I. IDENTIFYING INFORMATION

Course: BIO 315
Course Title: Human Genetics
EPN: 22290997
Term: Fall II
Location: Online
Course Dates: 10/24, 12/16/2016
Course Days and Times: N/A
Prerequisites: None.

Blackboard:
Blackboard is a web-based learning management system licensed by CMU. Within Blackboard, a course website, also known as a shell, is automatically created for every CMU course. Face-to-face courses may or may not incorporate Blackboard, whereas Blackboard course shells are always used for online courses and will be available to you prior to the course start date. Seeing the course shell listed in Blackboard with unavailable adjacent to its title is an indication that your instructor has not made it available and is in no way indicative of registration status. To access Blackboard, open a web browser and enter https://blackboard.cmich.edu/webapps/login/. After the site loads, enter your CMU Global ID and password in the respective spaces provided. Click the "login" button to enter Blackboard and then the link to the appropriate course to enter the course's Blackboard shell. If you need assistance, contact the IT Helpdesk at 989-774-3662 / 800-950-1144 x. 3662. Self-guided student tutorial resources are also available at https://blackboard.cmich.edu/webapps/login/.

Instructor: Sarah Learman
Primary Phone Number: 989-774-3096
Secondary Phone Number: N/A
E-Mail Address: learm1s@cmich.edu
Availability: I am happy to meet with you in person, (Mt. Pleasant CMU Campus office: Brooks Hall 187) or by phone (office #: 989-772-3096). My office hours/availability varies by semester. Please email me to make

Academic Biography:

Academic Degrees and Certificates:

- **Doctorate of Philosophy**: Department of Biological Sciences:
  Molecular, Cellular, and Developmental Biology Program, Virginia Tech: 2008
  
  *Dissertation*: Small-Molecule Control of Kinesin-5 Proteins

- **Graduate Teaching Certificate**: Future Professoriate Graduate Certificate
  
  Virginia Tech Graduate School: 2008

- **Bachelor of Science**: Department of Biology, Mary Washington College: 2004
  
  Magna Cum Laude

Teaching Experience:

- Central Michigan University Department of Biology:
II. TEXTBOOKS AND INSTRUCTIONAL MATERIALS

Order books from MBS at [http://bookstore.mbsdirect.net/cmu.htm](http://bookstore.mbsdirect.net/cmu.htm)

Textbooks and Course Materials:

Title: Human Genetics and Society (E-book Available)
Author: Yashon
Edition: 2nd
Publisher: Brooks/Cole
Required: Yes

Course Reserves:
N/A

Required Materials:
N/A

Recommended Materials:
N/A

III. COURSE DESCRIPTION

Inheritance in humans, including genetic mechanisms, human populations, medical syndromes, eugenics and genetic counseling. Does not count toward Biology major or the Biology Minor.

IV. COURSE GOALS AND OBJECTIVES

Upon completing this course the student will be able to:

a. describe the issues involving genetics and society.
b. explain the basics of the cell cycle including mitosis and meiosis.
c. apply Mendel's rules of inheritance.
d. construct human pedigrees and identify different modes of inheritance.
e. explain the basics of sexual development.
V. METHODOLOGY

The course will use Blackboard, which will be used as an interactive computer-mediated learning environment (see above for more details).

Students are required to be familiar with Blackboard and its many learning tools. The instructor will assist as needed. Learning tools that will be provided to the students include: PowerPoint presentations of lectures, narrated lectures (audio and visual), discussion on chapter topics as well as how genetics influences our society, study guides (that include key words and topics, and additional questions), quizzes, and homework, and other material from the textbook’s publisher. Blackboard’s on-line grade book will allow students to keep up with their grades and receive feedback.

Interactions between students and instructors will include the use of phone, email, chat, and discussion boards.

