I. **Course Number:** BIOL 1309
II. **Section:** 01W (Web course conducted though Blackboard)
III. **Course Title:** Biology for non-Science Majors II
IV. **Semester Credit Hours:** 3
V. **Instructor:** Nurul Alam, Ph.D.
   - **Office:** SCIT 318E (3rd floor); Science and Technology Building
   - **Office hours:** Virtual/Online (Blackboard); Mon and Wed; 7:00 PM – 9:00 PM
   - **Email:** nurul.alam@tamut.edu
   - **Phone:** (903) 334-6671
VI. **Course Description:** This course introduces the student the nature of science and the application of science to contemporary issues. Content includes plant form and function, animal form and function, and ecology.
VIII. **Student Learning Outcomes:**
    - After successful completion of this course, the students will be able to-
      - **Understand and apply** method and appropriate technology to the study of natural sciences by satisfactorily applying the scientific method.
      - **Recognize** scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation in writing.
      - **Identify and recognize** the differences among competing scientific theories.
      - **Demonstrate** knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
      - **Demonstrate** knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.
IX: **Course Organization and Policies:** There are 12 lessons (modules) in this course, which are grouped into 4 Units. Each of the modules will have interactive PowerPoint Presentation, Tutorials, Animations, Videos, and practice quizzes. The students will end each lesson by taking a lesson quiz on Blackboard and by a proctored exam on Blackboard after completing 3 to 5 lessons. The students will complete one critical thinking and communication project (essay) at the end of the semester. The topic of this assignment will be determined the instructor; examples include- Origin of Species and Evolution.
### X. Course Outline and Schedule:

<table>
<thead>
<tr>
<th>Lesson #</th>
<th>Lesson Name</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Unit I: Concepts of Evolution</strong></td>
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</tr>
<tr>
<td>1</td>
<td>How Population Evolve (Ch-13)</td>
<td>• Introduce yourself and upload a photo</td>
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<td></td>
<td></td>
<td>• Read Ch-13 and Ch-13 PowerPoint</td>
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<td></td>
<td></td>
<td>• Read ‘Evolution of drug resistant microbes is a serious public health concern on page 1272 (ch-13)</td>
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<td></td>
<td></td>
<td>• Watch ‘The voyage of HMS Beagle’</td>
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<td></td>
<td></td>
<td>• Post reactions to reading and Video on discussion board</td>
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<td></td>
<td></td>
<td>• Take Quiz on Ch-13</td>
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<tr>
<td>2</td>
<td>The Origin of Species (Ch-14)</td>
<td>• Read Ch-14 and Ch-14 PowerPoint</td>
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<td>• Watch video on ‘Polyploidy’</td>
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<td></td>
<td>• Post reaction to video on discussion board</td>
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<tr>
<td></td>
<td></td>
<td>• Take Quiz on Ch-13</td>
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<tr>
<td></td>
<td><strong>Unit II: The Evolution of Biological Diversity</strong></td>
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<tr>
<td>3</td>
<td>The Origin &amp; Evolution of Microbial Life (Ch-16)</td>
<td>• Read Ch-16 and Ch-16 PowerPoint</td>
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<td></td>
<td></td>
<td>• Watch video on ‘Endosymbiosis’</td>
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<td>• Read the ‘Theory on endosymbiosis’ on page 331 (ch-16) and on the web</td>
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<td></td>
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<td>• Post reactions to readings and videos on discussion board</td>
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<td></td>
<td></td>
<td>• Take Quiz on Ch-16</td>
</tr>
<tr>
<td>4</td>
<td>The Evolution of Plant Diversity (Ch-17)</td>
<td>• Read Ch-17 and Ch-17 PowerPoint</td>
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<td></td>
<td></td>
<td>• Take Quiz on Ch-17</td>
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<td></td>
<td></td>
<td>• <strong>Exam 1</strong></td>
</tr>
</tbody>
</table>
| 5 | The Evolution of Invertebrate Diversity (Ch-18) | • Read Ch-18 and Ch-18 PowerPoint  
• Read ‘Invertebrate diversity is valuable but threatened resource’ on page on page 385 (ch-18) and on the web  
• Post reaction to readings on discussion board  
• Take Quiz on Ch-18 |
|---|---|---|
| 6 | The Evolution of Vertebrate Diversity (Ch-19) | • Read Ch-19 and Ch-19 PowerPoint  
• Take Quiz on Ch-19 |
| 7 | Unit III: Animals: Forms and Function | • Read Ch-20 and Ch-20 PowerPoint  
• Read ‘Homeostasis’ on page 626 and on the web  
• Post reactions to readings on discussion board  
• Take Quiz on Ch-20 |
| 8 | Animal Structure and Function (Ch-20) | • Read Ch-21 and Ch-21 PowerPoint  
• Read ‘Diet can influence risk of cardiovascular disease and cancer’ on page 449 (ch-21) and on the web  
• Post reactions to readings on discussion board  
• Take Quiz on Ch-21 |
| 9 | Nutrition & Digestion (Ch-21) | • Read Ch-24 and Ch-24 PowerPoint  
• Read ‘Immune System Disorder’ on page 500 (ch-24) and on the web  
• Post reactions to readings on discussion board  
• Take Quiz on Ch-24 |
|  | The Immune System (Ch-24) | • Read Ch-24 and Ch-24 PowerPoint  
• Read ‘Immune System Disorder’ on page 500 (ch-24) and on the web  
• Post reactions to readings on discussion board  
• Take Quiz on Ch-24 |
| 10 | Control of Body Temperature and Water Balance (Ch-25) | • Read Ch-25 and Ch-25 PowerPoint
• Read ‘Kidney Dialysis to save life’ on page 513 (ch-25) and on the web
• Post reactions to readings on discussion board
• Take Quiz on Ch-25

