

**Graduation Composition and Communication Requirement (GCCR)  
GCCR PROPOSAL AND CHANGE UNDERGRADUATE PROGRAM FORM**

**I. General Information:**

College:	<u>A&amp;S</u>	Department (Full name):	<u>BIOLOGY</u>
Major Name (full name please):	<u>BIOLOGY</u>	Degree Title:	<u>BS/ BA</u>
Formal Option(s), if any:	<u>      </u>	Specialty Field w/in Formal Options, if any:	<u>      </u>
Requested Effective Date:	<u>FALL 2014, IF RECEIVED BY SENATE COUNCIL BY MONDAY, APRIL 7.</u>		
Contact Person:	<u>Ruth E Beattie</u>	Phone:	<u>859-257-7647</u> Email: <u>rebeat1@uky.edu</u>

**II. Parameters of the Graduation Composition and Communication Requirement (GCCR):**

The new GCCR replaces the old Graduation Writing Requirement. It is fulfilled by a course or courses specified within a B.A./B.S. degree program. As outlined in draft Senate Rule 5.4.3.1, the GCCR stipulates that students must successfully complete this requirement after achieving sophomore status and prior to graduation. To satisfy the GCCR, students must earn an average grade of C or better on the designated Composition and Communication (C&C) intensive assignments produced in any given course designated as fulfilling some or all of the GCCR. The requirements for GCCR courses include:

- at least 4500 words of English composition (approximately 15 pages total);
- a formal oral assignment *or* a visual assignment;
- an assignment demonstrating information literacy in the discipline;
- a draft/feedback/revision process on GCCR assignments.

The program requirements for the GCCR include:

- at least one specific Program Student Learning Outcome for C&C outcomes;
- a plan for assessing both the writing and oral *or* visual components of the GCCR;
- clear goals, rubrics, and revision plans for GCCR implementation.

Upon GCCR approval, each program will have a version of the following specification listed with its Program Description in the University Bulletin:

*“Graduation Composition and Communication Requirement. Students must complete the Graduation Composition and Communication Requirement as designated for this program. Please consult a college advisor or program advisor for details. See also ‘Graduation Composition and Communication Requirement’ on p. XX of this Bulletin.”*

**III. GCCR Information for this Program (by requirement):**

<b>A. List the courses currently used to fulfill the old Graduation Writing Requirement:</b>
<u>BIO 350</u>
<b>B. GCCR Program Outcomes and brief description:</b>
1. Please specify the Major/Program Student Learning Outcomes (SLOs) pertaining to Composition & Communication and the GCCR requirement. These are <i>program</i> outcomes, not <i>course</i> outcomes. Please specify the program-level SLOs for C&C in your program:
<u>Students will be able to present and discuss the concepts, methods, and results of biological research. They will be able to review the biological literature, critically analyze published papers, present written reports in scientific format (introduction, methods, results, discussion), and present oral reports according to current biological style.</u>
2. Please provide a short GCCR description for your majors (limit 1000 characters): Please explain the GCCR requirement in language appropriate for undergraduate majors to understand the specific parameters and justification of your program’s GCCR implementation plan:
<u>Written and oral communication is important to a career in the life sciences, students will develop and enhance these essential skills throughout their undergraduate career. Students will satisfy the Graduation Composition and Communication Requirement (GCCR) by completion (with a c average on all GCCR assignments) of either (a) BIO 425 AND BIO 350, or (b) WRD</u>

