BSC 413/513 PRINCIPLES OF ORGANIC EVOLUTION – SPRING 2018

TEXT: **D. Futuyma. 2016. Evolution.** 4th Ed. (or **2013** 3d Ed).
PLACE & TIME: **Science Building 376: Tuesday, Thursday, 2 - 3:15 pm.**
INSTRUCTOR: Dr. **Victor Fet** email: **fet@marshall.edu** Office: **Science Building 206,** phone: 696-3116.
Office hours: TR 9-10:30 am and 12:30 am-2 pm, or by appointment.
University Policies: By enrolling in this course, you agree to the University Policies listed below: Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment. Please read the full text of each policy at www.marshall.edu/academic-affairs/policies/.
Plagiarism and cheating will NOT be tolerated, and could result in immediate dismissal (**F** grade).
Attendance is not mandatory, but you are **absolutely and solely responsible** for any material covered or announcements made in class.
Please feel free to discuss with me any problems you might be having (**email preferred**).

Course Description: Facts and possible mechanisms underlying the unity and diversity of life with emphasis on neo-Darwinian concepts of the role of species in evolutionary phenomena. **Pre-requisite(s):** BSC 302, or BSC 320, or BSC 322, or BSC 324; 3 credit hours.
Course Assessment: **4 tests** @ 100 pts= 400 pts; **10 quizzes** @ 20 pts=200 pts; **5 homework assignments** @ 20 pts=100 pts; **term paper** = 100 pts; total 800 pts (undergraduates). *GRADUATE* students will write an additional paper (50 points). Guidelines on **term paper** and homework will be distributed separately.
GRADING SCALE (%) 90-100, A; 81-89, B; 71-80, C; 60-70, D; below 60, F.
NO EXTRA CREDIT WILL BE GIVEN

Course student learning outcomes	**How students will practice each outcome in this course**	**How student achievement of each outcome will be assessed in this course**
Students will understand terminology and be able to explain, with examples, major fundamental principles of modern evolutionary science. They will be able to integrate these principles with other subdisciplines of biology.	Learning activities include lecture and reading assignments and exercises focused on each particular topic covered. A term paper on a particular group of organisms will be written.	Assessments include quiz and exam questions that evaluate mastery of each particular topic covered as listed in course schedule. A term paper will be graded.

Dates	**Lecture Topic**	**BOOK CHAPTER**
Jan 9	Introduction & Short History	**1 (part)**
Jan 11-23	The Tree of Life; Patterns of Evolution	**2, 3**
Jan 25, 30	Fossil Record	**4**
Thursday Feb 1 Test 1 (Ch. 2-4); term paper guidelines distributed		
Feb 6, 8, 13	History of Life – 1	**5**
Feb 15, 20, 22	History of Life – 2	**5 (end)**
Feb 27, March 1	Geography of Evolution	**6**
Tuesday March 6 Test 2 (Ch. 5-6); email first draft of your term paper		
March 8	Origin of Genetic Variation (mutations)	**8**
March 13, 15	Variation: The Foundation of Evolution	**9**
March 17-25 SPRING BREAK		
March 27, 29	Genetic Drift: Evolution at Random	**10 (part)**
April 3, 5, 10	Natural Selection	**11, 12 (parts)**
Thursday April 12 Test 3 (Ch. 8-12); email final PDF of your term paper		
April 17, 19	Species	**17**
April 24, 26	Speciation	**18**
Final Test (comprehensive!): Thursday, May 3, 12:45-2:45 pm		