Memorandum

September 16, 2009

To: Faculty Senate Executive Committee

From: Valerie Balester, Chair
W Course Advisory Committee

RE: Request for course additions to the W Course graduation requirement

The W Course Advisory Committee voted to approve the following courses to satisfy the writing requirement for graduation. The W Course Advisory Committee reviewed each course and agreed that all aspects of the courses were consistent with guidelines for the W Course status requirement. Therefore, these courses should be included in the “W Designated Course” category to meet the writing intensive requirement for graduation.

Courses submitted for W certification:

- BMEN 450 Biomedical Case Studies
- FRSC-GEOG 462 Advanced GIS for Natural Resource Management
- HORT 301 Garden Science
- HORT 445 Horticulture Therapy
- NUEN 405 Nuclear Reactor Experiments
- WMST 401 Feminist Theory

Courses submitted for C certification:

- BIOL 388 Principles of Animal Physiology
- PHYS 420 Concepts, Connections, and Communication
TO: Faculty Senate Executive Committee

FROM: Valerie Balester, Chair, W Course Advisory Committee

CC: Fidel Fernandez, Department of Biomedical Engineering
    Gerard L. Coté, Head, Department of Biomedical Engineering
    Jo Howze, AOC Dean, Dwight Look College of Engineering

DATE: September 16, 2009

SUBJECT: REPORT ON PROPOSED W COURSE: BMEN 450

We recommend that BMEN 450 Biomedical Case Studies be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed a representative syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality: 80%
2. Course content appropriate to the major
3. Total number of words: 3000
4. Instructor to student ratio for one section: 1:25

BMEN 450 is a one-credit course in which at least one graduate assistant or two undergraduate assistants will be available. Assistants will help with grading under the instructor’s supervision and will conference with students. Students complete three related writing assignments. For the first, they read the literature to investigate a problem that would be appropriate for a case study, and they learn about correct citation and documentation. They receive feedback on their topic selection and the direction they are taking with the research. For the second, they write a short summary of the elements of the case they believe are relevant for a case study; comments on the second paper will help students in the composition of the final paper. In the third and final paper, they will compose a full case study, based on verifiable facts and outcomes. The case study includes a complete analysis on identifying options that would have produced outcomes different from the actual history. The third paper will undergo peer review. Instruction will include lecture, class discussion, and readings on writing case studies. Students will also be encouraged to work individually with the graduate assistant as needed.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

   BMEN 450 Case Studies

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Gerard L. Coté Ph.D. _______________________________ July 21, 2009
   Printed name and signature

Received: _______________________________ 8/19/09
(W Course Coordinator, University Writing Center)

Approvals:

College Dean: Jo W. Howze, Ph.D. _______________________________ July 21, 2009
   Printed name and signature

Department Head: Gerard L. Coté Ph.D. _______________________________ July 21, 2009
   Printed name and signature
Course: BMEN 450
Course Title: Biomedical Case Studies
Instructor: Gerard L. Coté, 337 Zachry
Phone: 845-4196, e-mail: gcote@tamu.edu
Textbook: None.
Reference Texts:
Doing Science: Design, Analysis, and Communication of Science Research, by Ivan Valiela, Oxford University Press, 2001

Description: The purpose of the course is to examine the process through which clinically defined problems are addressed from the perspective of biomedical engineering through the use of case studies. It includes issues of technology transfer and clinical evaluation. This semester we will focus on the clinical problem of diabetes.

Prerequisites: BMEN 240, 305 and 342; junior or senior classification.

Outline of Subject Matter (0-1 credit) Hours
Overview .................................................................................................................................... 1
Identifying the Clinical Problem (guest speaker, Dr. Kent Lyon, M.D.) ...................................... 1
Understanding the Global Problem and Contemporary Issues (guest speaker)........................ 1
The Scientific Method & Need for Life Long Learning................................................................. 1
Hypotheses and Theoretical Frameworks ................................................................................. 1
Experimental Design (Regulatory/Biocompatibility) ................................................................. 1
Instrumentation Design, Modeling, Development, Data Acquisition......................................... 1
Experimental Interpretation / Statistical Methods .................................................................... 1
Refinement of Hypothesis / Theory /Design ............................................................................. 1
Peer Review of Final Paper Draft ............................................................................................ 1
Animal Studies, ULACC, IRB Requirements, & Clinical Trials (Final Paper Due)...................... 1
Food & Drug Administration Requirement & Ethical Issues..................................................... 1
Technology Transfer, Patents, Liability, Licensing................................................................. 1
Forensic Engineering ............................................................................................................ 1
TOTAL .................................................................................................................................... 15

Evaluation: Writing Assignment (graded for content and writing proficiency)
   Problem and Outline...........15%
   Case Summary ....................25%
   Final Case Study ..............40%
   Quizzes/Homework ..........20%
   100%

   90-100 A
   80-89 B
   70-79 C
   60-69 D
   0-59 F

• Attendance is Mandatory: Only University excused absences will be accepted for makeup
 exams/quizzes to be given. In accordance with University policies which can be found online at
• Note: It is the student’s responsibility to make arrangements to reschedule exams/quizzes.
 Exams and quizzes must be completed in accordance with University policies which can be
 found online at http://student-rules.tamu.edu/rule7.htm.
The ABET criteria being addressed in this class includes the following four skills:

F.  an understanding of professional and ethical responsibility
H.  the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
I.  a recognition of the need for, and an ability to engage in life-long learning
J.  a knowledge of contemporary issues

This class is being transformed into a writing (W) class and so all writing assignments will be graded for both content and writing proficiency.

Americans with Disabilities Act
The American with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that 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, Services for Students with Disabilities in Room B118 of Cain Hall, or call 845-1637.

Academic Integrity
Aggie Code of Honor:  "Aggies do not lie, cheat, or steal, nor do they tolerate those who do."
“It is the responsibility of students to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty," which can be found online at http://student-rules.tamu.edu/rule20.htm.
TO: Faculty Senate Executive Committee
FROM: Valerie Balester, Chair, W Course Advisory Committee
CC: Robert Washington-Allen, Department of Ecosystem Science and Management
    R. Srinivasan, Department of Ecosystem Science and Management
    Steven Whisenant, Head, Department of Ecosystem Science and Management
    Ann Kenimer, AOC Dean, COALS
    Sarah Bednarz, AOC Dean, College of Geosciences

DATE: September 16, 2009

SUBJECT: REPORT ON PROPOSED W COURSE: FRSC/GEOG 462

We recommend that FRSC/GEOG 462 Advanced Topics in Geographic Information Systems be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed a representative syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality: 40%
2. Course content appropriate to the major
3. Total number of words: 12,250
4. Instructor to student ratio for one section: 1:24

Students in FRSC/GEOG 462 write ten lab reports individually over the course of the semester. In addition, within a team they write an annotated bibliography, ten more lab reports, and a poster. Therefore, another 5,000 can be added to the total words listed above for collaborative writing projects. The expectation is that students will learn professional presentation styles and will produce publishable work with their teams.

Writing instruction includes class lectures and reading about science writing. Students receive ample practice with many reports in the same format, but they also receive feedback on their oral presentations and presentation slides from peers and from the instructor. The annotated bibliographies are peer reviewed as well, and the class tests their accuracy by viewing whether they have provided the correct codes for viewing in Google Earth.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

FRSC/GEOG 462 Advanced Topics in Geographic Information Systems

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Dr. Robert A. Washington-Allen
Printed name and signature 8/24/09
(Date)

Received: Valerie Balester
(W Course Coordinator, University Writing Center) 9/13/09
(Date)

Approvals:

College Dean: SW Bednarz
Printed name and signature 9/9/09
(Date)

Department Head: Douglas Silberman
Printed name and signature

Attachment E
UNIVERSITY WRITING CENTER

TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE

Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

FRSC/GEOG 482 Advanced Topics in Geographic Information Systems

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Dr. Robert A. Washington-Allen
Printed name and signature
8/24/09
(Date)

Received: Valerie Balester 9/18/09
(W Course Coordinator, University Writing Center)
(Date)

Need Dean to sign

College Dean: Elam
Printed name and signature

Department Head:
Printed name and signature

RECEIVED
SEP 17 2009
By

8 of 50 E
FRSC/SSL 462 W (3 Cr. Hr.)
Advanced GIS for Natural Resource Management
Fall Semester 2009/Spring Semester 2010

Course Instructor:
Robert A. Washington-Allen/Russell Feagin
Office Hours: ______ and ____________
Contact: ________; cell: ___________ e-mail: _____________________

Laboratory Instructor:
Office Hours: ______ and ____________
Contact: ________; cell: ___________ e-mail: _____________________

Lecture Schedule and Venue: M 10:00 am – 10:50 am, W 8:00 am - 8:50 am,
CENTEQ B214
Lab Schedule and Venue: W 9:00 am – 10:50 am, Research Park in CENTEQ B214

Grade Composition:
❖ Homework:
  o Written Laboratory Reports, 10%
  o 15 Citation KML Annotated Bibliography 10%
❖ Midterm* 20%
❖ Web-based quizzes – 2 attempts in a 5-day period (5 @ 2% each)** 10%
❖ Written Laboratory Team Mini-Projects x 1 20%
❖ Final Exam** 30%
❖ Total 100%

* Examinations will cover material from lecture, class notes, and reading assignments.
** The second score will count! (The higher of two scores cannot be counted)

Prerequisites: FRSC/SSL/ESSM 461 or equivalent course or instructor’s approval

Course Description: The purpose of this course is 1) to provide students with a greater understanding and capability to use advanced GIS tools and spatial modeling to solve applied problems in the management of natural resources, and 2) to develop writing skills necessary to communicate science research results through the writing and design of presentation abstracts, reports/papers, posters, and annotated
bibliographies in KML-format for Google Earth-based development of digital libraries. This is a W (writing) course with 40% of the course dedicated to developing writing skills by providing experience in (1) literature review and annotation of topical research, (2) laboratory, project report and manuscript writing and oral presentation, (3) internet-based development of a Google map digital library, (4) GIS database development, (5) spatial analysis and environmental modeling, and (6) geostatistical analysis. This course will be conducted in a natural resource management project-based environment to allow students to develop expertise with a wide range of GIS procedures, options, and applications. Knowledge gained in this course will give students the GIS and writing tools required to solve and communicate complex spatial and temporal issues.