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<u>204.</u>	
<b>C. Delivery and Content:</b>	
<p><b>1. Delivery specification:</b> for your major/program, how will the GCCR be delivered? Please put an X next to the appropriate option. (Note: it is strongly recommended that GCCR courses be housed within the degree program.)</p>	<input type="checkbox"/> a. Single required course within program <input checked="" type="checkbox"/> b. multiple required or optional courses within program <input checked="" type="checkbox"/> c. course or courses outside program (i.e., in another program) <input type="checkbox"/> d. combination of courses inside and outside program <input type="checkbox"/> e. other (please specify): _
<p><b>2. Basic Course Information:</b> Please provide the following information for course(s) used to satisfy the GCCR, either in whole or in part:</p>	
<p><b>Course #1:</b> Dept. prefix, number, and course title: <u>BIO 425 - Biology Seminar - subtitle required</u></p>	
<ul style="list-style-type: none"> <li>• new or existing course? <u>existing</u> (new courses should be accompanied by a New Course Proposal)           <ul style="list-style-type: none"> <li>○ <input type="checkbox"/> if a new course, check here that a New Course Proposal has been submitted for review via eCATS</li> </ul> </li> <li>• required or optional? <u>Required</u> (Note: In theory, Biology majors could choose between BIO 425 and BIO 499 to complete the biology major seminar requirement. However BIO 499 has not been taught in recent years and is not slated to be taught in the next five years. As a result, the only option available to students is BIO 425. Should BIO 499 be offered again, we will seek GCCR approval for that course)</li> <li>• shared or cross-listed course? <u>no</u></li> <li>• projected enrollment per semester: <u>180</u></li> </ul>	
<p><b>Course #2 (if applicable):</b> Dept. prefix, number, and course title: <u>BIO 350 Animal Physiology</u></p>	
<ul style="list-style-type: none"> <li>• new or existing course? <u>existing</u> (new courses should be accompanied by a New Course Proposal)           <ul style="list-style-type: none"> <li>○ <input type="checkbox"/> if a new course, check here that a New Course Proposal has been submitted for review via eCATS</li> </ul> </li> <li>• required or optional? <u>option</u></li> <li>• shared or cross-listed course? <u>no</u></li> <li>• projected enrollment per semester: <u>180</u></li> </ul>	
<p><b>Course #3 (if applicable):</b> Dept. prefix, number, and course title: _</p>	
<ul style="list-style-type: none"> <li>• new or existing course? _ (new courses should be accompanied by a New Course Proposal)           <ul style="list-style-type: none"> <li>○ <input type="checkbox"/> if a new course, check here that a New Course Proposal has been submitted for review via eCATS</li> </ul> </li> <li>• required or optional? _</li> <li>• shared or cross-listed course? _____</li> <li>• projected enrollment per semester: _</li> </ul>	
<p><b>3. Shared courses:</b> If the GCCR course(s) is/are shared from <i>outside</i> the program, please specify the related department or program that will be delivering the course(s). Please provide the following:</p>	
<ul style="list-style-type: none"> <li>• <b>Contact information of providing program:</b> <u>WRD</u></li> <li>• <b>Resources:</b> what are the resource implications for the proposed GCCR course(s), including any projected budget or staffing needs? If multiple units/programs will collaborate in offering the GCCR course(s), please specify the resource contribution of each participating program. _</li> <li>• <b>Memorandum of Understanding/Letter of Agreement:</b> Attach formal documentation of agreement between the providing and receiving programs, specifying the delivery mechanisms and resources allocated for the specified GCCR course(s) in the respective programs (include with attachments). <b>Date of agreement:</b> <u>4/15/2014</u></li> </ul>	
<p><b>From approving e-mail:</b></p> <p><b>"Dear Ruth,</b>          You'll notice that I responded to Mark's email about GCCR matters to say that as WRD Director, I approve your request to use 204 as the GCCR for BIO. I very much want us to proceed to see how we can make this a good arrangement for BIO in the long term, as well</p>	

**Graduation Composition and Communication Requirement (GCCR)  
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Best,

Adam

Adam J. Banks

Professor and Director

Writing Rhetoric and Digital Studies #UKWRD

Associate Chair, Conference on College Composition and Communication"

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**4. Syllabi:** Please provide a sample syllabus for each course that will be designated to fulfill the GCCR. Make sure the following things are clearly indicated on the syllabi for ease of review and approval (check off each):

