Foundations of Life Science – SMTE 3316.001/101; SMTE 3316.003/.103
Department of Life Sciences
Fall 2016

A. COURSE INFORMATION
   Course number/section: SMTE 3316.001/101; SMTE 3316.003/103
   Class meeting time: MW 10:00-11:50 (.001,.101) TR 2:00-3:50 (.003,.103)
   Class location: EN 201
   Course Website: Blackboard 9@tamucc.edu

B. INSTRUCTOR INFORMATION
   Instructor: Dr. Cherie McCollough
   Office location: EN 310A
   Office hours: MW 9:00-10:00; TR 1:00-2:00; F 10:00-11:00
   Telephone: 361.825.3166
   e-mail: Cherie.Mccollough@tamucc.edu
   Appointments: Please either call or email me to make an appointment. I try to be in office hours but am often called into committee meetings. Please leave a note on the whiteboard outside of my office if I am not in.

C. COURSE DESCRIPTION
   Catalog Course Description: Emphasis on teaching biological concepts including cells, plants, vertebrate and invertebrate structural systems, cell biology, ecology, and other concepts relevant for K-8 science classrooms and associated with the Texas Essential Knowledge and Skills (TEKS). Instruction regarding pedagogical foundations are those that are contained in the Science Content Standards and Science Teaching Standards as prescribed by the National Science Education Standards, the National Science Teachers Association and the Texas Education Agency.

D. PREREQUISITES AND COREQUISITES
   Prerequisites
   none
   Corequisites
   Students in SMTE 3316 are expected to register for Laboratory Safety Seminar – SMTE 0091. Students must complete this web-based course during the first week of the semester to be allowed to attend and complete SMTE 3316.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
   Required Textbook(s)
   1. SMTE 3316 Foundations of Biological Sciences by C.Mccollough course packet (available in TAMUCC Bookstore – Barnes and Noble)
Optional Textbook(s) or Other References

TAKS Reader: An interactive Student Textbook – McGraw-Hill Glencoe (optional)

Supplies – none required

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

By the end of this course, students should be able to:

1. compare and contrast plant and animal cells and tissues
2. demonstrate ability to use the microscope
3. classify organisms as bacteria, protists or fungi
4. identify basic plant structures
5. outline a variety of plant life processes
6. describe the basic life processes of animals
7. discuss the scientific foundation of evolutionary processes.
8. describe general classification of animals
9. demonstrate the use of the scientific method in problem solving
10. describe/demonstrate/discuss the theoretical and pedagogical methods in teaching
    the above material to elementary and middle school students. Such methods are
    according to the NSES, NSTA, TEA and other professional organizations that
    prescribes methods that are based on scientific research.
11. Learn the importance of culturally relevant teaching and use family learning
    events as an example of culturally relevant teaching; participate in a family learning
    event.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The student will be expected to:

• attend and participate in classroom and laboratory activities
• read textbook assignments prior to class
• take examinations
• participate in developing presentations and projects while working both
  collaboratively and alone.
• correlate laboratory and other activities with the Texas Essential Knowledge and
  Skills (TEKS).
• Write original, research-driven, learner-centered classroom and laboratory
  exercises based on units of instruction that follow guidelines of the No Child Left
  Behind Act of 2001, as well as TEKS or other state guidelines.
• Design, write, and direct (as an individual) lesson plans on a scientific topic of
  his/her own choosing as approved by the instructor, and revise the lesson plans
  based on instructor and peer comments.
• Model appropriate and approved practices in managing a laboratory setting,
  including basic laboratory skills.
• Create a presentation and participate in Family Learning Events.
# H. MAJOR COURSE REQUIREMENTS AND GRADING

## EVALUATION

Points will be awarded for the following. Please refer to handouts for rubrics, criteria, and examples of completed assignments and examinations in order to identify expectations for these assignments. Every student should have a clear idea of expectations prior to completion of the following assignments/test administration. Any and all questions regarding expectations should be immediately referred to the instructor. Please do not wait until the day before the assignment is due to ask questions!