**Learning Objectives:**

- Gain experience of developing research hypotheses and predictions, designing experiments, and generating study objectives related to assessment of natural resources.
- List a broad array of geomantic tools.
- Experience application of spatial modeling tools including geostatistics, model design and application, 3-D modeling and analysis, Global Positioning Systems (GPS), internet mapping, and workflow scripting.
- Become experienced with acquiring available online GIS data.
- Gain knowledge and experience of database design, and appropriate data analyses.
- Gain basic understanding of and experience with digital image processing techniques.
- Gain topical expertise in the use of GIS spatial models.
- Gain experience of developing and presenting research in oral and written form, including lab and project reports, a bibliography, publications, and posters.

**Textbooks, Class Lecture Notes, Readings, and Lab Handouts:**

- **Optional:** ArcGIS Extension Guides Bundle (~$60.00 from esri.com)

- **Class Lecture Notes, Lab Handouts, and Assigned Readings** are on eLearning VISTA.

**Laboratory:** Labs take place in the GIS Teaching Laboratory at CENTEQ B214 and
are run on duo screen Dell computers using primarily ESRI’s ArcGIS Desktop 9.3 (http://en.wikipedia.org/wiki/ArcGIS) and its extensions, e.g., 3-D Analyst.

The laboratories will have 2 components: Tutorials and a Mini-project. Tutorials primarily concern teaching the use of ArcGIS extensions that will allow you to gain experience with database design, spatial, geostatistical and 3-D modeling and analyses, cartography, internet mapping, and workflow. Most of the tutorials have associated handouts and homework assignments found on eLearning VISTA. Other GIS/Remote Sensing software will be discussed, are installed, and are available including ERDAS Imagine, ITT ENVI, eCognition, Google Earth, Octave (an open source version of MATLAB), R (the open source version of S-Plus) statistical analysis tool is also installed. R is available free for download along with other open source GIS, numerical computing, and statistical applications including Quantum GIS, GRASS, Octave (the open source version of MATLAB), and GDL (the open source version of ITT IDL). Note there is also student educational pricing for ENVI and Idrisi (which has a number of decision support spatial models built in).

A Class Mini-Project (TBA) will be conducted in collaborative groups/teams within the GIS laboratory. Each group is expected to collaborate on the production of a laboratory report/research paper, an oral presentation, and a poster on their mini-project. Each group will present results to the class as 1) a 15-minute oral presentation where the group will have 10 minutes to present and 5 minutes for questions, and 2) a poster presentation. Time will be available to practice these sessions.

Writing will follow the format of the American Geophysical Union’s (AGU) publication: Journal of Geophysical Research (JGR) including an abstract, introduction with a problem statement, purpose, objectives and/or hypotheses, and methods that include a table of the GIS data to be used, associated metadata, and sources, results, discussion, conclusion and literature cited.

Readings: Readings will be assigned to complement lectures and labs including Chapter 17: How to Read Science and Mathematics in the book by Mortimer J. Adler and Charles Van Doren. 1972. How to Read A Book, Touchstone. Readings will also include more contemporary readings covering issues in sociology, economics, anthropology, and public health. These readings should be completed before class.

Homework: There will be two main homework assignments including 1) laboratory exercises that are listed and accessible from eLearning VISTA and 2) an annotated bibliography. Each homework assignment requires a laboratory report that also follows AGU-JGR format.

Students will prepare an annotated bibliography that contains 15 references of GIS spatial models in a topic of interest to you. The purpose is for you to gain a level of expertise with the use of spatial models in your field of interest. E-mail me your topic of interest in the form of a written abstract by the third class in the second week of the semester.

These annotations are not a repeat of the paper’s abstract or summary. These annotations are a description of the study’s purpose, objectives, hypotheses, methods - including the spatial model structure/or flow chart, the results and discussion, and your
opinion of the paper and its relevance to your interests in natural resource
management. For each annotation you need to determine the location by coordinates
[Longitude (X) and Latitude (Y)] of the research discussed in the paper and geo-
reference within Google Earth using the keyhole macro language (KML,
http://code.google.com/apis/kml/documentation/).

One annotation is due per week on Wednesdays by e-mail. Annotated bibliographies
if done well are themselves a source for the preparation of review manuscripts,
particularly meta-analyses.

Quizzes: The will be 10 web-based quizzes on elearning VISTA that will cover
readings and lectures. The quiz formats are multiple choice, fill-in-the-blank, or true-
and-false questions.

Extra Credit: TAMU encourages Undergraduate Research Projects so an
undergraduate (or graduate) research project in spatial modeling is encouraged.
Individual students have the opportunity to conduct a spatial modeling study that will be
based on your interests. This will enable you to develop expertise in a field of study and
will be complementary to your annotated bibliography homework assignments (see
above). These projects should utilize GIS and use raster and vector data in conjunction
with data analysis techniques covered in this course. A 2-page or less double spaced
abstract of the proposed project must be submitted by _______________________. The
abstract will follow the format of the AGU’s Journal of Geophysical Research including
an introduction with a problem statement, purpose, objectives and/or hypotheses, and
methods that include a table of the GIS data to be used, associated metadata, and
sources. Project results will be presented to the class as 1) A 15-minute oral with 10
minutes to present and 5 minutes for questions, and 2) A poster presentation.

Note: With qualifications, If the result of a mini-project or a student’s extra credit project
is a manuscript that is submitted to a peer-reviewed journal and accepted for
publication then those/that student(s) will receive an automatic A.

Policy Statements

Class Attendance and Attention
Attendance WILL affect your grade. Classes start at 8:00 a.m. and end at 8:50 a.m. Late arrival
or early departure WILL NOT BE TOLERATED without prior notification to the Professor of the
need to arrive late or leave early. Students are expected to pay attention and participate during
class and to move to the front of the class to facilitate interaction. Sleeping, reading of
newspapers, and talking on cell phones will not be tolerated. THERE WILL BE NO
EXCEPTIONS TO THESE RULES.

Make-up Assignments and Quizzes
It is the responsibility of the student to obtain notes or other material and perform exercises for
missed classes. Only University Excused Absences (Rule 7) will be accepted for scheduling
make-up quizzes, tests or exams. If you are absent from a quiz, you will only be allowed to
make it up (in a timely fashion) upon presentation of written documentation of reason for
absence (e.g., doctor statement, official school activity, etc.) or by prior consent of the Instructor.
If you are going to be absent from a quiz for an official school activity, you must present a written note, signed by proper authority, prior to the date of absence.

**Handouts**
Any handouts or web-based material used in this course are copyrighted. Handouts and web-base materials include but are not limited to syllabi, quizzes, exams, in-class materials, review sheets, and problem sets. Because these materials are copyrighted, you may only use them for your own studies and may not lend them to or share with any other student.

**Academic Integrity Statement**

*“An Aggie does not lie, cheat, or steal or tolerate those who do.”*

As a student at Texas A&M University, it is your duty to know and live by the Aggie Honor Code. For details, please refer to the Honor Council Rules and Procedures on the web at [www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor)

**Plagiarism**
Plagiarism consists of passing off as one’s own the ideas, words, writings, etc., which belong to another. You are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Evidence of plagiarism will result in an automatic null mark for the assignment or test. If you have any questions regarding plagiarism, please consult the latest issue of the *Texas A&M University Student Rules*, under the section “Scholastic Dishonesty.”

**Americans with Disabilities Act**
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 that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe that you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room 126 of the Koldus Building or call 845-1637.
<table>
<thead>
<tr>
<th>Lect #</th>
<th>Date</th>
<th>Instr.</th>
<th>Lecture Topic</th>
<th>Chapter</th>
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<td>Aug 31</td>
<td>RWA</td>
<td>Introduction to course</td>
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<td>2</td>
<td>Sept 2</td>
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<td>Natural Resource Problem Solving</td>
<td>Induction &amp; Deduction, Readings</td>
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<td>Quiz 1, GiS Analysis/Data Management, Map Projections,</td>
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<td>Quiz 2, Spatial Analysis I: Surface Types DEM, TIN</td>
<td>Spatial Analyst Handout, C&amp;TGIS 9</td>
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<td>Spatial Analysis I: Surface Types DEM, TIN</td>
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<td>Quiz 3, Spatial Analysis II: Raster Modeling</td>
<td>C&amp;TGIS 5, Spatial Analyst Handout</td>
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<td>Spatial Analysis II: Raster Modeling</td>
<td>C&amp;TGIS 5, Spatial Analyst Handout</td>
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<td>Quiz 4, Spatial Analysis III: Distance, Density, and Statistical Functions</td>
<td>Spatial Analyst Handout, TC&amp;GV 18&amp;19</td>
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<td>Spatial Analysis III: Distance, Density, and Statistical Functions</td>
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<td>Midterm 1</td>
<td>TC&amp;GV 14&amp;19, 3-D Analyst Handout, C&amp;TGIS 7</td>
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<td>Map Design, 3-D Analysis</td>
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<td>Quiz 5, 3-D Analysis: Line of Sight &amp; View Sheds</td>
<td>TC&amp;GV 14&amp;19, 3-D Analyst Handout</td>
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<td>Quiz 6, GPS, Basics of Geostatistical Analysis: Interpolation</td>
<td>S&amp;DAG 4&amp;5, Geostatitical Analyst</td>
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RS- Dr. Srinivasan, RWA- Dr. Washington-Allen
## Laboratory Schedule

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<td>Accounts, Establish Logins, Key cards, review of GIS Basics</td>
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<td>2</td>
<td>Sept 9</td>
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<tr>
<td>3</td>
<td>Sept 16</td>
<td>RWA</td>
<td>2. Spatial Analysis I: Surface Analysis</td>
</tr>
<tr>
<td>4</td>
<td>Sept 23</td>
<td>RWA</td>
<td>3. Spatial Analysis II: Raster Modeling</td>
</tr>
<tr>
<td>5</td>
<td>Sept 30</td>
<td>RWA</td>
<td>4. Spatial Analysis III: Distance, Density, and Statistical Functions</td>
</tr>
<tr>
<td>6</td>
<td>Sept 29</td>
<td>RWA</td>
<td>5. 3-D Analyst</td>
</tr>
<tr>
<td>7</td>
<td>Oct 7</td>
<td>RWA</td>
<td>6. 3-D Analyst: line of sight analysis and viewsheds</td>
</tr>
<tr>
<td>8</td>
<td>Oct 14</td>
<td>RWA</td>
<td>7. GPS/Basics of Geostatistical Analysis</td>
</tr>
<tr>
<td>9</td>
<td>Oct 21</td>
<td>RWA</td>
<td>8. Basics of Geostatistical Analysis</td>
</tr>
<tr>
<td>10</td>
<td>Oct 28</td>
<td>RWA</td>
<td>9. Geostatistical Analysis</td>
</tr>
<tr>
<td>11</td>
<td>Nov 4</td>
<td>RWA</td>
<td>10. Workflow (Visual Basic/Python Programming)</td>
</tr>
<tr>
<td>12</td>
<td>Nov 11</td>
<td>RWA</td>
<td>Project Work Day</td>
</tr>
<tr>
<td>13</td>
<td>Nov 18</td>
<td>RWA</td>
<td>Project Work Day</td>
</tr>
<tr>
<td>14</td>
<td>Nov 26/27</td>
<td>RWA</td>
<td>Thanksgiving</td>
</tr>
<tr>
<td>15</td>
<td>Dec 02</td>
<td>RWA</td>
<td><strong>Mini-Project</strong> Class Project Presentations</td>
</tr>
</tbody>
</table>
TO: Faculty Senate Executive Committee
FROM: Valerie Balester, Chair, W Course Advisory Committee Chair
CC: Joseph Novak, Dept. of Horticulture
     Matthew Orwat, Dept. of Horticulture
     Tim Davis, Head, Dept. of Horticulture
     Ann Kenimer, Associate Dean, College of Agricultural and Life Sciences
DATE: September 16, 2009
SUBJECT: REPORT ON PROPOSED W COURSE: HORT 301