VI. COURSE OUTLINE/ASSIGNMENTS

Pre-Class Assignment:
Readings:
Syllabus
Blackboard Tutorials
Assignments:
Run the system requirement test.
Study the course syllabus and complete the syllabus quiz
Read or watch the Blackboard tutorials.
Post your self introduction to the discussion forum

Course Outline:

Weekly Course Outline/Schedule

Week 1
Readings:
Biology Basics 1
Chapter 1
Chapter 2
Lectures:
Cells and Cell Structure
Sex and Development
Assisted Reproductive Technology
Discussion 1
Portfolio Topic Due

Quiz 1 (Biology Basics 1, Chapters 1-2)

Week 2
Readings:
Chapter 3
Chapter 4
Lectures:
Changes in Chromosome Number
How are Genes Transmitted from Generation to Generation
Discussion 2
Quiz 2 (Chapters 3-4)

Week 3
Readings:
Biology Basics 2
Chapter 5
Chapter 6
Lectures:
DNA and RNA
Gene Expression and Gene Regulation
Changes in DNA: Mutation and Epigenetics
Discussion 3
Quiz 3 (Biology Basics 2, Chapters 5-6)

Week 4
Readings:
Chapter 7
Chapter 8
Lectures:
Biotechnology

Genetic Testing and Prenatal Diagnosis

Discussion 4

Quiz 4 (Chapters 7-8)

Midterm Exam (Biology Basics 1-2, Chapters 1-8)

Week 5
Readings:
Chapter 9
Chapter 10
Lectures:
DNA Forensics
Genomics
Discussion 5
Quiz 5 (Chapters 9-10)

Week 6
Readings:
Biology Basics 3
Chapter 11
Chapter 12
Lectures:
Genes, Populations, and the Environment
Inheritance of Complex Traits
Cancer and Cell Cycle
Discussion 6
Quiz 6 (Biology Basics 3, Chapters 11-12)

Week 7
Readings:
Chapter 13
Chapter 14

Lectures:
Behavior
Immunogenetics

Discussion 7
Portfolio Due
Quiz 7 (Chapters 13-14)

Week 8
Readings:
Chapter 15
Chapter 16
Chapter 17

Lectures:
Genetics and Populations
Human Evolution
Different Worlds- The Past, Present, & Future of Human Genetics

Discussion 8
Quiz 8 (Chapters 15-17)

Final Exam (Biology Basics 1-3, Chapters 9-15)

**Assignment Due Dates:**
Assignment Summary:

Week 0 assignments (see above) (7 points)
Portfolio Assignment topic due Week 1 (5 points)
Complete portfolio assignment due Week 7 (45 points)
Weekly discussion board posts due Thursday and Sunday (40 points)
Weekly quizzes due Sunday (80 points)
Midterm Exam due Sunday of week 4 (144 points)
Final Exam due Sunday of week 8 (144 points)

Assignment Descriptions:

**Exams:** There are two exams in this course: a Midterm and Final Exam. Each exam will have two independent sections. The first section will be a multiple choice/true false section of 40 questions (worth 80 points). The second exam section is a short answer section of approximately 8 questions (worth 64 points). These exams are 100% online. Each exam and its sections
will be made available to you on Wednesday and must be completed by the Sunday after they are assigned (11:59 pm).

You have **50 minutes and ONE attempt** to complete each exam section (total of 100 minutes for each complete exam)! Do not open the exam unless you are ready to take it! Once an exam is opened, you must finish it within the given time. **You will lose one point for per minute passing the limited time. You must work on the test independently and individually!** NO makeup exam will be given unless it is pre-approved by the course instructor (with evidence & documents).

The midterm and Final Exams are closed book. You are not allowed to use your textbook, notes, the Internet, or any other external source. You MUST use your own words in your answer. Do NOT copy something from any source, even if you cite it. This is plagiarism and will result in a zero.

Review the "Exam Tips" sheet (http://www.cmich.edu/documents/blackboard/student/online_exam_tips.pdf) before taking exams!

**Quizzes:** There are 8 quizzes in this course (1 each week). These quizzes are 100% online and contain 20 multiple choice and true false questions. They will be posted on every Friday at 8am and will be due on Sunday at 11:59 pm. (With the exception of the week 4 and week 8 quizzes, as they will become available on Tuesday at 8am to allow more time for students to prepare for the midterm and final exam that will also be occurring these weeks.) Unlike Exams, you will have 5 attempts and your highest grade will be recorded. In addition, with quizzes only, you can use notes, textbooks, and work with classmates, but once you open the quiz on blackboard it must be completed.

Students are also expected to take a short syllabus quiz worth 5 points. The quiz is to be completed before Wednesday of Week 1 at 11:59pm. Please feel free to use your notes, the course syllabus, or other resources to complete this quiz. 3 attempts are permitted, and only your highest score will be recorded.

