

SYLLABUS – Marshall University
 Course Title/Number: **PRINCIPLES OF GENETICS BSC 324**
 Semester/Year: **Fall 2017**

Text: **D. L. Hartl & M. Ruvolo. Genetics: Analysis of Genes and Genomes, 8th Ed. (2012)**

Days/Time: **Lecture:** Tuesday & Thursday 12:30-1:45 pm.

Labs: Sect. **101:** Monday 1-3:50 pm; Sect. **102:** Wednesday 9-11:50 am; Sect. **103:** Tuesday 9-11:50 am.

Location: **Lecture: Science 374; Labs: Science 381**

INSTRUCTOR: Dr. **Victor FET**

Office: **Science 206**, phone: (304) 696-3116;

Email: fet@marshall.edu Office Hours: Tue, 9:00-12:30 am; Thursday 2-4 pm or by appointment.

University Policies: By enrolling in this course, you agree to the *University Policies* listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802. *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.*

Course Description: The fundamental principles and mechanisms of inheritance. (*Pre-requisites:* BSC 120 and 121 with grade of C or better, or equivalent. CHM 355 recommended.) **4 credit hours.**

Assessment & Grading: 4 tests @ 100 pts= 400 pts; 15 quizzes @ 10 pts=150 pts; 5 lab/homework reports @ 30 pts = 150 pts; total 700 pts. **SCALE (%)**: 90-100 A; 81-89 B; 71-80 C; 60-70 D; < 60 F **If you miss a quiz or a test you can make it up only** if you have university excuse.

NO EXTRA CREDIT WILL BE GIVEN. Plagiarism Policy/Academic Honesty: *plagiarism or cheating* will not be tolerated, and will 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**).

PLEASE MAKE GOOD LECTURE NOTES !!!

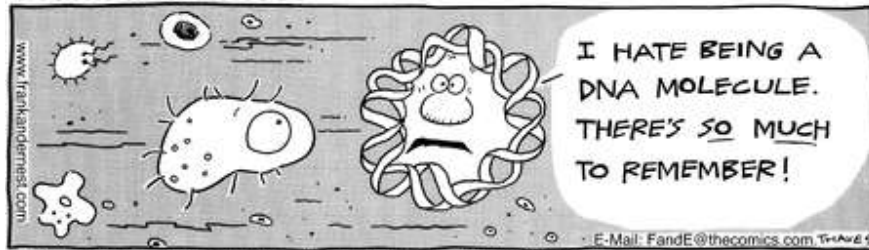
Course Student Learning Outcomes	How students will practice each outcome Course	How student achievement of each outcome will be assessed in this Course
Students will be able to describe and explain: major chromosomal and gene-level mechanisms of heredity; major molecular mechanisms behind gene action; basic structure and function of informational molecules (DNA, protein); and to use and interpret these principles and mechanisms in solving major issues in classical genetics	In-lecture discussion, in-class exercises, problem practice, lab exercises	Graded assessments: in-class quizzes, exam questions, genetic problem solving, lab exercises

Dates	Lecture Topic	BOOK CHAPTER
Aug 22, 24, 29	Introduction; Mitosis & Meiosis	Ch. 4 (4.1-4.3)
Aug 31, Sept 5	Mendelian Genetics	Ch. 3 (3.1-3.5)
Sept 7, 12, 14	Modifications of Mendel	Ch. 3 (3.6)
Sept 19, 21	Sex Chromosomes	Ch. 4 (4.4)
Sept 28, Oct 3	Karyotypes and Chromosome Abnormalities	Ch. 8
Oct 5	Linkage	Ch. 5 (5.1-5.2)
Oct 10, 12	DNA Structure	Ch. 1-2
Oct 17, 19	DNA Replication	Ch. 6 (6.1-6.6)
Oct 24, 26	Gene Expression - 1	Ch. 10
Oct 31, Nov 2	Gene Expression - 2	Ch. 10
Nov 9, 14	Mutation & DNA Repair	Ch. 14

Nov 20-24 THANKSGIVING BREAK

Nov 16, 28, 30	Recombinant DNA Technology	Ch. 2 (2.4), Ch. 6 (6.7)-6.6)
Dec 5, 7 "Dead week"	Molecular Evolution & Population Genetics	Ch 17 (part)
Lab & Test Schedule (Science 381):		
Aug 21-23	no labs	
Aug 28-30	Lab1: Meiosis	
Sept 4-6	no labs (Labor Day week)	
Sept 11-13	Lab2: Mendelian Genetics 1	
Sept 18-20	Test 1 (Ch 3, 4 [part])	
Sept 25-27	Lab3: Mendelian Genetics 2	
Oct 2-4	Lab4: Mendelian Extensions	
Oct 9-11	Test 2 (Ch. 4 [part], 5, 8)	
Oct 16-18	Lab5: DNA-1	
Oct 23-25	Lab6: Proteins	
Oct 30-Nov 1	Test 3 (Ch. 1-2, 6, 10 [part])	
Nov 6-8	Lab7: Genetic Code	
Nov 13-15	Lab8: DNA-2	
Nov 27-29	Lab9: Biotechnology	
Final Test (comprehensive, multiple choice!): Tuesday, December 12, 12:45-2:45, Room 374		

Frank and Ernest



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