NO E-MAILED ASSIGNMENTS WILL BE ACCEPTED! HARD COPIES MUST BE SUBMITTED WHEN DUE TO RECEIVE CREDIT!

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>1. Four examinations @ 200 points each</td>
<td>800</td>
</tr>
<tr>
<td>2. Family Science Reflections (3@ 100 points each)</td>
<td>300</td>
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<tr>
<td>(Attendance at 3 family science events is expected – if absent and not able to make-up work, 100 points will be missing from your final grade! Only absences that involve classes where you cannot be excused will be allowed to make up work and this is decided on a case-by-case basis with professor.)</td>
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<tr>
<td>3. Family Science Project Peer Evaluation</td>
<td>50</td>
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<tr>
<td>4. Candle Lab/Lord of Nature/Evolution paper</td>
<td>75</td>
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<tr>
<td>25 points each</td>
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<td>5. Transformative reading and intensive writing assignments</td>
<td>420</td>
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<tr>
<td>7 @ 60 points each</td>
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<td><strong>Total:</strong> 1640</td>
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Scale:

- **A** – 90 – 100%
- **B** – 80 – 89%
- **C** – 70 – 79%
- **D** – 60 – 69%

**Missed Exams – excused only per TAMUCC guidelines; such exams
are given only under EXTREME circumstances and will be **total essay**.

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### I. COURSE CONTENT/SCHEDULE – will review first day of class

<table>
<thead>
<tr>
<th>DATE</th>
<th>Time: CLASS</th>
<th>Time: LAB</th>
<th>READING ASSIGNMENT (not TAKS)</th>
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</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>Syllabus, Expectations, Surveys</td>
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<tr>
<td>Class 2</td>
<td>How People Learn</td>
<td></td>
<td>Coursepack needed!</td>
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<tr>
<td>Class 3</td>
<td>A. Beliefs about Science  B. FOUNDATION II: Inquiry and Standards of Science Education</td>
<td>Candle Lab</td>
<td>Hart/Winston Article; NSTA Principles of Professionalism</td>
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<tr>
<td>Class 4</td>
<td>Culturally Relevant Teaching in Science</td>
<td>Family Science</td>
<td>Family Science Research Ideas</td>
</tr>
<tr>
<td>Class 5</td>
<td>Evolution and Natural Selection (D)/ Teaching Evolution According to the State standards (E)</td>
<td>Evolution - Why Bother CD</td>
<td>Evolution - NSTA position statement (E 1-5)</td>
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<tr>
<td>Class 6</td>
<td>Ecology and Cycles</td>
<td>Wolves Assignment</td>
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<tr>
<td>Class 7</td>
<td>Family Science Construction</td>
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<td>Class 8</td>
<td>Cell Theory/Cell Structure assignment</td>
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<td>Class 9</td>
<td>Family Science Peer Evaluation</td>
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<tr>
<td>Class</td>
<td>Subject/Activity</td>
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<tr>
<td>10</td>
<td>Mitosis/Meiosis and associated lab</td>
<td>Mitosis/Meiosis Lab</td>
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<tr>
<td>11</td>
<td><strong>Exam I</strong></td>
<td>Classification and the Five Kingdoms</td>
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<td></td>
<td>Family Science</td>
<td>Kostoryz Elementary 5:00-6:45</td>
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<tr>
<td>12</td>
<td>NO CLASS (trade off for Fam Sci)</td>
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<tr>
<td>13</td>
<td>Monera, Fungi, Protista</td>
<td>Microscopes</td>
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<tr>
<td>14</td>
<td>Porifera, Cnidera, Platyhelminthes</td>
<td>Microscopes</td>
<td></td>
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<tr>
<td>15</td>
<td>AT HOME ASSIGNMENT (no class)</td>
<td>Porifera, Cnideria, Platyhelminthes- see Blackboard for instructions</td>
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<tr>
<td>16</td>
<td>Mollusca, Annelida,</td>
<td>Earthworm Dissection</td>
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<tr>
<td>17</td>
<td><strong>Exam II</strong></td>
<td>Viruses</td>
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<tr>
<td>18</td>
<td>No Class - Schanen Elementary Family Science</td>
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<tr>
<td>19</td>
<td>No Class - Family Science Travis Elementary</td>
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<tr>
<td>20</td>
<td><strong>Arthropoda/Echinodermata</strong></td>
<td>Starfish Dissection</td>
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<td>Class 21</td>
<td>The Chordates: Fish, Amphibians</td>
<td>Fish Dissection</td>
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<tr>
<td>Class 22</td>
<td>Reptiles, Birds/</td>
<td>Dissect owl pellets/ Mammals</td>
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<tr>
<td>Class 23</td>
<td>Circulatory/Respiratory System - heart dissection</td>
<td>Muscular System/Skeletal System</td>
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<tr>
<td>Class 24</td>
<td>Flowering plants, roots, stems, leaves</td>
<td>Slides, Flower Dissection/ Viruses</td>
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<tr>
<td>Class 25</td>
<td>Exam III</td>
<td>Story of the Owls</td>
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</tr>
<tr>
<td>Class 27</td>
<td>Last Class Day: Final Lesson Plans Due</td>
<td>Mandatory Attendance</td>
<td>How to Find a Job/Family Science/ Closure</td>
</tr>
</tbody>
</table>
Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Attendance/Tardiness
Students are expected to attend every scheduled class and laboratory meeting. Family vacations and celebrations of your 21\textsuperscript{st} birthday are worthwhile, but are not classified as excused absences. If you book an airplane flight which conflicts with class, I do NOT consider that to be an excused absence. Routine events should be scheduled to avoid class conflicts. In general, only unavoidable absences are excused (major family illness or accidents, deaths, funerals).