We recommend that HORT 301 Garden Science be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed the syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality: 34%
2. Course content appropriate to the major
3. Total number of words: 2000+
4. Instructor to student ratio for one section: 1:20

Students will receive feedback on the first draft of the document and then can make an appointment to discuss the paper accordingly, if required. Students are also required to meet with the instructor before the final draft is submitted. Meetings with the instructor prior to the submission of the first draft are encouraged as well. Thereafter, appointments can be scheduled by students to discuss questions and concerns about the writing assignment. Therefore, students have multiple opportunities to revise after feedback by incorporating the instructor comments and suggestions into the first draft before turning in the final version of the document. The methods of instruction used in class include lecture and discussion. The students will be encouraged to form peer response groups to discuss their individual projects and learn from each other.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

   Hort 301 Garden Science

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Joseph Novak

Printed name and signature

(Date)

Received: Valerie Balester

(W Course Coordinator, University Writing Center)

(Date)

Approvals:

College Dean: Ann Keesmer

Printed name and signature

(Date)

Department Head: Daniel Luederman

Printed name and signature

(Date)

RECEIVED

SEP 17 2009

By
# FALL 2009 LECTURE SCHEDULE: HORT 301 AND MASTER GARDENER TRAINING

Learning Outcomes:
- To develop an understanding of plants and their classification
- To develop a comprehensive understanding of the growth, development and life cycles of different groups of plants
- To understand the principles of maintaining garden ecosystems
- To identify with the importance of ornamental plants and landscaping

## INSTRUCTOR: Joe Novak

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic</th>
<th>Lecture Supplement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUG 29</td>
<td>Introduction To Course; Master Gardener Program; The Garden</td>
<td>1-5</td>
</tr>
<tr>
<td>AUG 31</td>
<td>The Plant: Classification and Morphology</td>
<td>6-32</td>
</tr>
<tr>
<td>SEP 5</td>
<td>Life Cycles, Growth and Development; Sexual Propagation: Seedage</td>
<td>33-42; 43-53</td>
</tr>
<tr>
<td>SEP 6</td>
<td>Seedage; Asexual Propagation: Division; Separation; Propagules</td>
<td>43-53; 54-60</td>
</tr>
<tr>
<td>SEP 12</td>
<td><strong>Writing Techniques; Grading and Rubric</strong></td>
<td>61-79</td>
</tr>
<tr>
<td>SEP 13</td>
<td>Layerage, Cuttage, Graftage; Pruning</td>
<td>80-99</td>
</tr>
<tr>
<td>SEP 19</td>
<td>EXAM I</td>
<td></td>
</tr>
<tr>
<td>SEP 21</td>
<td>The Garden Ecosystem</td>
<td>108-110</td>
</tr>
<tr>
<td>SEP 26</td>
<td>Soil; Soil Organic Matter</td>
<td>110-127</td>
</tr>
<tr>
<td>SEP 28</td>
<td>Essential Plant Nutrients; Fertilization</td>
<td>128-134</td>
</tr>
<tr>
<td>OCT 3</td>
<td>Guest Speaker: Mr. Malcolm Beck</td>
<td></td>
</tr>
<tr>
<td>OCT 5</td>
<td>Water, irrigation, drainage</td>
<td>135-141</td>
</tr>
<tr>
<td>OCT 10</td>
<td>Climate and Weather</td>
<td>100-107</td>
</tr>
<tr>
<td>OCT 12</td>
<td>EXAM II</td>
<td></td>
</tr>
<tr>
<td>OCT 17</td>
<td>Vegetables, Fruits and Herbs</td>
<td>149-164</td>
</tr>
<tr>
<td>OCT 19</td>
<td>Vegetables</td>
<td>160-172</td>
</tr>
<tr>
<td>OCT 24</td>
<td>Vegetables; Fruit Crops</td>
<td>160-172&amp;173-179</td>
</tr>
<tr>
<td>OCT 26</td>
<td>Fruit Crops</td>
<td></td>
</tr>
<tr>
<td>OCT 31</td>
<td>Herbs and Edible Flowers</td>
<td>185-190</td>
</tr>
<tr>
<td>NOV 2</td>
<td>Diagnosing Plant Problems</td>
<td>142-148</td>
</tr>
<tr>
<td>NOV 7</td>
<td>EXAM III</td>
<td></td>
</tr>
<tr>
<td>NOV 9</td>
<td>House Plants</td>
<td>191-206</td>
</tr>
<tr>
<td>NOV 14</td>
<td>House Plants; Home Landscaping</td>
<td>191-206&amp;207-217</td>
</tr>
<tr>
<td>NOV 16</td>
<td>Home Landscaping; Landscape Ornamentals</td>
<td>207-217</td>
</tr>
<tr>
<td>NOV 21</td>
<td>Landscape Ornamentals</td>
<td>222-229</td>
</tr>
<tr>
<td>NOV 23</td>
<td>THANKSGIVING RECESS</td>
<td></td>
</tr>
<tr>
<td>NOV 28</td>
<td>Turf and Groundcovers;</td>
<td>230-233</td>
</tr>
<tr>
<td>NOV 30</td>
<td>Developing the Garden Landscape; Water Gardens; Xeriscapes</td>
<td>217-221</td>
</tr>
<tr>
<td>DEC 5</td>
<td>Special Applications of Horticulture</td>
<td>234-235</td>
</tr>
<tr>
<td>DEC 9</td>
<td>NO CLASS; READING DAY</td>
<td></td>
</tr>
</tbody>
</table>
DEC 13    FINAL EXAM,  WEDNESDAY,  8-10:00 a.m.

The Lecture Supplement is available at Copy Corner 2307 Texas Ave. South, College Station  $15.05

GRADES:  

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimum</th>
<th>Exam</th>
<th>Bonus Points</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>900-1000</td>
<td>165</td>
<td>Up to 100</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>800-900</td>
<td>165</td>
<td>165</td>
<td>may be earned through projects and other activities.</td>
</tr>
<tr>
<td>C</td>
<td>700-800</td>
<td>165</td>
<td>165</td>
<td>Bonus credit activities.</td>
</tr>
<tr>
<td>D</td>
<td>600-700</td>
<td>165</td>
<td>165</td>
<td>Must be submitted by last lecture. Bring the plant to the final exam.</td>
</tr>
<tr>
<td>F</td>
<td>&lt;600</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Four multiple choice/essay exams (175 points each)  
One Paper  
Total

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four multiple choice/essay exams</td>
<td>660</td>
<td>66%</td>
</tr>
<tr>
<td>One Paper</td>
<td>340</td>
<td>34%</td>
</tr>
</tbody>
</table>

Total 1000 100%

Required Paper:
The required paper for this course will be of a topic that you choose, but must be related to one or more aspects of gardening, as discussed in this course. For example, you may write about such topics as organic gardening, composting, integrated pest management, water management, xeriscaping, beneficial organisms in the garden, herb gardens, vegetable gardening in Texas, soil properties, managing soil organic matter, propagating fruit trees, home landscaping, importance of vegetables, fruits and herbs in our diets, etc. This paper will be required to be at least 8 pages with 2000 words. More is allowed, but be aware that brevity is valued.

Instructor: Joe Novak    Office hours: M W 1-2:00 and T R 11:30-12:00; other times by appointment
Office: HFSB Room 212 (If I am not in Rm 212, please look in HFSB Rm 110 or Rm 114)
Office Phone: 845-3915    Home Phone: 846-8351    e-mail: j-novak@tamu.edu

Brazos County Master Gardeners: Coordinator Charla Anthony (823-0129)
TAMU Hort Club / Aggie Master Gardeners: President Monica Robinson (see website below)
Texas Master Gardener Website: http://aggie-horticulture.tamu.edu/mastergd/
Aggie Master Gardener Website: http://aggie-horticulture.tamu.edu/hortclub/
Hort 301/302 Website: http://aggie-horticulture.tamu.edu/syllabi/302/new/
Holistic Garden Website: http://aggie-horticulture.tamu.edu/holisticgarden/

ATTENDANCE POLICY:
Attendance will be taken almost every lecture, either by calling roll or a signature sheet usually circulated, near the start or end of the class period, but sometimes both. Forgetting to sign the roll will count as an absence. Since many students take Hort 301 as an elective when they are applying and interviewing for jobs, I am willing to allow an absence or two for this reason if the student provides me with a written request for this absence in advance and provides the name, address or location and phone number of the interviewer, name and phone number of the firm and date and time of the interview with the interviewer. Students who miss more than five lectures for any reason, approved absence or unapproved absence, cannot apply bonus credit toward their course grade unless they have discussed the situation with the instructor. Students who miss 6 or more lectures in a fall or spring semester or 4 or more lectures in a summer session will receive an X, I or F, depending on the circumstances.

MAKE-UP EXAMS:
Make-up exams will only be given to students who have an official University excuse (medical reasons, official University activity, etc.). Illnesses must be documented by a physician with a copy of the note to the instructor. If a student must be absent from an exam for any reason other than an official University excuse, you must discuss this with me in advance. If the absence is warranted and permitted, the time for taking the make-up exam must be set before the absence. For all situations where a make-up exam is warranted, the instructor reserves the right to make it an objective or essay exam.

