

1. General Information

1a. Submitted by the College of: ARTS & SCIENCES

Date Submitted: 12/7/2015

1b. Department/Division: Biology

1c. Contact Person

Name: Jennifer Osterhage

Email: jennifer.osterhage@uky.edu

Phone: 8592579322

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Semester following approval

1e. Should this course be a UK Core Course? No

2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: BIO 405

2c. Full Title: Human Genetics

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 3

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 3

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: This course will survey selected topics relevant to the understanding of the diversity and complexity of human genetics and genetic diseases, and will explore some of the contemporary methodologies used to identify genes underlying human genetic diseases. This course will also cover modern methods for genome analysis since the human genome sequence forms the foundation of current human genetics in research and medicine.

RECEIVED

MAR 30 2016

OFFICE OF THE
SENATE COUNCIL

2k. Prerequisites, if any: Grade of C or better in BIO 304 or permission of instructor

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Spring,

Will the course be offered every year?: Yes

If No, explain:

5. Are facilities and personnel necessary for the proposed new course available?: Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 25-30

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: Yes

If Yes, explain: Students from the College of Agriculture, Food, and Environment, or the College of Health Sciences may be interested in taking this course as an elective.

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: No

If YES, name the proposed new program:

b. Will this course be a new requirement for ANY program?: No

If YES, list affected programs:

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: No

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 10.a above) are attached: Yes

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|VCASS2|Vincent Cassone|BIO 405 NEW Dept Review|20151103

SIGNATURE|ACSI222|Anna C Harmon|BIO 405 NEW College Review|20151215

SIGNATURE|JMETT2|Joanie Ett-Mims|BIO 405 NEW Undergrad Council Review|20160330

New Course Form

<https://myuk.uky.edu/sap/bc/soap/rfc?services=>

Open in full window to print or save

Generate R

Attachments:

Upload File

	ID	Attachment
Delete	6512	BIO 405 Human Genetics syllabus revised 3-21.pdf

(*denotes required fields)

1. General Information

- a. * Submitted by the College of: Submission Date:
- b. * Department/Division:
- c.
- * Contact Person Name: Email: Phone:
- * Responsible Faculty ID (if different from Contact): Email: Phone:
- d. * Requested Effective Date: Semester following approval OR Specific Term/Year ¹
- e.
- Should this course be a UK Core Course? Yes No
- If YES, check the areas that apply:
- Inquiry - Arts & Creativity Composition & Communications - II
- Inquiry - Humanities Quantitative Foundations
- Inquiry - Nat/Math/Phys Sci Statistical Inferential Reasoning
- Inquiry - Social Sciences U.S. Citizenship, Community, Diversity
- Composition & Communications - I Global Dynamics

2. Designation and Description of Proposed Course.

- a. * Will this course also be offered through Distance Learning? Yes ⁴ No
- b. * Prefix and Number:
- c. * Full Title:
- d. Transcript Title (if full title is more than 40 characters):
- e. To be Cross-Listed ² with (Prefix and Number):
- f. * Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours³ for each meeting pattern type.
- | | | | |
|--|--|---------------------------------|---------------------------------|
| <input type="text" value="3"/> Lecture | <input type="text"/> Laboratory ⁴ | <input type="text"/> Recitation | <input type="text"/> Discussion |
| <input type="text"/> Indep. Study | <input type="text"/> Clinical | <input type="text"/> Colloquium | <input type="text"/> Practicum |
| <input type="text"/> Research | <input type="text"/> Residency | <input type="text"/> Seminar | <input type="text"/> Studio |
| <input type="text"/> Other | If Other, Please explain: <input type="text"/> | | |
- g. * Identify a grading system:
- Letter (A, B, C, etc.)
- Pass/Fail
- Medicine Numeric Grade (Non-medical students will receive a letter grade)
- Graduate School Grade Scale
- h. * Number of credits:
- i. * Is this course repeatable for additional credit? Yes No
- If YES: Maximum number of credit hours:
- If YES: Will this course allow multiple registrations during the same semester? Yes No

j. * Course Description for Bulletin:

This course will survey selected topics relevant to the understanding of the diversity and complexity of human genetics and genetic diseases, and will explore some of the contemporary methodologies used to identify genes underlying human genetic diseases. This course will also cover modern methods for genome analysis since the human genome sequence forms the foundation of current human genetics in research and medicine.

k. Prerequisites, if any:

Grade of C or better in BIO 304 or permission of instructor

l. Supplementary teaching component, if any: Community-Based Experience Service Learning Both3. * Will this course be taught off campus? Yes No

If YES, enter the off campus address:

4. Frequency of Course Offering.

a. * Course will be offered (check all that apply): Fall Spring Summer Winter

b. * Will the course be offered every year? Yes No

If No, explain:

5. * Are facilities and personnel necessary for the proposed new course available? Yes No

If No, explain:

6. * What enrollment (per section per semester) may reasonably be expected? 25-30

7. Anticipated Student Demand.

a. * Will this course serve students primarily within the degree program? Yes No

b. * Will it be of interest to a significant number of students outside the degree pgm? Yes No

If YES, explain:

Students from the College of Agriculture, Food, and Environment, or the College of Health Sciences may be interested in taking this course as an elective.