**Discussion Board Postings:** One of the best ways to learn is by discussing ideas with peers. There will be weekly discussion board topics that you will be required to participate in. Up to 2.5 points can be earned for each substantive response to the main discussion topic (must post initial response by the end of Wednesday of each week) and up to 2.5 points will be earned for your response to someone else's post (this second post must occur between Thursday and Sunday of each week). The maximum you can receive for any discussion board topic is 5 points per week and 42 points for the semester (2 points are awarded for your introductory post). Note that no points will be earned for discussion responses posted after the week ends. I encourage you to respond as often as you like.

The purpose of the discussion forum is to generate conversations about relevant topics. Please respond to as many postings as you wish and keep the discussions going. This is an excellent way to learn from each other. However, it is important to remember that there are many people participating in these discussions so there will be many opinions shared that are not your own. Therefore, it is essential that everyone respects each others opinions. Points will be lost for disrespectful comments.

**Portfolio Assignment:** The portfolio assignment is designed to get you to think about a specific genetic disease or trait and the issues surrounding the disease. I encourage you to pick a topic that you have a personal interest in. Maybe there is a disease or trait that you always wanted to learn more about. This is your opportunity. This is not a traditional research paper. The portfolio assignment will contain an introduction section, two websites, 4 article summaries, and a conclusion. All topics need to be approved by me. The grade for this project is divided into 3 parts: 5 points for turning the topic in on time (Friday of week 7) and 45 points for the portfolio itself. More details regarding the portfolio are on Blackboard under Portfolio Assignment.

**Reading Assignments:** Reading assignments in the text are either listed on the tentative lecture schedule or will be announced. Readings and lectures will complement each other. This being an online course you will need to take a large responsibility of reading the material. We will not cover every detail in lecture and I will expect you to obtain certain information from reading the text rather than from lecture. Don't fall behind. Try to read the assignment before viewing the lecture.

**Post-Class Assignment:**
None

**Student Involvement Hours:**

Total time input for this course may vary per student, however it is recommended that students spend a minimum of 10-12
hours per week reading, watching lectures, contributing to discussions, completing assessments, and studying. Of course, the more time put into any course, the more beneficial the outcome, both in overall learning and assessments.

VII. CRITERIA FOR EVALUATION

Evaluation Criteria:
Discussion board grading rubric may be found on Blackboard.
Portfolio assignment grading rubric may be found on Blackboard.

Grading Scale:
94 + = A
90 - 93.9 = A-
88 - 89.9 = B+
83 - 87.9 = B
80 - 82.9 = B-
78 - 79.9 = C+
73 - 77.9 = C
70 - 72.9 = C-
68 - 69.9 = D+
63 - 67.9 = D
60 - 62.9 = D-
< 60 = E

Late Assignments:
Late exam and quiz submissions will be docked 1 point per minute late. Other late assignments (if accepted) will have 10% deducted from the grade per day late.

Make-ups and Rewrites:
Students with extended absences due to illness or other excused reason should contact me about making up required coursework. Make-up assignments/quizzes and exams will be given only under extreme personal circumstances (illness, death in the family), extramural athletic participation, required field trips in other courses, or employment obligations, and must be approved in advance (if possible). A note from the appropriate authority must be provided.

VIII. EXPECTATIONS

Attendance and Participation:
Since this is not a face-to-face class there are no attendance points. However, all quizzes and exams have specific due dates that students must follow.

Expectations for Students: It takes great effort to be a successful online student. You have to be self-motivated and self-disciplined to keep yourself on schedule with reading, assignments, projects, etc. You do have to devote time from your busy family and work schedule to work on the course so you will not fall behind. To be successful an open communication channel between us is important. It is very important that we keep connected and interact with one another. If you have questions, please feel free to use email, discussion board, chat, or phone to contact me, or your classmates. Learning takes place in a community. Below are specific expectations I have for students.

1. Students are expected to check their e-mail and read the Announcements on Blackboard daily.
2. Students are expected to communicate with me when problems, difficulties, or confusion arise.
3. Students are expected to submit their assignments online through Blackboard by the due date.
4. Students are expected to participate in weekly discussions.

Academic Integrity:

Because academic integrity is a cornerstone of the University's commitment to the principles of free inquiry, students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism and other forms of dishonest or unethical behavior, is prohibited. A breakdown of behaviors that constitute academic dishonesty is presented in
Student Rights and Responsibilities:

Each member of the Central Michigan University community assumes an obligation regarding self conduct to act in a manner consistent with a respect for the rights of others and with the University's function as an educational institution. As guides for individual and group actions within this community, the University affirms the general principles of conduct described in the Code of Student Rights, Responsibilities and Disciplinary Procedures at https://www.cmich.edu/ess/studentaffairs/Pages/Code-of-Student-Rights.aspx.