I WILL BE TAKING ATTENDANCE AT EACH CLASS. STUDENTS ARE GIVEN ONE UNEXCUSED ABSENCES PER SEMESTER FOR THIS CLASS. AFTER THAT ABSENCE, THEY WILL RECEIVE A 10\% DROP IN THEIR FINAL LETTER GRADE FOR EACH ADDITIONAL UNEXCUSED ABSENCE. LEAVING CLASS EARLY/ARRIVING LATE FOR CLASS WILL COUNT AS ½ ABSENCE.

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 stationary, 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 (see above), so you should schedule routine personal events (e.g., vacations, wedding, 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. Texas waves jury duty for students, so jury duty is not an acceptable excuse. 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.

It is the responsibility of the student to obtain any material missed during an absence from his/her classmates. It is always your responsibility to determine what happened in class or laboratory during your absence. If you are absent, you must obtain any handouts or assignments from me in my office on your own time: I rarely bring assignments to class more than once. You must obtain class notes from other students.
Special circumstances may warrant deviating from these guidelines (including administering a “make-up” examination) and will be refereed to the Vice President of Student Affairs. This also applies to any situations for which you cannot provide an acceptable excuse as outlined above.

**Late Work and Make-up Exams**

Except in cases where prior arrangements have been made with the instructor for university approved absences, there is NO provision for making up late work and/or missed exams and quizzes. Anyone arriving after someone has completed an examination and left the room will not be allowed to take that examination. 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. In the event of an examination that is missed, regardless of circumstances regarding illness, absenteeism, death in the family, etc., NO make-up examinations will be administered.

**K. COLLEGE AND UNIVERSITY POLICIES**

- **Academic Integrity (University)**
  
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior. See Full University Policy at http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity

- **Classroom/Professional Behavior**

  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Deadline for Dropping a Course with a Grade of W (University)**

  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.
Grade Appeals (College of Science and Engineering)

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, 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 Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamu.cc/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamu.cc/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

Disability Services

- “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. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall, Room 116.
- 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.”

Statement of Civility

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.