8. * Check the category most applicable to this course:

- Traditional -- Offered in Corresponding Departments at Universities Elsewhere
 Relatively New -- Now Being Widely Established
 Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. * Is this course part of a proposed new program? Yes No

If YES, name the proposed new program:

b. * Will this course be a new requirement [§] for ANY program? Yes No

If YES [§], list affected programs:

10. Information to be Placed on Syllabus.

a. * Is the course 400G or 500? Yes No

If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in 10.b. You must include: (i) identify additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR

b. * The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable 10.a above) are attached.

[§] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[¶] The chair of the cross-listing department must sign off on the Signature Routing Log.

- In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, is two hours per week for a semester for one credit hour. (from SIR 5.2.1)
- You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.
- In order to change a program, a program change form must also be submitted.

Rev 8/09

BIO 405
Human Genetics
Syllabus and Course Schedule

Instructor: Dr. Ann C. Morris
Associate Professor, Department of Biology

Office Address: 215 THM

Semester: Spring 2016

Class times: TR, 2:00-3:15 p.m.

Room: THM B006

E-mail: ann.morris@uky.edu

Phone: 257-8823

Office hours: Wednesdays 2-3 p.m. or by appointment

Course description: This course will survey selected topics relevant to the understanding of the diversity and complexity of human genetics and genetic diseases, and will explore some of the contemporary methodologies used to identify genes underlying human genetic diseases. This course will also cover modern methods for genome analysis since the human genome sequence forms the foundation of current human genetics in research and medicine.

Prerequisites: BIO 304 (grade of C or better)

Course Goals:

- Build an understanding of the diversity and complexity of human genetics and genetic diseases
- Explore some of the contemporary methodologies used to identify genes underlying human genetic diseases
- Investigate modern methods for genome analysis

Student Learning Outcomes:

After completing this course, students should be able to:

- 1) Describe the complexities of human genetics and human genetic disease
- 2) Explain the genetic etiology of some common inherited diseases
- 3) Describe important features of the organization of the human genome
- 4) Examine the ways in which human gene expression is regulated
- 5) Discuss the techniques and strategies used to identify genes that underlie genetic disease
- 6) Interpret and critically review primary research articles and scientific review articles
- 7) Form opinions about genetic testing and personalized medicine

Required materials: *Human Molecular Genetics*, by Tom Strachan and Andrew Read, 4th edition

Course Assignments

Your final grade will be based on the following:

Exams	70%
Paper	20% (5% for rough draft, 15% for final draft)
Participation	10% (5% for in-class discussion, 5% for final presentation)

Description of Course Assignments

Exams: There will be two in-class exams in this course. Exams will consist of several short-answer and essay questions.

Term paper: Each student will write a 10-15 page (not including bibliography) term paper on a topic relevant to this course. Research sources must include at least one primary paper from the scientific literature in addition to review articles. I will go over expectations for the paper in more detail in class, and will work with you to find an appropriate topic. Topic proposals are due by Thursday of week 8. A rough draft of the paper will be due on Thursday of week 13, and the final draft of the paper is due the Sunday before finals week (by midnight).

Presentations: Each student will prepare a 5-minute presentation (with visual material such as Powerpoint slides) about his or her term paper topic to be shared with the class during the last two meetings.

Participation: Your participation grade will be determined based on your contributions to weekly discussions during lectures, and your end-of-term presentation about your paper topic. I will use the rubric included at the end of the syllabus to calculate your class discussion participation grade.

Course Grading

Final grades will be assigned using the scale below:

90 – 100% = A
80 – 89% = B
70 – 79% = C
60 – 69% = D
Below 60% = E

Final Exam Information

There is no final exam for this course. Your final term paper will be due the week before final exams.

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/registrar/calendar>).