| 11 | Plant Structure, Growth, and Function (Ch-31) | • Read Ch-31 and Ch-31 PowerPoint
• Read ‘Evolutionary adaptation helps some plants to live very long lives’ Kidney on page 640 (ch-25) and on the web
• Post reactions to readings on discussion board
• Take Quiz on Ch-31

| 12 | Control Systems in Plants (Ch-33) | • Read Ch-33 and Ch-33 PowerPoint
• Read ‘Defense against herbivores by plants’ on page 674 (ch-33) and on the web
• Post reactions to readings on discussion board
• Take Quiz on Ch-33

| 13 | \[ \text{Final} \] | • \text{Final} |

**XI. Methods of Evaluation:**

- **Quizzes (12X20)**
  - .... 240 points

- **Critical Thinking and Communication (Essay)**
  - .... 100 points

- **Participation (discussion board posting (10X10)**
  - .... 100 points

- **Exams (2X100)**
  - .... 200 points

- **Final Exam**
  - --- 150 points
XII. Grading Scale:

A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = 0-59%

XIII. Student Participation:

A. Participation Policy: Students are responsible for beginning their participation on the 1st class day by logging on and completing assignments. Failure to submit online assignments between the first day of classes and the “university census date” (according to the university schedule) will result in an administrative drop from the course. Your first assignment is to login to the discussion board and introduce yourself. Upload a photo. Participation in the course will include posting assignments and participating on the graded discussion board and interacting with other students. Students who have federal loans and grants should be aware that participation is monitored in online courses. Examples of participation include, but are not limited to, taking part in discussion boards, completing assignments and taking exams. Students must actively participate in the course or could have to pay back money from the date of nonparticipation.

B. Course Etiquette: Informal class participation is welcome. Please do not make comments that are off the subject or that impede the progress of the class.

XIV. Disability Accommodations: Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

XV. Academic Integrity: Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of ‘F’ in the course and/or disciplinary actions. For additional information, see the university catalog.

XVI. A&M-Texarkana Email Address: Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. Faculty and students are required to utilize the university email account when communicating about coursework.

XVII. Drop Policy: University Drop Policy: To drop this course after the census date (see semester calendar), a student must complete the Drop/Withdrawal Request Form, located on the University website http://tamut.edu/Registrar/droppingwithdrawing-from-classes.html or obtained in the Registrar’s Office. The student must submit the signed and completed form to the instructor of each course indicated on the form to be dropped for his/her signature. The signature is not an “approval” to drop, but rather confirmation
that the student has discussed the drop/withdrawal with the faculty member. The form must be submitted to the Registrar’s office for processing in person, email Registrar@tamut.edu, mail (7101 University Ave., Texarkana, TX 75503) or fax (903-223-3140). Drop/withdraw forms missing any of the required information will not be accepted by the Registrar’s Office for processing. It is the student’s responsibility to ensure that the form is completed properly before submission. If a student stops participating in class (attending and submitting assignments) but does not complete and submit the drop/withdrawal form, a final grade based on work completed as outlined in the syllabus will be assigned.

XVIII. Student Technical Assistance:

- Solutions to common problems and FAQ’s for your web-enhanced and online courses are found at this link: http://www.tamut.edu/webcourses/index.php?pageid=37
- If you cannot find your resolution there, you can send in a support request detailing your specific problem here: http://www.tamut.edu/webcourses/gethelp2.php
- Blackboard Helpdesk contacts:
  
  Office hours are: Monday - Friday, 8:00a to 5:00p
  
  Julia Allen (main contact) 903-223-3154 julia.allen@tamut.edu
  
  Frank Miller (alternate) 903-223-3156 frank.miller@tamut.edu
  
  Nikki Thomson (alternate) 903-223-3083 nikki.thomson@tamut.edu

XIX. Technical Requirements:

A. Minimum Windows PC Requirements:

- Pentium IV 1.5GHz+ (preferred: Core Duo)
- 1 GB RAM minimum (preferred: 2 GB)
- 128MB Video Card minimum - Sound Card is required for some courses
- 6K modem minimum (Cable or DSL required for some courses
- Windows 2000, XP, Vista or 7
- Web browser (Internet Explorer 7.0+; Firefox 3.0+)
- Microsoft Word, minimum Office 97
- Some assignments may need plug-ins such as Flash player 10+, QuickTime player 7.0+, Adobe Reader 9.0+, Java Runtime Environment (Java 1.6.0_15), Windows Media Player 10+, RealPlayer, and Macromedia/Adobe Shockwave.
Blackboard has certified the following browsers for computers running Windows Operating Systems: Internet Explorer 8 or 9 (IE is not supported on Windows XP) Mozilla Firefox 3.6+ Google Chrome