CLASSROOM ETIQUETTE:
I have worked hard to prepare meaningful lectures and lecture demonstrations. I usually need the full period to present them.

Questions: If you have questions about the topic at hand, please ask it during class so that others can hear the answer. If you have a question about procedural matters that relate to your specific situation, please ask it after the end of the period.

Talking with neighbors in Class: Please do not hold discussions with fellow students during lecture. I often cannot hear this from the front of the room but it is very distracting to other students. If I do hear it and a stern glance in your direction does not stop the discussion, I will ask you to leave the room. This will be an unexcused absence.

Cell Phones: Turn them off when you come to class. If the phone rings while you are in my class, I will ask you to leave the room and it will count as an absence.

Late arrival/early departure: If you arrive late or leave early, please enter or leave by way of the doors in the back of the lecture room.

CHEATING: "An Aggie does not lie, cheat, or steal or tolerate those who do." Cheating in any form on tests, attendance, bonus credit activities, etc. will not be tolerated. If a student is caught cheating a warning will be issued and a zero will be given for the work in which the infraction was noticed. If it happens more than once the student will be given an F for the course and disciplinary action will be taken according to the Texas A&M University Rules and Regulations. Please see the Honor Council Rules and Procedure on the web site http://www.tamu.edu/aggiehonor.

STUDENT WHO HAS A DISABILITY: If you have a disability which requires some special accommodation, please make an appointment with me within the first 2 weeks of the semester to discuss the appropriateness of the instructional methods in this class or any academic adjustments that may be needed. I have found it possible to make accommodations in the past but it is important that we talk about this at the beginning of the semester.
TO: Faculty Senate Executive Committee
FROM: Valerie Balester, Chair, W Course Advisory Committee Chair
CC: Joseph Novak, Dept. of Horticulture
     Matthew Orwat, Dept. of Horticulture
     Tim Davis, Head, Dept. of Horticulture
     Ann Kenimer, Associate Dean, College of Agricultural and Life Sciences

DATE: August 15, 2009

SUBJECT: REPORT ON PROPOSED W COURSE: HORT 445

We recommend that HORT 445 Horticultural Therapy be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed the syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality 35%
2. Course content appropriate to the major
3. Total number of words 2000+
4. Instructor to student ratio for one section: 1:15

Students are required to meet with the instructor before the final draft is submitted. Meetings with the instructor prior to the submission of the first draft are encouraged as well. Thereafter, appointments can be scheduled by students to discuss questions and concerns about the writing assignment accordingly. Therefore, students have multiple opportunities to revise after feedback by incorporating the instructor comments and suggestions before turning in the final version of the document. Part of the grade (50 points) will be related to the students’ completion of a satisfactory first draft and meeting with the instructor. Another part of the grade (50 points) will be derived by their presentation and peer evaluation of their paper. The methods of instruction used in class include lecture and discussion. In addition, students are required to form peer response groups to discuss their individual projects and learn from each other. A special class session will be conducted at the beginning of the semester to orient the students on writing procedures, the grading rubric, and expectations for the quality of the written document. Written copies of assignments will be provided, along with detailed instructions during the session. Samples of acceptable papers (student or professionally written) will be provided.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

Hort 445 Horticultural Therapy

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Joseph Novak

Printed name and signature

9-15-09 

(Date)

Received:

Valerie Balester

(W Course Coordinator, University Writing Center)

9/19/09 

(Date)

Approvals:

College Dean: Ann L. Kenimer

Printed name and signature

17 Sep 2009

(Date)

Department Head: R. Daniel Lineberger

Printed name and signature

9-16-09 

(Date)

By 23 of 50 E

RECEIVED SEP 17 2009
HORT 445: HORTICULTURAL THERAPY LECTURE AND LAB SCHEDULE SPRING 2010
Instructor: Joe Novak

Learning Outcomes:
- To develop an understanding of Horticultural Therapy and its practice
- To understand the various applications of Horticultural Therapy.
- To Be able to apply this knowledge in a professional setting.

JAN 21 INTRODUCTION TO COURSE (assignment: visit AHTA internet site)
Discuss topics and options for the required project / report
LAB: INTRODUCTION TO LAB; PROJECT PLANNING SESSION; BASIC HORTICULTURE

JAN 26 DEVELOPMENT OF THE PROFESSION OF HORTICULTURAL THERAPY
JAN 28 PEOPLE / PLANT RELATIONSHIP; WHAT DOES A HORTICULTURAL THERAPIST DO?
(Topic choice for the project / report is due)
LAB: CONTINUE PROJECT PLANNING SESSION; BASIC HORTICULTURE

FEB 2 VOCATIONAL, SOCIAL, AND THERAPEUTIC PROGRAMS IN HORTICULTURE
FEB 4 Writing Techniques; Grading and Rubric
LAB: SIMULATION OF PHYSICAL DISABILITIES; BASIC HORTICULTURE

FEB 9 STROKE, SPINAL CORD AND PHYSICAL DISABILITIES AND HORTICULTURAL THERAPY PRACTICE
FEB 11 STROKE, SPINAL CORD AND PHYSICAL DISABILITIES AND HORTICULTURAL THERAPY PRACTICE (Outline of report with references due)
LAB: BASIC HORTICULTURAL TECHNIQUES: ORGANIC GARDENING

FEB 16 TRAUMATIC BRAIN INJURY AND HORTICULTURAL THERAPY PRACTICE
FEB 18 OLDER ADULTS AND HORTICULTURAL THERAPY PRACTICE
(Form Peer Response Groups)
LAB: BASIC HORTICULTURAL TECHNIQUES: NATURE STUDY

FEB 23 MENTAL DISORDERS AND HORTICULTURAL THERAPY PRACTICE
FEB 25 MENTAL DISORDERS AND HORTICULTURAL THERAPY PRACTICE
LAB: LOCAL FIELD TRIP TO CRESTVIEW AND THE HERITAGE AT DARTMOUTH

MAR 2 SUBSTANCE ABUSE, OFFENDER REHABILITATION AND HORTICULTURAL THERAPY PRACTICE
MAR 4 DEVELOPMENTAL DISABILITIES AND HORTICULTURAL THERAPY PRACTICE
LAB: TASK ANALYSIS AND TIME STUDIES FOR HORTICULTURAL TASKS

MAR 9 DEVELOPMENTAL DISABILITIES AND HORTICULTURAL THERAPY PRACTICE
(Students must meet with instructor regarding project / report by this date)
MAR 11 MIDTERM EXAM
LAB: LOCAL FIELD TRIP TO BROOKWOOD COMMUNITY

MAR 16 - 18 SPRING BREAK

MAR 23 RESTORATIVE VALUE OF NATURE
MAR 25 CONTEMPLATIVE GARDENS FOR HOSPITALS AND HEALTH CARE FACILITIES
LAB: ADAPTIVE TOOLS, TECHNIQUES AND FACILITIES

MAR 30 OUTSIDE SPACE AND ADAPTIVE GARDENING: DESIGN, TECHNIQUES AND TOOLS
APR 1 INSIDE SPACE AND ADAPTIVE GARDENING: DESIGN, TECHNIQUES AND TOOLS
LAB: ADAPTIVE FACILITIES / AMERICANS WITH DISABILITIES ACT GUIDELINES

APR 6 GARDEN PROGRAMS FOR CHILDREN AND YOUTH AT RISK
APR 8 CHILDREN, YOUTH AND HORTICULTURAL THERAPY PRACTICE
LAB: PROGRAM FOR STUDENTS WITH SPECIAL NEEDS

APR 13 THEORY OF URBAN HORTICULTURE
APR 15 COMMUNITY GARDENING: DESIGN, TECHNIQUES AND TOOLS
(First draft of Report due; Students must meet with instructor at least once before the final draft is submitted)
LAB: PROJECTS WITH TAMU STUDENTS WITH DISABILITIES

APR 20 GETTING A PROGRAM STARTED
(Drafts returned with feedback)
APR 22 PROGRAM MANAGEMENT; VOLUNTEERS
LAB: LOCAL FIELD TRIP TO STATE OR FEDERAL CORRECTIONAL FACILITY

APR 27 CONSULTATION SERVICES FOR HORTICULTURAL THERAPY PRACTICE
APR 29 DOCUMENTATION, PROGRAM EVALUATION AND ASSESSMENT
(Final Report Due)
LAB: REPORTS ON CLASS PROJECTS

MAY 4 SUMMARIZE COURSE AND REVIEW FOR FINAL EXAM
Required field trip date to be arranged.

FINAL EXAM: MAY 13, WEDNESDAY, 10:30-12:30 a.m., HFSB 105

GRADES:
90-100% = A MIDTERM EXAM* = 200 POINTS
80-90% = B FINAL EXAM* = 250 POINTS
70-80% = C FIELD TRIP** = 100 POINTS
60-70% = D GARDEN PROJECT = 350 POINTS***
< 60% = F LAB ACTIVITIES = 100 POINTS

* The two exams will be open book/note exams
** The day-long field trip is required; date to be chosen early in the semester
*** This grade is made up of the following:
50 pts STAFF EVALUATION OF PROJECT ACTIVITIES AND PAPER PREPARATION
250 pts REPORT
50 pts STAFF AND PEER EVALUATIONS OF PRESENTATION AND PAPER

Garden Project: This project will be worth 35% of your total course grade. You will be required to
write a report evaluating the efficacy of your horticulture therapy garden project, including a literature
review of work done in the area you have chosen as your project. This report will have to be at least 2000
words and 8 pages long. The points you receive on your evaluation and presentation will only be awarded
upon the receipt (by the instructor) of a satisfactory report.

BONUS CREDIT: There will be opportunities to earn bonus credit throughout the semester. These
opportunities will involve working in various community garden projects and volunteering to assist groups
in executing their projects.

INSTRUCTOR: Joe Novak
OFFICE: HFSB RM 212 (also look in Room 110 or 114)
OFFICE PHONE: 845-3915
E-MAIL: j-novak@tamu.edu
HOME PHONE: 846-8351  CELL PHONE: 979-220-4769
OFFICE HOURS: MTWR 9:30-10:30AM (call or e-mail in advance if possible; I may be in Rm 212 or 110 or 114)

ATTENDANCE: General attendance policies for Hort 445 are as stated below. Attendance will be taken nearly every lecture, either by calling roll or a signature sheet circulated usually near the start or end of the class period. Forgetting to sign the roll will count as an absence as will arriving 10 minutes after class has started or leaving 10 minutes before it ends. Students who have an official University excuse (medical reasons, death in family, official University activity, etc.), will be permitted to make up exams missed, as indicated below. No more than 5 unexcused absences from lecture are permitted to get credit for Hort 445 and no more than 2 absences from lab are permitted to get credit from Hort 445. Please talk with me about special situations.

