**Genetics (Bio 3301-010)  Spring  2018**

**Instructor:** Dr. Crosby W. Jones, Jr.  
**Office:** 003C Cavness Science Building  
**Office Hours:** Mon: 9-10, 1-2, 4-6;  Tues 12:30- 5  
**Contact Info:** crosby.jones@angelo.edu (email) 486-6642 (office phone)

**University Academic Honor Code:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in both print and web versions of the Student Handbook.

**Disability Statement:** Persons with disabilities which may warrant academic accommodations must contact the Student Life Office in order to request & to implement academic accommodations. Bring the appropriate paperwork to the instructor.

**Religious holy day:** “A student who intends to observe a religious holy day during the semester should make that intention known in writing to the instructor during the first week of the semester and one week prior to the absence. If this submission is completed, a student who is absent from classes for the observance of a religious holy day shall be allowed to take make up missed exams or assignments scheduled for that day in accordance with syllabus policy.”

**Scope of the Course:** This course is taught assuming it is the student’s first upper level biology course. It is a general genetics course & therefore examples from all major life forms are included but special emphasis will center on human genetics. Areas to be emphasized: cytogenetics, molecular genetics & classical transmission genetics

**Overall Goals:**  
√ Expand one’s knowledge of genetic facts and terminology  
√ Introduce basic genetic principles and theories  
√ Improve one's ability to apply genetic knowledge to problems & situations

A successful student in general genetics should be able to achieve the following course related learning outcomes:

- be familiar with terminology used in genetics  
- be able to evaluate genetic crosses and analyze outcomes  
- be able to analyze pedigrees and make logical predictions  
- be able to understand the mechanisms of genetic change and their role in subsequent generations  
- be able to understand the flow of genetic information from DNA to expressed traits

For Departmental, State, and Accreditation purposes this course will assess:

- Biology Department Learning Goal #2 – Student will show an ability to demonstrate comprehensive, specialized knowledge in the various sub-disciplines of the biological sciences. This will be accomplished by assessing the above outcomes. Each major exam will include a section addressing at least one of the above learning outcomes.


**Exams:**  
Three lecture exams and one final exam (all exams 100 pts each)

**Exam dates:**  
Feb. 19 (Mon); March 26 (Mon); April 27 (Fri);  
Final exam scheduled: May 7 (Mon) for the 12:00 section; 1-3 PM final. May 9 (Wed) for the 11:00 AM section; 10:30-12:30 final.

**Exam format:** Each exam will be composed of a mixture of question types e.g., matching, short answers, definitions, problems, true-false, etc. Sample exams from a previous semester are in this syllabus.

**Points & Grading:** You have the opportunity to take 4 exams. Your best 3 scores will be totaled to determine your grade. No make-up exams are given in this class. If you miss one exam, that one will be the low score dropped. It is possible to skip the final if you are satisfied with your point totals after 3 exams. The final is comprehensive.

\[
\begin{align*}
270-300\text{ points} &= A \\
240-269\text{ points} &= B \\
210-239\text{ points} &= C \\
175-209\text{ points} &= D \\
174\text{ or less} &= F
\end{align*}
\]
**Attendance Policy:** Roll will be taken at each class meeting but will not negatively figure in to your final point totals although in the event that a curve is established below the point scale described above, excessive absences (i.e. above the average absence rate of the class) will disqualify the student from benefiting from the curve.

**Approximate chronology of lecture topics**
- Week #1-3: Contributions of Mendel, Darwin and others to genetic theory
- Week #4-6: Punnett Squares, Sex-linked inheritance, Sex determination; Sex chromosomes
- Week #7-9: Independent assortment, Cell cycle, Cross-over and Recombination
- Week #10-12: Mutations & chromosome anomalies; Pedigree analysis
- Week #13-15: DNA, the Gene, the Genetic Code and Sequence Analysis

**Optional lab:** A one hour credit, non-required computer-based laboratory (Bio 3101) also accompanies this course. It explores principles in more detail, provides opportunity to practice genetics problem solving & introduces additional examples beyond those given in lecture discussions.

**Miscellaneous information:**
[1] Handouts should be viewed only as an outline and therefore comprehensive note taking is suggested

[2] Initial the roll sheet daily; excessive absences may be reported to the university administration

[3] You may ask questions during exams for clarification purposes; you are also encouraged to ask relevant questions during lectures and during office hours (the earlier in the semester, the better!)

[4] Keys to exams will be posted. Please consult the keys prior to visiting with the instructor about an exam and also do so prior to the next exam. Keys may no longer be available once the next exam is administered.

[5] Everyone is responsible for maintaining an atmosphere of attentiveness (i.e. do not bring guests or food to class; do not visit during class lectures; turn off cell phones; be on time to class)

[6] In addition to the above items the following are also hints for achieving success in this course:
- Pay attention to details
- Know all examples presented in lecture
- Be aware that exam #1 historically has been the exam with the highest class average
- Do not over-relay on the outline or on outside sources of information
- Take seriously hints/suggestions/aside presented by the instructor
- Read every word of each exam key and take appropriate notes
- Although you will have to memorize information, a special emphasis is placed on applications of information to new situations
- If under qualified to take this course, your attention to the preceding details should compensate for this
- If overqualified to take this course, you are at risk of losing concentration during lectures and missing some details that could cost you points on an exam

**Student biography:** Each student is requested to turn in a short biography including the following: name (if what I called from the roll is not what you prefer, please write your preference; include phonetics if I mispronounced your name); major; plans for the future, the approximate number of hours of college biology that you have taken & a brief summary of why you are taking this class. In addition to this written bio, you are invited (but not required!) to drop by my office for a visit so that I can put a “name to a face”.