B. Minimum Apple Macintosh Requirements:
   - Intel Core 2.0GHz+
   - 1 GB RAM (preferred: 2 GB)
   - 128MB Video Card minimum - Sound Card is required for some assignments
   - 56K modem minimum (Cable or DSL required for some assignments)
   - Web browser (Firefox 3.0+ ; Safari 3.0+)
   - Microsoft Word, minimum Office 97
   - Built-in or stand-alone webcam
   - Some assignments will need plug-ins such as Flash player 10+, QuickTime player 7.0+, Adobe Reader 9.0+, Java Runtime Environment, RealPlayer, and Macromedia/Adobe Shockwave
   - Blackboard has certified the following browsers for computers running Macintosh Operating Systems:
     - Mac OS 10.2 (Jaguar): (Safari 1 is compatible)
     - Mac OS 10.3 (Panther): Safari 1.2 (Firefox 1.5 is compatible)
     - Mac OS 10.4 (Tiger): Safari 2 and Firefox 1.5
     - Mac OS 10.5 (Leopard): (Firefox 2.0 is compatible)

XX. Library/Media Resources Assessment:

A. Books/Periodicals/Electronic Data Bases/Software/Programs:
   N/A

B. Computing/Multimedia/Online Media Resources:
   N/A
<table>
<thead>
<tr>
<th>0 – 10 points</th>
<th>11-20 points</th>
<th>21-30 points</th>
<th>31-40 points</th>
<th>41-50 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>The answer (essay) demonstrates little or no grasp of the topic. The response: (1) may significantly misstate facts or misinterpret them; (2) may fail to completely justify the choice of factors; (3) may be a string of generalizations without specifics or specifics without generalizations; (4) has structure and mechanics which may cause the reader significant difficulty.</td>
<td>The answer (essay) demonstrates only limited understanding or a partial misunderstanding of the topic. The response: (1) may use unimportant factors or may explain important factors or their significance with little coherence or specificity; (2) may make a number of serious factual errors; (3) has structure and mechanics which sometime impede the reader's understanding.</td>
<td>The answer (essay) demonstrates an acceptable but commonplace understanding of the topic. The response: (1) presents important factors but explains them with only the most obvious specifics; (2) delineates only the most obvious implications; (3) has structure and mechanics which may cause the reader minor distractions.</td>
<td>The answer (essay) demonstrates an accurate grasp of the topic. The response: (1) presents important factors and explains them with appropriate specifics; (2) shows less detailed knowledge; (3) has structure and mechanics, which usually serve content.</td>
<td>The answer (essay) shows a superior understanding of the topic. The written response: (1) presents factors of central significance and explains them with substantial factual detail; (2) clearly shows how these factors operate; (3) has structure and mechanics which serve content.</td>
</tr>
</tbody>
</table>
## Rubric for Grading Discussion

<table>
<thead>
<tr>
<th>Category</th>
<th>Exceeds Expectations 9-10 points</th>
<th>Meets Expectations 7-8 points</th>
<th>Does not meet Expectations 0-6 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Makes substantial contributions to discussion, explicitly, openly, and frequently in a genuine manner</td>
<td>Often contributes to the discussion in a genuine manner</td>
<td>Seldom contributes to the discussion or contributions minimal</td>
</tr>
<tr>
<td>Communication</td>
<td>Frequently and on time = 4 or more contributions per week.</td>
<td>Often and on time = 2 to 3 times per week</td>
<td>Posts not submitted on time</td>
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<tr>
<td>Informed discussion</td>
<td>Demonstrates informed knowledge, in-depth thinking, and quality questioning of other students' contributions and of the topic under discussion</td>
<td>Demonstrates some informed knowledge, thinking, and questioning of other students' contributions and of the topic under discussion</td>
<td>Demonstrates little informed knowledge, thinking, and questioning of other students' contributions and of the topic under discussion</td>
</tr>
<tr>
<td>Resource contributions</td>
<td>Makes substantial resource contributions to the class in the form of related websites, e-mail discussion groups of interest, current events, other publications, etc.</td>
<td>Makes some contributions to the class in the form of related websites, e-mail discussion groups of interest, current events, other publications, etc.</td>
<td>Makes limited or no contributions to class resources</td>
</tr>
<tr>
<td>Netiquette</td>
<td>Observes netiquette when responding to others' contributions</td>
<td>Observes some netiquette when responding to others' contributions</td>
<td>Does not pay attention to netiquette when responding to others' contributions</td>
</tr>
</tbody>
</table>