Tentative Course Schedule

** This schedule is tentative and subject to change. Any changes will be announced in class.

Week	Date	Topic
1	1/15; Thursday	Course introduction and overview
2	1/20; Tuesday	Mendelian genetics and meiosis
	1/22; Thursday	Chromosome structure, function, and abnormalities
3	1/27; Tuesday	Human gene expression and epigenetics
	1/29; Thursday	Molecular pathology
4	2/3; Tuesday	Complexities in monogenic diseases
	2/5; Thursday	<i>case study 1</i>
5	2/10; Tuesday	Molecular methods of genome analysis
	2/12; Thursday	DNA sequencing, then and now
6	2/17; Tuesday	Gene expression profiling, functional genomics
	2/19; Thursday	Model organisms, comparative genomics
7	3/3; Tuesday	<i>paper discussion</i>
	3/5; Thursday	EXAM 1
8	3/10; Tuesday	Mapping and cloning disease genes; term paper topics due
	3/12; Thursday	Complex/multifactorial diseases
9	3/16-3/20 SPRING BREAK	
10	3/24; Tuesday	Copy number variations, single nucleotide polymorphisms
	3/26; Thursday	Genome-wide association studies
11	3/31; Tuesday	Personal genomics
	4/2; Thursday	Cancer genetics and genomics
12	4/7; Tuesday	<i>case study 2</i>
	4/9; Thursday	Pharmacogenetics
13	4/14; Tuesday	Genetic testing and diagnostics; paper rough draft due
	4/16; Thursday	Genetic approaches to treating disease
14	4/21; Tuesday	Genetic counseling and ethics in medical genetics
	4/23; Thursday	EXAM 2
15	4/28; Tuesday	Student presentations
	4/30; Thursday	Student presentations
	5/3; Sunday	final term paper due

Submission of Assignments

Written assignments must be turned in to me by the end of class on the day they are due. The assignment grade will be dropped by 10% for every day the assignment is overdue, unless the absence is excused (see below for policy on excused absences).

Attendance Policy

Regular attendance at all class meetings is expected. You are responsible for any announcements made in class; there is no guarantee that I will email or post them on Canvas. Attendance will not be taken in class, but your participation during lectures will constitute a portion of your final grade. Your participation grade will be determined based on your contributions to weekly discussions during lectures, and your end-of-term presentation about your paper topic. I will use the rubric included at the end of the syllabus to calculate your class discussion participation grade.

Excused Absences

Students need to notify the professor of absences prior to class when possible. *Senate Rules 5.2.4.2* defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud (859-257-3737, http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused) per University policy.

Per *Senate Rule 5.2.4.2*, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness, or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.

Missed exams: If you must miss one of the exams because of an excused absence, contact me immediately to schedule a make-up exam and present me with written validation for your excused absence. Valid excuses are as described in the University Bulletin.

If you know of university-sanctioned events (intercollegiate sports or other professional engagements) that will cause you to miss an exam, meet with me during the first two weeks of the semester to make alternate arrangements.

Academic Integrity and Cheating

All tests are “closed-book”, meaning that you are not permitted to use written information in the form of notes, books, or “crib-notes” during these examinations. Behavior considered cheating in this course includes the following: 1) using notes of any kind during a test or exam; 2) copying from other students during tests or exams; 3) talking to other students during tests or exams; 4) handing in written work that is not your own work (i.e. plagiarism). The minimum penalty for these offenses is an “E” grade for the assignment.

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>: A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see <http://www.uky.edu/Faculty/Senate/> for the current set of *Senate Rules*) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at drc@uky.edu. Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.

Classroom Civility and Decorum

The university, college and department all have a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time to time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right -- and the responsibility -- to ensure that all academic discourse occurs in a context characterized by respect and civility. The accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors.

Other course policies

Canvas: Check Canvas for grades, announcements, reading assignments, and course information (e.g. syllabus, contact information, lecture and exam schedules). After each lecture, I will also post copies of the slides and other relevant material on Canvas.

The following rubric sets out the criteria upon which you will be evaluated: A guide to grading your class participation

A	B	C	D	F
<ul style="list-style-type: none"> • actively supports, engages and listens to peers (ongoing) • arrives fully prepared at almost every session • plays an active role in discussions (ongoing) • comments occasionally advance the level and depth of the dialogue • group dynamic and level of discussion are often better because of the student's presence 	<ul style="list-style-type: none"> • makes a sincere effort to interact with peers (ongoing) • arrives mostly, if not fully, prepared (ongoing) • participates constructively in discussions (ongoing) • makes relevant comments based on the assigned material (ongoing) • group dynamic and level of discussion are occasionally better (never worse) because of the student's presence 	<ul style="list-style-type: none"> • limited interaction with peers • preparation, and therefore level of participation, are both inconsistent • when prepared, participates constructively in discussions and makes relevant comments based on the assigned material • group dynamic and level of discussion are not affected by the student's presence 	<ul style="list-style-type: none"> • virtually no interaction with peers • rarely prepared • rarely participates • comments are generally vague or drawn from outside of the assigned material • demonstrates a noticeable lack of interest (on occasion) • group dynamic and level of discussion are harmed by the student's presence 	<ul style="list-style-type: none"> • no interaction with peers • never prepared • never participates • demonstrates a noticeable lack of interest in the material (ongoing) • group dynamic and level of discussion are significantly harmed by the student's presence

Adapted from: A. Chapnick. "Creating a class participation rubric" published in *Faculty Focus Special Report: Tips for Encouraging Student Participation in Classroom Discussions*. Magna Publications, M. Weimer, ed.