Texas A&M University
Departmental Request for a New Course
Undergraduate + Graduate + Professional
Submit original form and attach a course syllabus.

1. This request is submitted by the Department of ________
   Intercollegiate Faculty of Genetics
   GENE 608 Critical Analysis of Genetic Literature

2. Course prefix, number and complete title of course: ________

3. Course description (not more than 50 words): ________
   An introduction to primary literature in the field of genetics which will give students experience in critically evaluating scientific papers and develop an appreciation of how genetics can be used to address important biological questions.

4. Prerequisite(s) ________
   Cross-listed with ________
   Cross-listed courses require the signature of both department heads.

5. Is this a variable credit course? ☐ Yes ☑ No
   If yes, from _______ to _______.

6. Is this a repeatable course? ☐ Yes ☑ No
   If yes, this course may be taken _______ times. Will the course be repeated within the same semester/term? ☐ Yes ☐ No

7. Has this course been taught as a 289/489/689? ☑ Yes ☐ No
   If yes, how many times? 3
   Indicate the number of students enrolled for each academic period it was taught. Fall 2007, 12 enrolled; Fall 2006, 13; Fall 2005, 19

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history) ________
      M.S. or Ph.D. in Genetics
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography) ________

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix | Course # | Title (excluding punctuation) | Lect. | Lab | SCH | Subject Matter Content Code | Admin. Unit | Acad. Year | FICE Code | Level |
    GENE 608 CRIT ANALYSIS GENE LIT

Approval recommended by: ________
Head of Department Date

Head of Department (if cross-listed course) Date

Submitted to Coordinating Board by: ________
Director of Academic Support Services Date

Chair, College Review Committee Date

Dean of College Date

Dean of College Date

Questions regarding this form should be directed to Sandra Williams at 845-8201.
OAR/AS – 04/07

1 of 5 C8
GENE 608
Critical Analysis of the Genetics Literature"
Fall 2008
Mondays, 5 to 6:15 pm in BIO/BIO Room 106a
Course Coordinator: Craig Coates, Dept. of Entomology,
HEEP 110, 458-1219, c-coates@tamu.edu

The goals of the course are to provide first-year graduate students with:
- An introduction to primary literature in the field of genetics.
- An appreciation of how genetics (in combination with biochemical and
cellular problems) can be used to address important biological questions.
- Experience in critically evaluating scientific papers.

Some advice on critical thinking:
"One purpose of [a critical analysis of the literature course] is to provide you with an
opportunity to practice thinking critically about experimental science. Undergraduate
science education is textbook-based, and often fosters uncritical acceptance of written
material. As you begin your training to become professional scientists, you need to
adopt the frame of mind where you accept nothing without evaluating the evidence
presented to buttress the claim. Although we have to accept certain established
scientific principles in order to even have a discussion, the normal interchange of
scientific findings and ideas involves intense scrutiny and criticism. No claim should be
treated as an accepted fact until it has been sustained and documented by other
scientists. Thus you should react to a new result, no matter how glamorous and no
matter how prestigious the journal, with skepticism as your default stance."

Copyright: Jim Hu and Ry Young, Dept. of Biochemistry and Biophysics, TAMU.

Class format:
This is a one credit-hour course based on class discussion based on papers from the
literature. Each week we will analyze and discuss one paper. The discussion leader will
give a short (approx. 10 min) introduction, providing background information important
for understanding the paper to be discussed.
The discussion leader will then lead the class in a critical examination of the
experimental results in the paper and the conclusions that can made from the data. I
want to emphasize that the discussion leaders will be leading a discussion, not
presenting the paper. ALL students must come to class prepared to discuss each
of the major points of the papers for that week. Discussion will begin with a
randomly chosen student, and then proceed around the room. You will not know in
advance which portions of the papers you will end up presenting. You should come to
class with the figures in your copy of the paper annotated.
Questions to consider when reading a paper:
1. What was the previous information that led to the question being asked in the paper?
2. What is the hypothesis being tested?
3. What is the design and method of the experiment?
4. What were the assays used?
5. Were positive and negative controls performed? What were they?
6. How did their results address or relate to their hypothesis?
7. Did they prove their point to your satisfaction? If not, what experiments are needed?

Grading policy: Grades will be based on attendance and participation in class discussion.

Academic Integrity

"An Aggie does not lie, cheat or steal, or tolerate those who do."

According to the Dean of Faculties website, syllabus all syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web. This statement is as follows:

"An Aggie does not lie, cheat, or steal or tolerate those who do."

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

For additional information please visit: www.tamu.edu/aggiehonor

Students with disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637.
Pdf files of the papers for each week can be downloaded from the class web site. The URL is dimer.tamu.edu/gene685/.

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<th>Date</th>
<th>Topic</th>
<th>Instructor</th>
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<td>Aug 27</td>
<td>Introduction to the class</td>
<td>Wild</td>
<td>Avery, O.T., C.M. MacLeod, and M. McCarty (1944) Studies on the chemical nature of the substance inducing transformation of pneumococcal types. Induction of transformation by a deoxyribonucleic acid fraction isolated from pneumococcus Type III. J. Exp. Med. 79:137-158.</td>
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<td>Date</td>
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