IX. SUPPORT SERVICES AND OTHER REQUIREMENTS

Global Campus Library Services (GCLS)

CMU offers you a full suite of library services through its Global Campus Library Services (GCLS) department. Reference librarians will assist you in using research tools and locating information related to your research topic. The library's Documents on Demand office will help you obtain copies of the books and journal articles you need. Check out the GCLS website at http://gcls.cmich.edu for more information.

Reference librarian contact information:
   1. By phone: (800) 544-1452.
   2. By email: gclsref@cmich.edu
   3. By online form: http://www.cmich.edu/library/gcls/Pages/Ask-a-Librarian-Request-Form.aspx

Documents on Demand office contact information:
   1. By phone: (800) 274-3838
   2. By email: docreq@cmich.edu
   3. By fax: (877) 329-6257
   4. By online form: https://illiad.cmich.edu/

Writing Center

The CMU Writing Center is a free online service for all CMU students, providing help with grammar, citations, bibliographies, drafts, and editing of academic papers. Suggestions and feedback are typically provided within two business days. For additional information and to submit work, visit http://global.cmich.edu/student/writing-center.aspx

Mathematics Assistance Center

The CMU Mathematics Assistance Center provides free tutoring in mathematics and statistics to students enrolled in select courses. Tutoring is available online and via telephone. To see what courses qualify and to register with the Math Assistance Center, visit http://global.cmich.edu/mathcenter/tutoring-request.aspx.

ADA

CMU provides individuals with disabilities reasonable accommodations to participate in educational programs, activities and services. Students with disabilities requiring accommodations to participate in class activities or meet course requirements should contact Student Disability Services at (800) 950-1144, extension 3018 or email sds@cmich.edu, at least 4 weeks prior to registering for class. Students may find additional ADA information and forms at https://www.cmich.edu/ess/studentaffairs/SDS/Pages/default.aspx

Note to faculty: CMU Administration will notify you if applicable; otherwise, the student will provide a "Notification Letter to the Instructor" outlining the accommodations the student is approved to receive.

X. BIBLIOGRAPHY
Center Information
Student & Enrollment Services for CMU Online Courses
(800) 688-4268 or (989) 774-1129 or cmuonline@cmich.edu

Drop & Withdrawal Policy for Online Courses
http://global.cmich.edu/courses/drop-withdraw.aspx

Academic Calendar and
Credit/No Credit Deadlines for Online Courses
https://www.cmich.edu/global/calendar/Pages/default.aspx

Office of Information Technology Help Desk
https://www.cmich.edu/office_provost/OIT/help/help_desk/Pages/default.aspx

Pre-Class Checklist for Online Courses
http://www.global.cmich.edu/cmuonline/checklist.aspx

Online Learning Resource Center
http://www.global.cmich.edu/cmuonline/about/

Certified Testing Center & Proctoring Information
https://www.cmich.edu/global/cmuonline/proctoring/Pages/default.aspx

Harassment and discrimination: You have a right to feel safe and supported while pursuing your degree at CMU. If any professor, student, or staff member makes you feel that you have been discriminated against, disrespected or stuck in a hostile environment, the Office of Civil Rights and Institutional Equity (OCRIE) is here to help: Bovee UC 306, (989) 774-3253. For resources and more information, please see https://www.cmich.edu/office_president/OCRIE/

Sexual misconduct policy: With the exception of the confidential resources named explicitly within the Sexual Misconduct Policy, all CMU staff and faculty are responsible employees and are required to report any information they know about possible sexual misconduct to the Title IX Coordinator in OCRIE at (989) 774-3253. This means that any information you may divulge about such an incident in the classroom or with a faculty member cannot be confidential. Reports to OCRIE are intended to provide options and resources to survivors. Please keep these reporting obligations in mind as you seek support from staff and faculty you trust, and know that there are also support centers on campus that will maintain confidentiality, which include Sexual Aggression Peer Advocates (989-774-2255) and the CMU Counseling Center (989-774-3381). For resources and more information, please see https://www.cmich.edu/office_president/OCRIE/