MAKE-UP EXAMS: Make-up exams will only be given to students who have an official University excuse (medical reasons, death in family, official University activity, etc.). Illnesses must be documented by a physician with a note to the instructor. If a student must be absent from an exam for any reason other than an official University excuse, you must discuss this with me in advance. If the absence is warranted and allowed, the time for taking the make-up exam must be set before the absence. Please talk with me about special situations.

CLASSROOM ETIQUETTE:
I have worked hard to prepare meaningful lectures and lecture demonstrations. I usually need the full period to present them. Questions: If you have questions about the topic at hand, please ask it during class so that others can hear the answer. If you have a question about procedural matters that relate to your specific situation, please ask it after the end of the period. Talking with neighbors in Class: Please do not hold discussions with fellow students during lecture. I often cannot hear this from the front of the room but it is very distracting to other students. If I do hear it and a stern glance in your direction does not stop the discussion, I will ask you to leave the room. This will be an unexcused absence. Crosswords, newspapers, notes from other courses: Do not read them or work them during class time. Cell Phones, computers, etc.: Turn them off when you come to class. DO NOT play with them during class. If the phone rings while you are in my class, I may ask you to leave the room and it will count as an absence. If you need to use a computer to take notes, get permission to do so from the instructor before using it. Late arrival/early departure: If you arrive late or leave early, please enter or leave by way of the doors in the back of the lecture room.

CHEATING: "An Aggie does not lie, cheat, or steal or tolerate those who do." Cheating in any form on tests, attendance, bonus credit activities, etc. will not be tolerated. If a student is caught cheating a warning will be issued and a zero will be given for the work in which the infraction was noticed. If it happens more than once the student will be given an F for the course and disciplinary action will be taken according to the Texas A&M University Rules and Regulations. Signing in another student on the attendance roster or having another student sign the attendance sheet for you is cheating, a violation of the Aggie Honor Code. If this has been detected by the instructor, your course letter grade will be lowered two letter grades from your final course score. The same will apply if a student marks their time earlier than they arrived for bonus credit or marks it later than the time that they left the bonus credit activity. Please see the Honor Council Rules and Procedure on the web site http://www.tamu.edu/aggiehonor.

STUDENT WHO HAS A DISABILITY: If you have a disability which requires some special accommodation, please make an appointment with me within the first 2 weeks of the semester to discuss the appropriateness of the instructional methods in this class or any academic adjustments that may be needed. I have found it possible to make accommodations in the past but it is important that we talk about this at the beginning of the semester.

ADA: The Americans with Disabilities Act is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation
requires that 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, Services for Students with Disabilities in Room 126 of the Koldus Building, or call 845-1637.
TO: Faculty Senate Executive Committee  
FROM: Valerie Balester, Chair, W Course Advisory Committee  
CC: Shannon Bragg-Sitton, Department of Nuclear Engineering  
Raymond Juzaitis, Head, Department of Nuclear Engineering  
Jo Howze, AOC Dean, Dwight Look College of Engineering  
DATE: September 16, 2009  
SUBJECT: REPORT ON PROPOSED W COURSE: NUEN 405

We recommend that NUEN 405 Nuclear Reactor Experiments be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed a representative syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality: 85%
2. Course content appropriate to the major
3. Total number of words: 11,250 individually and 12,000 collaboratively
4. Instructor to student ratio for one section: 1:6

NUEN 405 is a required course for majors in which students practice both individual and collaborative writing. Individually, students write five technical memos on laboratory experiments and one formal lab report. Collaboratively (2-3 students per group), students write two formal lab reports. Templates guide the students in organizing both the memos and the reports. On the formal lab reports students have the opportunity to make corrections and revisions and re-submit them. For the memos, students have ample opportunity to improve based on the five iterations of the assignment. Writing instruction includes lecture, review of models (journal articles), and readings from the AIP style manual and Strunk and White’s Elements of Style.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

   NUEN 405: Nuclear Reactor Experiments

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Shannon M. Bragg-Siton
Printed name and signature (Date)

Received: Valerie Balester
(W Course Coordinator, University Writing Center) (Date)

Approvals:

College Dean: John W. Howell
Printed name and signature (Date)

Department Head: Raymond J. Lusatis
Printed name and signature (Date)
NUEN 405 – Nuclear Engineering Experiments  
Fall 2009  
Course Syllabus

COURSE DESCRIPTION
This course is based on experimentation using nuclear research reactors (primarily the 1-MW TRIGA and the 5-W AGN-201 reactors at Texas A&M University). The course will involve experimental measurements of basic nuclear reactor parameters and nuclear data. We will also study reactor operation and reactor safety. We will learn the fundamentals of how reactors are operated, how they are controlled, and what characteristics make them inherently safe.

We will experimentally measure many of the phenomena discussed in the undergraduate reactor physics classes (specifically NUEN 202 and NUEN 301) and we will make use of the radiation detection methods learned in NUEN 303. Each of the experimental measurements will be supplemented with analytical and/or numerical calculations of the same quantities. Comparisons between the calculated and experimental results will be made.

Students will be expected to already have a working knowledge of the theoretical concepts employed in this class (for instance, students should be familiar with buildup and decay problems, the definitions of scalar fluxes and cross sections, monoenergetic and two-group diffusion theory, definition of reactivity, the Point Reactor Kinetics Equations, and coefficients of reactivity). Students should also have a working knowledge of detection systems prior to taking this class (specifically, the operating characteristics of ion chambers, fission chambers, BF$_3$ tubes, and HPGe detectors).

Prerequisites: NUEN 303; NUEN 304 or senior classification.  
*Note: RHEN majors are not expected to have taken NUEN 304.

CLASS TIME AND LOCATION
This course will meet three days per week. The course consists of two hours of in-class lecture and three hours of laboratory. The lectures will be held in Zachry 119B. The laboratories will be held at the TAMU Nuclear Science Center (NSC) or at the Zachry Engineering Center (TAMU AGN-201 or Radiation Detection Laboratory). Attendance to all classes and scheduled laboratories is mandatory. Only University approved excuses will be accepted.

Lecture:  
All Sections: MW 3:00 P.M. - 3:50 P.M. Zach 127A

Laboratory:  
Lab sessions will meet at the NSC unless otherwise noted.

Section 501:  F 9:10 A.M. – 12:00 PM
Section 502:  F 1:50 P.M. - 4:40 P.M.
Section 503:  R 11:00 A.M. - 1:50 P.M.
Section 504:  R 2:00 P.M. – 4:50 P.M.
INSTRUCTORS
One lead professor and multiple graduate assistants are available to provide instruction in this course.

Professor:
Shannon M. Bragg-Sitton, Ph.D.
Assistant Professor
Nuclear Engineering Department
Texas A&M University
College Station, TX 77843-3133
Office: ZACH 130D

Office Hours: T 2 – 3:45 pm or by appointment
Phone: 979-862-8446
Fax: 979-845-6443
Email: sitton@tamu.edu

Graduate Assistants:

Name: To be assigned prior to the start of the semester.
Office location:
Office phone:
Email:
Office hours:

TEXTBOOKS AND REFERENCES
While there are no required texts for this course, a number of references should be consulted during this course:


COURSE OBJECTIVES

In completing this course the student should develop experimental expertise in the use of nuclear reactors and nuclear radiation as well as analytical and computational capabilities in modeling reactor-based experiments. This course will aid in increasing the students’ understanding of the physics of nuclear reactors and nuclear data.

The student will acquire practical experience in the safe operation of nuclear reactors using a research reactor and this experience will be applicable to larger power reactors, experimental reactors, space reactors, and other nuclear systems. The student will develop an understanding of how instrumentation is used in the control and operation of nuclear reactors and how and why various materials are chosen for the design of different nuclear systems. The student will learn (both theoretically and practically) the fundamental measurements performed to test the physics of nuclear systems. Every student will start-up a nuclear research reactor to gain practical experience in the startup of a nuclear reactor.

After completion of this course, the student should be able to:

1. Give physical and mathematical definitions of half-life, scalar flux, macroscopic cross sections, microscopic cross sections, reactivity, Doppler broadening, temperature coefficient of reactivity, the Zr-H effect, thermal cross section, 2200-m/s cross section, resonance integrals, differential and integral rod worth, subcritical multiplication, criticality, mean generation time, resonance escape probability, radiative capture, fission, photoelectric effect, Compton scattering, pair production, photoneutron sources, $(\alpha,n)$ neutron sources, and spontaneous fission sources.
2. Locate and apply fundamental nuclear cross section data from published sources.
3. Compare and contrast the usage of various materials as moderators, fuels, and shields based on nuclear cross section data and experimental results.
4. Design and conduct experiments to measure and calculate neutron and gamma-ray fluxes and describe the sources of uncertainty in these measurements.
5. Solve simple neutron activation analysis problems both analytically and experimentally.
6. Design, conduct, and analyze experiments to measure basic nuclear parameters (such as neutron and gamma-ray cross sections, reactivity coefficients, reactivity worth, and mean neutron generation time).
7. Infer the relationship between analytical theory and practical application in nuclear engineering.
8. Analyze physically, mathematically, and experimentally the feedback mechanisms that allow safe operation of nuclear systems (including the capability to differentiate between mechanisms in multiple fuel designs).
9. Design and conduct experiments to measure the feedback mechanisms of nuclear systems.
10. Start up a research reactor from zero power to full power under proper supervision.
11. Explain the design and usage of research and power reactor instrumentation.
12. Communicate the results of experiments and calculations effectively.
13. Discuss the application of experimental, analytical, and numerical techniques developed in class to contemporary issues in nuclear science and engineering.
14. Write a concise, accurate technical memorandum.
15. Write a comprehensive report following an accepted format.
METHOD OF EVALUATION

The student’s final grade will be determined based on the following percentages:

- Midterm Exam: 15%
- Technical Memoranda: 40%
- Formal Laboratory Reports (first 2): 25%
- Final Laboratory Report: 20%

Attendance at your assigned laboratory section is required. If you are unable to attend at your assigned time please inform the instructor in advance, if possible, to schedule an alternate time.

Midterm Exam

A midterm exam will be given in class on October 21, 2009. This will be a closed-book, closed-notes exam. The exam will cover topics presented in lecture and/or lab through Week 7.

