leader can review any questions you had difficulty answering correctly. Asking questions about the questions you did not answer correctly will help you answer other questions about that concept correctly if they appear on the comprehensive final.

The Center for Academic Student Achievement (CASA) (825-5933) provides free tutoring, test-taking strategies, and extra help. Take advantage of this service! The center has copies of the text and CD-ROM and is an invaluable source for help. In addition, tutors may be set up for this class specifically and a schedule with times and location will be placed on the website at the beginning of the semester. Should you have test anxiety, stress problems or need help with study skills, the University Counseling Center (University Center, 825-2703) also provides a free service.

**DROPPING THE COURSE (OR NOT):** I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. If you drop the class before the "drop date" (see the online Spring 2011 schedule for more information), you will be assigned a grade of “W.” There are consequences for dropping a class, so read the drop policy in the University Catalog (better still, see your academic advisor and someone in the financial aid office) before you drop any class. In the middle of the semester, you are likely to receive midterm grade reports (either on S.A.I.L.
or through some other means). If you have a lower mid-term grade than you wish, it should concern you, but not frighten you. (Remember that there are more opportunities to earn points and boost your grades in the last half of most courses than in the first half.) Talk to your instructors (not to other students) to explore your options. Also note that the mid-term grades posted on S.A.I.L. are not official, not a guarantee and are never updated; once they are posted they cannot be changed even if your grade in the class does change.

GENERAL DISCLAIMER: We reserve the right to modify the information, schedules, assignments, deadlines, and policies in this syllabus if and when necessary. Whenever possible, we will announce such changes in a timely manner during regularly scheduled lecture or laboratory periods. We will not attempt to contact students who were absent when an announcement was made. Nevertheless, all students are responsible for abiding by all announced changes, and it is a student’s responsibility to obtain this information. In rare cases, some modifications may be implemented without prior warning.