Foundations of Life Science – SMTE4217
Department of Life Sciences
Fall 2015

A. COURSE INFORMATION

Course number/section: SMTE 4217.001
Class meeting time: M 12:00-2:00
Class location: EN 201
Course Website: Blackboard 9

B. INSTRUCTOR INFORMATION

Instructor: Dr. Cherie McCollough
Office location: EN 310A
Office hours: MW 9:00-10:00; TR 1:00-2:30
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 available during 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: Study of secondary science teaching and learning from the standpoints of theory and practice, curriculum objectives, materials and evaluation. The course will emphasize contemporary issues in biology ranging across the sub-disciplines of molecular biology, physiology, evolution and environmental science. Examples of issues used to teach biological concepts are used including the Human Genome Project, DNA Fingerprinting, Cloning, Drug Addiction, Antibiotic Resistance, AIDS, Human Evolution, Acid Rain, Global Warming and other contemporary concepts relevant for middle and high school science classrooms and associated with the Texas Essential Knowledge and Skills (TEKS). Science content will be presented in contexts found in underlying issues presented in readings from current publications such as Time magazine, U.S. News & World Report and Newsweek as well as more traditional formats. Instruction regarding pedagogical foundations are those that are contained in the National 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. In addition, students will be working on an individual basis for preparation for the TExES exam, the required content exam for teacher certification. This will be done during the semester on an individual basis with the instructor.

D. PREREQUISITES AND COREQUISITES

Prerequisites
none
Corequisites
none

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
none
Optional Textbook(s) or Other References
none

Supplies – none required

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

This course gives students majoring in biology, chemistry, or physics (Teacher Certification) an opportunity to learn contemporary methods of teaching science content in middle/junior high schools and high schools. Emphasis will be placed on exploring appropriate models which reflect the nature, content and context of science teaching; the characteristics of students; and the nature of the instructional setting. The subject matter of science will serve as the vehicle to illustrate and develop an understanding of instruction.

The major course goal is to provide the pre-service science teacher with appropriate experiences for initial growth as a professional science teacher.

As a result of the course, the student will gain experiences in:
1. designing instruction for teaching the content and processes of science in a way that accounts for the nature of science and the nature of the learner;
2. utilizing specific teaching methods that encourage inquiry, discussion, laboratory activities, and knowledge construction;
3. modifying instruction to meet the varied needs, abilities and interests of student populations;
4. demonstrating an understanding of the interrelationships between science disciplines as well as between science and other academic areas;
5. developing a positive attitude toward science;
6. providing evidence of knowledge of ability to provide instruction relative to science-related societal issues;
7. becoming acquainted with current issues related to science education reform and realizing the inherent personal responsibility of upholding the professionalism required in science teaching.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The student will be expected to:
- attend and participate in classroom and laboratory activities
- read 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

<table>
<thead>
<tr>
<th>EVALUATION</th>
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<tr>
<td>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. <strong>Every student should have a clear idea of expectations prior to completion of the following assignments/test administration.</strong> 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! <strong>NO E-MAILED ASSIGNMENTS WILL BE ACCEPTED! HARD COPIES MUST BE SUBMITTED WHEN DUE TO RECEIVE CREDIT!</strong> 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!</td>
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<tbody>
<tr>
<td>1</td>
<td>Three examinations @ 200 points each</td>
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<tr>
<td>2</td>
<td>Laboratory exercises: 4 @ 50 points</td>
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<tr>
<td>4</td>
<td>Lecture Quizzes (each lecture) 10 points</td>
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<tr>
<td>5</td>
<td>Lesson Plans (4 @ 100 points each)</td>
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<td><strong>Total:</strong></td>
<td><strong>1400 points</strong></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**.

<table>
<thead>
<tr>
<th>TEXT READING</th>
<th>HANDOUT</th>
<th>LAB/CLASSROOM</th>
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<tbody>
<tr>
<td>ASSIGNMENT</td>
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<td>ACTIVITY</td>
</tr>
<tr>
<td>Class 1</td>
<td>None</td>
<td>Intro/Expectations/Research Topic</td>
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<tr>
<td>Class 2</td>
<td>HST 1-26; UBD 1-34</td>
<td>ETS: Hart &amp; Winston Zull</td>
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<td>Class 3</td>
<td>HST 397-419</td>
<td>Polacek- Inquiry</td>
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<td>Class 4</td>
<td>HST 475-513</td>
<td>Beluga Whale</td>
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<td>Class 5</td>
<td>HST 515-565</td>
<td>Tsuanimi</td>
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<td>Class 6</td>
<td>HST 569-590</td>
<td>Adrea- Bird Specimens</td>
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<td>Class 7</td>
<td>UBD 35-81</td>
<td>Ross: The Expert Mind</td>
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<td>Class 8</td>
<td>UBD 82-125</td>
<td>Meio-Socks: Stavroulakis</td>
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<td>Class 9</td>
<td>UBD 126-171</td>
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<td>Class 10</td>
<td>UBD 172-226</td>
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<td>Class 11</td>
<td>UBD 227-274</td>
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Class 12 UBD 275-325 Addressing Problems - Standards, Scope and Sequence

Class 13 NONE Lesson Plans Due Lesson Plan Activity

Class 14 NONE Final Research Project Due Evaluations, Etc.

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.

I. COURSE POLICIES

Attendance/Tardiness
Students are expected to attend every scheduled class and laboratory meeting. Family vacations and celebrations of your 21st 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 referred 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.

**J. 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](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 by **November 6, 2015**. No student is eligible to receive a W without completing the official drop process by this deadline **November 6, 2015**. 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.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/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**
  Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individual’s documentation of
disability and assesses eligibility for services and the determination of reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to http://disabilityservices.tamucc.edu/

- **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.