Technical Memoranda and Laboratory Reports

The results and analysis for each laboratory will be submitted for credit via either a technical memorandum or a full laboratory report. A template and example for each will be provided to the student via http://elearning.tamu.edu (VISTA).

Technical Memoranda

Technical memoranda (TM) should be less than three pages of text in length but will also include a laboratory worksheet and perhaps several plots or figures. The student’s grade on technical memoranda will be determined based on the memo format (5%), clarity/writing style (10%) and technical content (85%). Each TM will be edited and returned to the student. Technical memoranda must be completed individually.

Formal Laboratory Reports

Formal laboratory reports will be less than twenty pages in length. These reports will include detailed theory, procedures, and results sections and provide the reader with sufficient information to repeat the laboratory themselves and acquire the same results as the student. The student should view these reports as if they were technical manuscripts submitted to a technical journal for publication. The student’s grade on laboratory reports will be based 5% on format, 35% on grammar and writing style, and 60% on technical content. Each laboratory report will be edited and returned to the student. If a student corrects the report to include the editor’s suggestions, then the student may recover some or all of the points lost on grammar and writing style. Guidelines for writing laboratory reports, including an example of the proper report format, will be provided to the student via http://elearning.tamu.edu (VISTA).

Formal laboratory reports for labs 4 and 8 may be completed in small groups (up to 3 people per group); these reports are eligible for resubmission to earn points lost on grammar and writing style. The final report (covering the inter-related topics addressed in labs 11, 12, 13) must be completed and submitted individually; it should be considered a final exam equivalent and is not eligible for resubmission.
Final Examination
A final examination for the class will be scheduled according to the approved University Final Examination Schedule. The exam will be optional. If selected, the student’s grade will first be determined using the above distribution; this grade will then constitute 75% of the final grade, and the final exam will constitute the remaining 25%. The exam will be comprehensive, covering all information discussed in lectures, laboratory sessions, laboratory reports, and technical memoranda. A review sheet will be provided to the student to aid in studying for this exam.

Per the Final Exam Schedule, the exam will be held:
Tuesday December 15, 2008 10:30 A.M. – 12:30 P.M.

LATENESS POLICY
Late laboratory reports and technical memoranda will be deducted 5% per day after the due date. No reports or TMs will be accepted after the graded assignments have been returned to the students (one week following the original due date).

ONLINE COURSE MATERIAL
An electronic copy of this syllabus, the course schedule, all lecture notes, all laboratory procedures, data tables, supplemental readings, example lab reports, and example technical memoranda will be available to the student through the University’s VISTA system (http://elearning.tamu.edu). The instructor will use the VISTA email system and discussion board to communicate important messages to the students. Students should check their email often to keep updated on current messages. Also, the student’s grades will be posted on the VISTA system, and the students can use this system to check their grades at any time.

If you are unfamiliar with VISTA, please ask the instructor or grading assistants for help or consult the Information Technology Services staff by emailing them at its@tamu.edu.

ADA STATEMENT
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 that 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 Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu.

SCHOLASTIC DISHONESTY
As commonly defined, plagiarism consists of passing off as one’s own the ideas, work, writings, etc., that belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have questions
regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules [http://student-rules.tamu.edu/], under the section “Scholastic Dishonesty.”

It is very important to display academic integrity in class assignments and exams. While it is appropriate and encouraged to work together on some assignments, each person must turn in original work to receive credit. Exams must be taken without the assistance of others. Academic dishonesty on an exam or class assignment will result in actions as described in the honor code policies. Academic dishonesty is defined on the Aggie Honor Code website.

The Aggie Honor Code:

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

For further information on the Honor Council Rules and Procedures, please see http://www.tamu.edu/aggiehonor.

RELIGIOUS HOLIDAYS

If you are a member of a religious faith that has one or more holidays which require you to be absent from any class, please tell your instructor at least two weeks in advance of your absence and make arrangements to make-up the class.

UNIVERSITY WRITING CENTER

The University Writing Center (UWC), located in Evans Library 1.214 (second floor), offers help to writers at any stage of the writing process including brainstorming, researching, drafting, documenting, revising, and more; no writing concern is too big or too small. These sessions are highly recommended but are not required and will not directly affect your final grade. While the UWC consultants will not proofread or edit your papers, they will help you improve your own proofreading and editing skills. If you visit the UWC, take a copy of your writing assignment. To find out more about UWC services or to schedule an appointment, call 458-1455, browse the web page at uwc.tamu.edu, or stop by the center.
## NUEN 405 – Nuclear Engineering Experiments
### Fall 2009
#### Course Schedule

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<td>*Labs 6 &amp; 7 will be written up in a single TM.</td>
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<td>**Labs 11, 12, 13 will be combined in a single formal lab report.</td>
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<td>Final Exam</td>
<td>Optional</td>
<td>12/15/2009</td>
<td>Lecture 29</td>
<td>Comprehensive</td>
<td></td>
</tr>
</tbody>
</table>
TO: Faculty Senate Executive Committee

FROM: Valerie Balester, Chair, W Course Advisory Committee

CC: Marian Eide, Chair, Women’s Studies
Donald J. Curtis, AOC Dean, College of Liberal Arts

DATE: September 16, 2009

SUBJECT: REPORT ON PROPOSED W COURSE: WMST 401

We recommend that WMST 401 Feminist Theory be certified as a writing (W) course for the next four academic years (9/09 to 9/13). We have reviewed a representative syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing quality: 50%
2. Course content appropriate to the major
3. Total number of words: 4250
4. Instructor to student ratio for one section: 1:15

Students write a proposal, an annotated bibliography, and a seminar paper. In some versions of the course they write more, including a blog or a journal. The proposal and the annotated bibliography are written to prepare for the final seminar paper. Thus, feedback on the major research paper occurs through responses to the proposal, an annotated bibliography, and a draft of the paper. The instructor will also hold writing conferences as needed, and two in-class writing workshops are scheduled. Assigned readings model different approaches to writing in Women’s Studies, and these readings will be discussed in class.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE
Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

WMST 401 Feminist Theory

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: Claudia Nelson Claudia Nelson 5/17/09
Printed name and signature
(Date)

Received: Valerie Balester 6-6-09
(W Course Coordinator, University Writing Center)
(Date)

Approvals: Pamela R. Matthews

College Dean: Printed name and signature
(Date)

Department Head: Printed name and signature
(Date)
Shifting from an earlier primary focus on public activism for equal rights, feminism in the early twenty-first century presents a complex integration of activism, intellectual exploration, literary expression, and academic methodology. This course presents a theoretical and methodological study of women’s lives, work, language, and ethics. Designed to engage students in the intricacies of contemporary feminist theory, the course allows students to construct their own theoretical framework and methods through which each participant will pursue research and writing from within feminist discourses and practices.

Course Website: [https://english-courses.tamu.edu/moodle/](https://english-courses.tamu.edu/moodle/)  
Enrollment Key: eide08C489

**COURSE REQUIREMENTS**

**PREREQUISITE:** Women’s Studies: WMST 200 or approval of instructor; junior or senior classification.

**READINGS:** All readings are to be completed by the date on which they are listed on the syllabus. The readings are available on the course website. The classic texts on which you’ll blog are readily available and should be purchased or checked out of the library separately.

**TAKE HOME ESSAYS:** Over the course of the semester three take-home essays of approximately 500 words will be assigned which will allow students to reflect on the readings in a synthetic or summary way. Questions will be distributed a week before the deadline.

**WRITING:** This course is designed to allow each student to do a significant research project that will lead to a final seminar paper of 15 pages. To prepare for this paper, students will be asked to submit a proposal, an annotated bibliography, and a short version of the paper well before the final deadline. This research paper will address an issue from within your own academic field or major using feminist theory as a framework and research method.

**ATTENDANCE:** Because this class is designed to foster collaborative and group discussion, you will be missed if you’re not here; therefore attendance is mandatory. I will, however, allow you two missed classes with no questions asked and no excuses demanded. After these two I will mark you down one percentage point on your final grade for each additional absence without a university-approved excuse.

**DEADLINES:** I do not accept late papers without significantly lowering your grade. Each 24-hour period that paper is late will result in the loss of two percentage points on the paper grade. I do, however, arrange extensions on an individual basis in extraordinary circumstances.

**BLOG:** Students will each choose a classic in feminist theory (from a list circulated in the first week) to read over the course of the semester. The blog will allow students to write informally about the work and its impact and to communicate discoveries with other students.

**GRADING:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Take-Home Essays (3)</td>
<td>30% (10% each)</td>
</tr>
<tr>
<td>Proposal</td>
<td>10%</td>
</tr>
<tr>
<td>Annotated Bibliography</td>
<td>10%</td>
</tr>
<tr>
<td>Seminar Paper</td>
<td>30%</td>
</tr>
<tr>
<td>Blog</td>
<td>20%</td>
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### Schedule of Classes

<table>
<thead>
<tr>
<th>Date</th>
<th>Content</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 26</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>August 28</td>
<td>Blogs</td>
<td></td>
</tr>
<tr>
<td>September 2</td>
<td>Scott: Feminist Reverberations</td>
<td></td>
</tr>
<tr>
<td>September 4</td>
<td>Riley: The World of Selves (Intro)</td>
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<tr>
<td>September 9</td>
<td>Grenz: Intersections of Sex &amp; Power…</td>
<td></td>
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<tr>
<td>September 11</td>
<td>Harding: Rethinking Standpoint Epistemology</td>
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<tr>
<td>September 16</td>
<td>Ian: Female Body Building</td>
<td></td>
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<tr>
<td>September 18</td>
<td>Cixous: The Laugh of the Medusa</td>
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<tr>
<td>September 23</td>
<td>Pitts: Feminism, Technology, &amp; Body Projects</td>
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<tr>
<td>September 25</td>
<td>Haraway: Cyborg Manifesto</td>
<td></td>
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<tr>
<td>September 30</td>
<td>Butler: Is Kinship Always Already Heterosexual</td>
<td>Take-Home Essay Exam Due</td>
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<tr>
<td>October 2</td>
<td>Warner: The Trouble with Normal (Intro)</td>
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<tr>
<td>October 7</td>
<td>Rudy: Queer Theory &amp; Feminism</td>
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<td>October 9</td>
<td>Rich: Compulsory Heterosexuality</td>
<td>Research Proposals</td>
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<td>October 14</td>
<td>Workshop</td>
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<tr>
<td>October 16</td>
<td>Workshop</td>
<td></td>
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<tr>
<td>October 21</td>
<td>Cornell: Political Infamy</td>
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<tr>
<td>October 23</td>
<td>Spivak: Righting Wrongs</td>
<td>Annotated Bibliography</td>
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<tr>
<td>October 28</td>
<td>Khan: Reconfiguring the Native Informant</td>
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<tr>
<td>October 30</td>
<td>Mohanty: Under Western Eyes Revisited</td>
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<tr>
<td>November 4</td>
<td>Young: Logic of Masculinist Protection</td>
<td>Take-Home Essay Exam Due</td>
</tr>
<tr>
<td>November 6</td>
<td>Stehnm: Protected, Protector, Defender</td>
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<tr>
<td>November 11</td>
<td>Oliver: Secret Weapon of Modern Warfare</td>
<td></td>
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<tr>
<td>November 13</td>
<td>Kristeva: Can We Make Peace?</td>
<td></td>
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<tr>
<td>November 18</td>
<td>Ludlow: Traumatization of Abortion</td>
<td>Short Draft of Final Essay</td>
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<td>November 20</td>
<td>Brisson: Everyday Atrocities…</td>
<td>Writing Conferences</td>
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<tr>
<td>November 25</td>
<td>Caruth: Unclaimed Experience (Intro)</td>
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<tr>
<td>November 27</td>
<td>Thanksgiving</td>
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<tr>
<td>December 2</td>
<td>Research Presentations</td>
<td>Take-Home Essay Exam Due</td>
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<tr>
<td>December 5</td>
<td>Final Paper Due</td>
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</tbody>
</table>

**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 that 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, Services for Students with Disabilities in B-118 Cain Hall. The telephone number is 845-1637.