- the GCCR assignments are highlighted in the syllabus and course calendar;
- the GCCR assignments meet the minimum workload requirements as specified by the Senate Rules for GCCR courses (see the draft Senate GCCR rule linked [here](#));
- the elements are specified in the syllabus that fulfill the GCCR requirement for a clear draft/feedback/revision process;
- the grade level requirements for the GCCR are specified on the syllabus (i.e., an average of C or better is required on GCCR assignments for credit);
- the course or sequence of courses are specified to be completed after the first year (i.e. to be completed after completing 30 credit hours) for GCCR credit;
- the course syllabus specifies "This course provides full/partial GCCR credit for the XXX major/program"
  - if the course provides partial GCCR credit, the fulfilled portion of the GCCR must be specified and the other components of the GCCR for the program must be specified: e.g. "This course provides partial credit for the written component of the GCCR for the XXX major/program in conjunction with Course 2"

**5. Instructional plan:** Summarize the instructional plan for teaching the C&C skills specified in the program SLOs and delivered in the course(s). Include the following information in **brief** statements (1000 characters or less). Information can be cut-and-pasted from the relevant sample syllabus with indications **where** on the syllabus it is found:

- overview of delivery model: summarize how the GCCR will be delivered for **all** program majors: explain how the delivery model is appropriate for the major/program and how it is offered at an appropriate level (e.g. required course(s), capstone course, skills practicum sequence of courses, etc.):

Students in the Biology program will take BIO 425 (Senior Seminar - capstone course) and BIO 350 (Animal physiology (Tier II Core course) or WRD 204. Students who opt not to take BIO 350 (6- 8 per year) will take WRD 204 as their GCCR course. The Department of Biology agrees that the WRD 204 course as detailed in the attached syllabus delivers the necessary STEM information literacy for Biology majors

- assignments: overview or list of the assignments to be required for the GCCR (e.g. papers, reports, presentations, videos, etc.), with a summary of how these GCCR assignments appropriately meet the disciplinary and professional expectations of the major/program:

BIO 425

2 oral presentations (10 minutes and 20 minutes)

BIO 350

- 3 abstracts

- 3 laboratory reports

- research proposal

- a manuscript describing the research project (suitable for publication in the appropriate peer-review journal).

WRD 204

3 written reports totalling 6750 - 8000 words

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1 oral or visual report

See attached syllabi for additional details.

All of the required assignments are examples of the type of written and oral products that biology majors are expected to master before graduating with a biology degree.

- revision: description of the draft/feedback/revision plan for the GCCR assignments (e.g. peer review with instructor grading & feedback; essay drafting with mandatory revision; peer presentations; etc.):

Written component: draft papers/ abstracts will undergo peer review through the use of Calibrated Peer Review ©. Students will revise their draft and submit the final paper by the end of the semester - see page 8 of BIO 350 syllabus.

Oral component: presentations will undergo both peer and instructor review - see page 2 of BIO 425 syllabus.

WRD 204: see pages 4, 6-8 of attached syllabus.

- other information helpful for reviewing the proposal:

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***D. Assessment:***

In addition to providing the relevant program-level SLOs under III.B, please specify the assessment plan at the program level for the proposed course(s) and content. Provide the following:

- specify the assessment schedule (e.g., every 3 semesters; biennially):

BIO 350/425: Every three years - per the assessment cycle for the Biology Undergraduate Program

- identify the internal assessment authority (e.g. curriculum committee, Undergraduate Studies Committee):

Director of Undergraduate Studies, Biology

- if the GCCR course(s) is/are shared, specify the assessment relationship between the providing and receiving programs: explain how the assessment standards of the receiving program will be implemented for the provided course(s):

WRD 204 assessment will be carried out by the DUS of WRD on a bi-annual basis with the direct consultation of the DUS in BIO.