**ACADEMIC HONESTY:** Section 20 of the Student Rules clearly outlines the University’s policies on Scholastic Dishonesty. I would particularly draw your attention to the following rules: “Commission of any of the following acts shall constitute scholastic dishonesty. …Acquiring answers for any assigned work or examination from any unauthorized source. Working with another person or persons on any assignment or examination when not specifically permitted by the instructor…. Providing answers for any assigned work or examination when not specifically authorized to do so…Failing to credit sources used in a work product in an attempt to pass off the work as one’s own. Attempting to receive credit for work performed by another, including papers obtained in whole or in part from individuals or other sources.” This course, like all courses at A&M, is bound by the Aggie Code of Honor: “An Aggie does not like, cheat, or steal or tolerate those who do.” (See Honor Council Rules and Procedures on the web at [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor).)
TO: Faculty Senate Executive Committee

FROM: Valerie Balester, Chair, W Course Advisory Committee Chair

CC: Duncan MacKenzie, Dept. of Biology
    U.J. McMahan, Head, Dept. of Biology
    Tim Scott, Associate Dean, College of Science

DATE: September 16, 2009

SUBJECT: REPORT ON PROPOSED C COURSE: BIOL 388

We recommend that BIOL 388 Principles of Animal Physiology be certified as a communications (C) course for the next four academic years (9/09 to 9/13). We have reviewed the syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing or speaking quality: 30%
2. Course content appropriate to the major
3. Total number of words: 1275+
4. Total minutes of speaking: 5-10 minutes per student
5. Instructor to student ratio for one section: 1:15

Principles of Animal Physiology is a 4-credit course appropriate for biology majors. Students receive instruction on how to write individual sections of a biological research proposal before each assignment. Communications instruction includes lectures on business writing and on the use of oral presentation slides.

Lower stakes assignments will be given early in the semester to provide the students with feedback on writing a hypothesis and an introduction before preparation of a full proposal draft. In addition, students receive feedback on their proposal drafts. After collection of data, student groups have one week to draft a Power Point presentation that is critiqued by their GAT. Students have another week to prepare their oral presentations.

Three Graduate Assistant Teachers will do the bulk of the grading for the C course component. They will use a common rubric and will meet with the instructor for a calibration session after each written assignment has been submitted. To ensure consistency, each paper will be graded by two different assistants, who will confer to establish a consensus before the final grade for the assignment is decided. Students get the comments of both assistants. A similar process is used to evaluate oral presentations. The instructor will provide both oral and written feedback on drafts of oral presentations and on written work.
TEXAS A&M UNIVERSITY W COURSE ADVISORY COMMITTEE

Request for W or C Course Status
Submitted to the Chair, W Course Advisory Committee
University Writing Center, MS 5000

1. This request is submitted to Valerie Balester, Chair, W Course Advisory Committee, and concerns (enter prefix, number, and complete course title):

   **Biology 388, Principles of Animal Physiology**

2. Please have this form signed by both the Department Head and the College Dean.

3. Once signed, please submit this form to the University Writing Center, MS 5000.

Instructor / Coordinator: [Signature]

(Date)

Received: [Signature]

(Date)

(W Course Coordinator, University Writing Center)

Approvals:

College Dean: [Signature]

(Date)

Department Head: [Signature]

(Date)
SYLLABUS
BIOLOGY 388, Principles of Animal Physiology

Spring Semester, 2009
Tuesday, Thursday, 12:45-2:00
Peterson 113

Professor:  Dr. Duncan S. MacKenzie
            306E BSBE, 845-7701, duncan@mail.bio.tamu.edu
            Office Hours: Tuesday, Thursday 10:00-12:00 and by appointment

Teaching Assistants:  Thomas Miller, tmiller@mail.bio.tamu.edu
                      Halli Keller, hkeller@mail.bio.tamu.edu
                      Zane Lybrand, zlybrand@mail.bio.tamu.edu

Laboratory:  001 Butler

Web Site:  Go to http://elearning.tamu.edu and log on to Vista with NetID and password

COURSE DESCRIPTION:  Biology 388 provides an introduction to the molecular, cellular, and
organismal principles of physiology, as well as the ways in which physiological systems adapt animals to
survive in diverse environments.  The course is broadly comparative in scope, considering physiological
mechanisms in a wide variety of organisms to illustrate their adaptation and evolution.  The laboratory provides
students with hands-on experience using computer-based techniques for monitoring and investigating
physiological processes in living organisms.

GRADING:  Your grade in the course will be based on 765 points earned on lecture examinations, writing
exercises, an oral presentation, laboratory quizzes, notebooks, and practicals.

LECTURE:  There will be three lecture exams given in Peterson 113.  The first two exams will be given
during class period.  Exam 3 will be given during the final exam period.

EXAM DATES:
    EXAM 1:  Thursday, February 19
    EXAM 2:  Thursday, April 2
    EXAM 3:  Wednesday, May 13, 8-10 AM

    TOTAL LECTURE POINTS = 300

All lecture exams will be worth 100 points.  The exams will be short answer/fill-in/problem solving type.  Exam
material will be based on the lecture and associated reading.  All exams will be comprehensive in the sense that
it is expected that you have mastered all previous material and can apply it to subsequent exams.  Grade
distributions with assigned letter grades will be posted for each exam.  Review sessions will be scheduled on a
weekly basis.

VISTA:  Students should use NetIDs and passwords to access the course website on Vista.  This website will
have announcements, grades, sample exam questions, and administrative information.  You will also be able to
download the PowerPoint lecture files prior to class.  You should download lectures and bring them to class if
you want copies of the diagrams, as no handouts will be provided in class.  I still expect you to attend lecture.
Please do not download or print lectures in lab.
LABORATORY: Most laboratory sessions (not Lab 1) will begin with a 5 point lab quiz covering the laboratory procedure for that day. You are required to purchase the Biology 388 Laboratory Manual, available from MSC Print ‘n’ Copy in MSC 293. You are expected to keep notes on your experiments in your laboratory manual, which will be collected twice during the semester. In addition, there will be two laboratory practical examinations and 20 T.A. discretionary points.

<table>
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<th>Component</th>
<th>Value</th>
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<tbody>
<tr>
<td>LAB QUIZZES:</td>
<td>5 @ 5 points = 25</td>
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<tr>
<td>LAB EXAMINATIONS:</td>
<td>2 @ 75 points = 150</td>
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<tr>
<td>LAB MANUALS</td>
<td>2 @ 15 points = 30</td>
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<tr>
<td>T.A. POINTS</td>
<td>25</td>
</tr>
<tr>
<td>TOTAL LAB POINTS</td>
<td>= 230</td>
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</tbody>
</table>

COMMUNICATION ASSIGNMENTS: There will be three writing assignments and one oral presentation associated with independent laboratory projects developed by students during the semester. Details will be provided in laboratory.

<table>
<thead>
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<th>Component</th>
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<tbody>
<tr>
<td>FOUR WRITING ASSIGNMENTS:</td>
<td>160 points</td>
</tr>
<tr>
<td>ORAL PRESENTATION:</td>
<td>70 points</td>
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<tr>
<td>TOTAL COMMUNICATION POINTS</td>
<td>= 230</td>
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</table>

FINAL GRADE: Your final grade in the class will be your total lecture grade (300 points possible) plus your total lab grade (230 points possible), plus your communication grades (230 points possible) for a grand total of 760 possible points. Your final grade in the course will be based on your location on a final grade distribution.

EXAM REGRADING/MAKEUP POLICY: All exams to be considered for regrading (except those with misaddition of points) must be handed to the instructor, along with a written explanation of why more points are requested, within 48 hours of being returned. After 48 hours, I will clarify or discuss items, but I will not award more points. I reserve the right to regrade the entire exam. Exams will be returned to students after regrading. Makeup exams will only be given with verified University excused absences. You must bring the excuse to Dr. MacKenzie within 48 hours of the missed exam.

TEXT: The required text is Animal Physiology, From Genes to Organisms, 1st Edition, by Lauralee Sherwood, Hillar Klandorf, and Paul Yancey. Pages of the text will be assigned as reading for lecture, and figures from the text will be used to illustrate lecture material. It is assumed that you have completed the reading corresponding to the material presented in class.

STATEMENT ON DISABILITIES: The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Support Services for Students with Disabilities in Cain Hall, Room B118. The phone number is 845-1637.

STATEMENT ON PLAGIARISM: The materials used in this course are copyrighted. This means all materials generated for this class, which include but are not limited to syllabi, lecture notes, lab manuals, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy them, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one's own ideas, words, writing, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues that allows information to be honestly communicated. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

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<table>
<thead>
<tr>
<th>LECT.</th>
<th>DATE</th>
<th>SUBJECT</th>
<th>READING</th>
<th>LABORATORY/ILP</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan 20</td>
<td>Introduction</td>
<td>Chapter 1</td>
<td>Introduction to PowerLab</td>
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<tr>
<td>2</td>
<td>Jan 22</td>
<td>Membrane Permeability, Potentials</td>
<td>Chapter 3</td>
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<td>3</td>
<td>Feb 27</td>
<td>Neurons, Action Potentials</td>
<td>Chapter 4</td>
<td>Compound Action Potential</td>
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<td>4</td>
<td>Feb 29</td>
<td>Synapses</td>
<td>Chapter 4</td>
<td>Neuron Model</td>
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<td>5</td>
<td>Feb 3</td>
<td>Synaptic Integration</td>
<td>Chapter 4</td>
<td>Neuron Model</td>
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<td>6</td>
<td>Feb 5</td>
<td>Sensory Physiology</td>
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<td>7</td>
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<td>Skeletal Muscle</td>
<td>Chapter 8</td>
<td>Neuromuscular Function</td>
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<td>Muscle Mechanics, Smooth Muscle</td>
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<td>Nervous System Organization</td>
<td>Chapter 5</td>
<td>Human Electromyography</td>
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<td>12</td>
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<td>Cardiac Muscle, Blood Vessels</td>
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<td>Capillaries, Hemodynamics</td>
<td>Chapter 9</td>
<td>Cardiovascular Function</td>
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<td>Hormone Function, Neuroendocrinology</td>
<td>Chapter 7</td>
<td>Human ECG</td>
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<td>Intermediary Metabolism, Pancreas</td>
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<td>17</td>
<td>Mar 24</td>
<td>Growth Hormone, Thyroid, Adrenal</td>
<td>Chapter 7</td>
<td>Control of Color Change</td>
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<td>18</td>
<td>Mar 26</td>
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<td>Chapter 7</td>
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<td>Apr 31</td>
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<td>Respirometry</td>
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<td>Resting and Active Metabolism</td>
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<td>LAB PRACTICAL 2</td>
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<td>Apr 9</td>
<td>Temperature: Ectothermy</td>
<td>Chapter 15</td>
<td>Lab Manuals Collected</td>
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<td>23</td>
<td>Apr 14</td>
<td>Temperature: Endothermy</td>
<td>Chapter 15</td>
<td>Independent Projects</td>
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<td>24</td>
<td>Apr 16</td>
<td>Gas Supply and Exchange</td>
<td>Chapter 11</td>
<td>Final Proposal</td>
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<td>25</td>
<td>Apr 21</td>
<td>Respiratory Organs</td>
<td>Chapter 11</td>
<td>ILP Data Analysis</td>
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<td>26</td>
<td>Apr 23</td>
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<td>Apr 28</td>
<td>Osmoregulatory Organs</td>
<td>Chapter 12</td>
<td>Oral Presentations</td>
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<td>28</td>
<td>Apr 30</td>
<td>Osmoregulatory Environments</td>
<td>Chapter 13</td>
<td></td>
</tr>
</tbody>
</table>

May 13  EXAM 3, 8-10 AM
LABORATORY SYLLABUS
BIOLOGY 388, Principles of Animal Physiology
Spring Semester, 2009

INSTRUCTORS: Thomas Miller, tmiller@mail.bio.tamu.edu
Halli Keller, hkeller@mail.bio.tamu.edu
Zane Lybrand, zlybrand@mail.bio.tamu.edu

Students will conduct experiments similar to those discussed in lecture which demonstrate fundamental physiological principles. Students will gain experience in the use of computer-based data recording and analysis systems, as well as the use of living tissues for physiological experimentation.

TEXTS: The required Laboratory Manual is available for purchase at the MSC Print ‘n’ Copy in MSC 293. This Manual not only describes the procedures you will perform in lab, but also serves as your laboratory notebook. You should take notes and record observations directly in the spaces provided in your Laboratory Manual. Manuals will be collected for evaluation by TAs. You are also required to purchase Writing Intensive by Elaine Maimon and Janice Peritz, 2007, as a resource for writing your proposal.

GRADING: The grade in the laboratory represents a significant portion of your course grade and should be taken seriously. You will earn points for four laboratory activities:

1. Lab Quizzes. Because you will be working with expensive, complex apparatus and live animal preparations, it is ESSENTIAL that you read each laboratory procedure BEFORE you come to class. Each laboratory without a writing assignment will therefore begin with a 5 point quiz over the lab procedure. You must be on time to lab or you will miss the quiz and the 5 points. No makeup quizzes will be given to late students unless a University excuse is provided to your TA within 48 hours of the missed quiz.

   5 Quizzes @ 5 points each = 25 points

2. Lab Examinations. Two practical examinations worth 75 points each will be given during the semester. These examinations will cover all information, techniques, and data analyses from the laboratories, and all associated conceptual frameworks presented in the laboratory and the lecture.

   2 Lab Exams @ 75 points each = 150 points

3. Lab Manuals: Students are required to keep a neat Laboratory Manual in which you record important observations, notes, and data. Answers to questions should be recorded directly in the Laboratory Manual. Laboratory manuals will be collected for grading at each practical exam.

   2 Lab Manual Evaluations @ 15 points each = 30 points

4. Performance Evaluation Points. This discretionary credit awarded by TA’s will be earned by active student participation and an enthusiastic work ethic. Points may also be deducted for failure to maintain a safe laboratory environment.

   Performance Evaluation Points = 25 points

TOTAL POINTS:

25 (Quizzes) + 150 (Exams) + 30 (Manuals) + 25 (PEP) = 230 points total
**Independent Laboratory Project (ILP):** Each lab group will design and implement a hypothesis-driven experiment using tools and techniques from a laboratory exercise. Before carrying out the experiment, each student will be responsible for writing a research proposal detailing the background, objectives, hypothesis, materials, and methods for the experiment (80 points). After completing the experiment, each group will orally present their project to their lab section (70 points). Each student must speak for at least 5 minutes during the group presentation. Instruction on developing proposals and projects will include feedback on project ideas, two practice writing assignments (15 points each), and a proposal draft (50 points). The Writing Center will be available to aid students throughout the semester with writing proposals and developing oral presentations. Grading rubrics will be provided to students prior to assignments to provide clear expectations.

ILP points = 30 (Practice assignments) + 50 (Draft proposal) + 80 (Proposal) + 70 (Presentation) = 230

**MISSED LABORATORIES:** Attendance in lab is mandatory. Students are responsible for all information covered and are required to submit all assignments to the instructor on time. Roll will be taken at the beginning of each laboratory in the form of a mandatory quiz. No make-up quizzes or exams will be given unless a University-approved excuse is provided to your TA within 48 hours of the missed lab. If you know in advance that you will miss a laboratory, you must present a University-excused absence and plan on making up the lab during another section that week. Opportunities to make up laboratories will only be provided to students who bring a University-approved excuse to your TA prior to the laboratory. Unexcused absences will be counted as zeros for the quiz.

**LABORATORY SCHEDULE:**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>QUIZ</th>
<th>LABORATORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 20-22</td>
<td></td>
<td>Lab 1. Introduction to PowerLab Data Acquisition</td>
</tr>
<tr>
<td>2</td>
<td>Jan 26-29</td>
<td>1</td>
<td>Lab 2. Compound Action Potential (Earthworm)</td>
</tr>
<tr>
<td>3</td>
<td>Feb 2-5</td>
<td>2</td>
<td>Lab 3. Electrophysiology of the Neuron</td>
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<tr>
<td>4</td>
<td>Feb 9-12</td>
<td></td>
<td>Lab 4. Neuromuscular Function (Frog NMJ). <strong>Hypothesis assignment due</strong></td>
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<tr>
<td>5</td>
<td>Feb 16-19</td>
<td>3</td>
<td>Lab 5. Human Electromyography (Human Skeletal Muscle)</td>
</tr>
<tr>
<td>6</td>
<td>Feb 23-26</td>
<td></td>
<td><strong>Laboratory Practical 1. Laboratory Manuals Collected</strong></td>
</tr>
<tr>
<td>7</td>
<td>Mar 2-5</td>
<td>4</td>
<td>Lab 6. Cardiovascular Function (Frog Heart). <strong>Introduction assignment due</strong></td>
</tr>
<tr>
<td>8</td>
<td>Mar 9-12</td>
<td>5</td>
<td>Lab 7. Human Electrocardiography (Human ECG)</td>
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<tr>
<td>9</td>
<td>Mar 23-26</td>
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<td>Lab 8. Control of Color Change</td>
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<td>10</td>
<td>Mar 30-Apr 2</td>
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<td>Lab 9. Respirometry. <strong>ILP proposal draft due</strong></td>
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<tr>
<td>11</td>
<td>Apr 6-9</td>
<td></td>
<td><strong>Laboratory Practical 2. Laboratory Manuals Collected</strong></td>
</tr>
<tr>
<td>12</td>
<td>Apr 13-16</td>
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<td>Lab 10. Independent Laboratory Projects. <strong>ILP proposal due</strong></td>
</tr>
<tr>
<td>13</td>
<td>Apr 20-23</td>
<td></td>
<td>Lab 11. ILP data and statistical analysis. <strong>Presentation draft due</strong></td>
</tr>
<tr>
<td>14</td>
<td>Apr 27-30</td>
<td></td>
<td><strong>Group Presentations</strong></td>
</tr>
</tbody>
</table>

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TO: Faculty Senate Executive Committee

FROM: Valerie Balester, Chair, W Course Advisory Committee Chair

CC: John Reading, Dept. of Physics
    Edward Fry, Head, Dept. of Physics
    Tim Scott, Associate Dean, College of Science

DATE: September 16, 2009

SUBJECT: REPORT ON PROPOSED C COURSE: PHYS 420

We recommend that PHYS 420 Concepts, Connections and Communication be certified as a communications (C) course for the next four academic years (9/09 to 9/13). We have reviewed the syllabus and have determined that the course meets or exceeds the following criteria:

1. Percentage of final grade based on writing or speaking quality: 100%
2. Course content appropriate to the major
3. Total number of words: 6000+
4. Total minutes of speaking: 36 minutes
5. Instructor to student ratio for one section: 1:8

The first three assignments are typical assignments that a GAT in physics would be asked to write. The students are given the choice of removing their names or not from their work. Each attempt is then shown one at a time to the class for critique. Each version is also marked by the instructor with written criticism when appropriate. The fourth assignment is to write a referee’s report on an actual paper. The instructor includes models for this assignment. Student reports are then opened to criticism. The fifth assignment is a conventional essay on the speed of light. Ten minute writing assignments are given at the beginning of each class. These are marked and criticized by the instructor; in addition, the students are encouraged to talk about what they have written. Students deliver the same twelve-minute Power Point three times. They receive peer feedback after the first two presentations in preparation for their final presentations.