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**Signature Routing Log**

**General Information:**

GCCR Proposal Name (course prefix & number, program major & degree):	BIO 425 / BIO 350 or WRD 204 - BIOLOGY BS/BA
Contact Person Name:	Ruth E Beattie
Phone:	859-257-7647
Email:	rebeat1@uky.edu

**Instructions:**

Identify the groups or individuals reviewing the proposal; record the date of review; provide a contact person for each entry. On the approval process, please note:

- Proposals approved by Programs and Colleges will proceed to the GCCR Advisory Committee for expedited review and approval, and then they will be sent directly to the Senate Council Office. Program Changes will then be posted on a web transmittal for final Senate approval in time for inclusion in the Fall 2014 Course Bulletin.
- New Course Proposals for the GCCR will still require review and approval by the Undergraduate Council. This review will run parallel to GCCR Program Change review.
- In cases where new GCCR courses will be under review for implementation after Fall 2014, related GCCR Program Changes can still be approved for Fall 2014 as noted "*pending approval of appropriate GCCR courses.*"

**Internal College Reviews and Course Sharing and Cross-listing Reviews:**

Reviewing Group	Date Reviewed	Contact Person (name/phone/email)
Home Program <i>review by Chair or DUS, etc.</i>	3/14/14	Vincent Cassone, Chair Biology / 257-6766 / vincent.cassone@uky.edu
Providing Program <i>(if different from Home Program)</i>	4/15/14	Adam Banks, Director WRD / not available / adam.banks3@uky.edu
Cross-listing Program <i>(if applicable)</i>		/ /
College Dean	4/23/14	Ruth E Beattie, Associate Dean / 257-7647 / rebeat1@uky.edu
		/ /

**Administrative Reviews:**

Reviewing Group	Date Approved	Approval of Revision/ Pending Approval <sup>1</sup>
GCCR Advisory Committee	4/24/2014	

**Comments:**

<sup>1</sup> Use this space to indicate approval of revisions made subsequent to that group's review, if deemed necessary by the revising group; and/or any Program Change approvals with GCCR course approvals pending.

## **Biology 350: Animal Physiology**

**Spring 2014**

**Instructor:** Jeffrey L. Osborn, Ph.D.

Office: 115A T. H. Morgan Building

Telephone: 257-3988

E-Mail: jlosbo3@uky.edu or Jeffrey.osborn@uky.edu

Office Hours: By appointment (appointments made by email only)

### **Class Time and Location:**

T/R 9:30 a.m. 116 Thomas Hunt Morgan Building (Sections 1, 2 & 7)

T/R 11:00 a.m. 109 Thomas Hunt Morgan Building (Sections 3 & 4)

T/R 12:30 p.m. 109 Thomas Hunt Morgan Building (Sections 5 & 6)

### **Lab: 155B Multidisciplinary Sciences Building (MDS)**

Section 001 – Monday 9:00 a.m. – 11:50 a.m.

Section 002 – Monday 12:00 p.m. – 2:50 p.m.

Section 003 – Monday 3.00pm – 5.50pm

Section 004 – Wednesday 9:00 a.m. – 11:50 a.m.

Section 005 – Wednesday 12:00 p.m. – 2:50 p.m.

Section 006 – Wednesday 3.00pm – 5.50pm

Section 007 – Wednesdays 6:00 p.m. – 8:50 p.m.

**Lab Coordinator:** Dr. Melody Danley: mlda227@uky.edu

### **Laboratory Teaching Assistants:**

Megan Rhoads megan.rhoads@uky.edu (Section 1)

Yan Zhu yan.zhu@uky.edu (section 2)

Jason Collett jason.collett@uky.edu (section 3)

John Flunker john.flunker@gmail.com (section 4)

Brandon Franklin brandon.franklin@uky.edu (Sections 5 and 6)

Chanung Wang chanung.wang@uky.edu (section 7)

YOU MUST ATTEND CLASS/LAB AND TAKE ALL EXAMS AND ASSIGNMENTS WITH THE SECTION IN WHICH YOU ARE OFFICIALLY REGISTERED. Credit will only be awarded for activities completed with the section in which you are officially registered.

**Course Pre-requisites:** BIO 304 or BIO 315 (BIO 315 strongly recommended or instructor permission)

**Textbooks** (Texts are learning resources; none are required but all strongly recommended):

1. Animal Physiology: From Genes to Organisms ©2005 | Thomson & Brooks/Cole ISBN 0534554040. Sherwood, Klandorf and Yancy. (Preferred Text)
2. Animal Physiology: Mechanisms and Adaptations ©2002 W.H. Freeman & Co. ISBN 0-7167-3863-5 (cloth). Eckert, Randall, Burggren, French. (many class slides come from this text)
3. Animal Physiology ©2008 Sinauer and Associates. ISBN 978-0-80893-317-4. Hill, Wyse & Anderson.
4. Human Physiology ©2004 Pearson/Benjamin Cummings. ISBN 0-8053-5957-5. Silverthorn.
5. TurningPoint Remote Transmitter (Clicker) RF

### **Graduation Composition and Communication Requirement (GCCR)**

In order to meet the Graduation Composition and Communication Requirement students must successfully complete **BOTH BIO 425 and BIO 350**

This course provides credit for the GCCR written component only. Students will be required to write at least 4,500 words (approx. 15 pages). Assignments 1, 2, and 3 will require students to demonstrate information literacy in the life science field. GCCR assignments will require a drafting/feedback/revision process.

In order to receive GCCR credit a student must

- (a) Earn an average grade of C or better on all GCCR assignments, and
- (b) Have completed at least 30 credit hours of college-level coursework prior to registering for the course.

### **Course Description / Overview**

This course in animal physiology will take an integrative approach in presenting the subject matter. This means that we will consider the entire animal when discussing a particular physiological system (e.g. the complete cardiovascular system during exercise or neurological control of muscle movement). There are three major ingredients that are required of students for success in this course; 1) Completion of textbook and supplemental reading material prior to attending each class. Reading and learning of factual information is required prior to comprehension and understanding. 2) Effective written communication of laboratory and case study results, data analysis from problems in class and laboratory and drawing of appropriate conclusions from data utilizing the knowledge learned in reading and use of outside supplemental materials. 3) Students engaging themselves in the classroom and laboratory throughout the semester. It is through student engagement that develops depth of knowledge and understanding that will lead to success on summative evaluations.

The laboratory component of the course is a major portion of the fundamental learning of all concepts in Animal Physiology. The course has been designed to assure that the lab and classroom material are closely aligned and to help you meet the course learning objectives. Each laboratory lasts a maximum of 3 hours. The lab sessions are not a separate part of the course; rather they are an essential component for the learning and application of classroom concepts. The objective of this lab section is for you to ask questions about any material that you did not understand. Written laboratory reports of varying length will be assigned for each lab and you must submit your completed work through Safe Assign on Blackboard by the deadline for each assignment. After initial review, you will have the opportunity to revise and resubmit

**your reports.** Your teaching assistants are at these lab sessions for instruction and to assist in your learning; however, if you do not prepare yourself by reading and trying to understand the course material prior to coming to lab they will not be able to help. Teaching assistants need feedback at these sessions; they are not there to lecture and add new material. They are there to help you understand the material; therefore you must know before you arrive what you do not understand. Attendance will be taken at each lab session. If you do not attend your assigned laboratory session, you will not be able to complete the required lab write-ups as you will not have data upon which to interpret and complete the writing assignment. Submission of work by absentee students is not accepted, and if attempted, the student will earn an automatic zero on this assignment.

The fraction of the overall grade for the course completed during the laboratory sessions and assignments is significant (40%). These labs will not only assist you in understanding the course content but will also greatly aid in your performance on the course summative assessments (i.e. exams). Therefore, students will be required to think critically, express themselves orally and in written form, and provide provocative and intellectual discussion to the data and topics that are presented in both the classroom and laboratory learning environments. Each of you may or may not choose to become professional physiologists in the future. Thus, the goal in this course is for you to retain knowledge of the basic fundamental concepts of animal physiology, which you can apply in any future endeavor in the biological sciences.

### **Course Objectives/Goals**

Students should emerge from the course with a firm foundation in:

- 1) A fundamental understanding of the nature of animal physiology as a discipline.
- 2) How the scientific and experimental process is used to develop fundamental physiological knowledge about animal functions.
- 3) Understand how all organisms across the animal kingdom utilize similar and different physiological functions as adaptations to their existence within the natural environment.

As a means towards that end, it is often necessary to learn certain terms, and basic anatomical/physiological details. Knowing these terms and the anatomy is useful, but not as important as understanding the concepts. Terms, anatomy and fundamental informational content is only a means to an end, not an end goal in and of itself. The end goal instead is to understand how different organisms use similar and different physiological methods as a means towards homeostatic regulation of their internal and external milieu.

### **Student Learning Outcomes:**

By the completion of the course the student should be able to:

- 1) Explain how biological feedback control systems function within the context of maintaining organismal internal and external homeostasis throughout the animal kingdom.
- 2) Understand the major functional processes of internal animal functions of the neural, muscular, endocrine, reproductive, cardiovascular, renal, respiratory and digestive systems.
- 3) Explain how these basic body functional systems work together and cooperatively in the maintenance of overall organismal homeostasis. For example these integrative processes would include but are not limited to regulation of energy balance, thermoregulation and body functions during exercise.
- 4) Derive an effective testable hypothesis and provide a reasonable experimental design that will directly test that hypothesis.
- 5) Understand how to identify the key data in an experiment and apply those findings to develop a logical and credible conclusion in regard to a physiological function among different animal species.



6) Understand and explain how specific physiological adaptations to changing environmental conditions, assist different species of organisms in their survival and understand how these adaptations are specific to behaviors and organismal propagation of the species' existence.

7) Write a clear, well organized laboratory reports, abstracts and a research paper

8) Demonstrate information literacy in the life science field through a research project

**Disabilities/ Medical Conditions:** If you have a documented disability that requires academic accommodations, please see me as soon as possible, but no later than January 31<sup>st</sup>. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257•2754, email address [jkarnes@email.uky.edu](mailto:jkarnes@email.uky.edu)) for coordination of campus disability services available to students with disabilities.

#### **Attendance:**

You are expected to attend all classes and scheduled labs. Much of the lecture/classroom material is not in the textbook. In addition, all lectures are considered recitation/ discussion/ interactive learning sessions.

ALL lab material will be fully incorporated into the "lecture or classroom period". This is a single course of Classroom + Laboratory Learning Experiences. If you miss a class or lab, it is your responsibility to get any information, assignments, etc. missed. Contact other students in class before seeing me for help. Any and all class materials will be available and may be obtained on Blackboard however, the timing of the uploading of these materials is at the discretion of the instructors.

Students are not eligible for full lab report points when absent from the corresponding, hands-on lab session(s). Deduction of points shall reflect the relative proportion of the report made up by a specific lab, as indicated below in the course grading section. For lab reports 1, 4, and 6, students are not eligible to submit a report for points (automatic 100% deduction) if absent from lab. For reports composed of more than one lab session of data (reports 2, 3, and 5) this deduction will be made at the rate of a 50% deduction in the total points possible, per lab absence.

#### **Rescheduling Excused Exams or Laboratory Exercises:**

Lab attendance and participation is mandatory for this course. Attendance will be taken every lab by the TA's. It is your (the student's) responsibility to ensure you sign-in each week with your TA, complete all activities, clean-up your workstation, and submit all necessary work to receive credit associated with any lab assignments. Students can also lose up to 5 points per lab for failing to participate during the lab, clean-up after the lab, leaving before the lab activity is finished, or for demonstrating inappropriate behavior during lab, at the discretion of the instructor or lab TA.

Students with documented, excusable absences are allowed to make up missed exams or lab activities according to the following guidelines: For excused non-emergencies, students must notify the instructor at least 1 week (7 days) before the excused absence. For lecture related excused, non-emergency absences, the student must notify Dr. Osborn at least 7 days in advance of the absence. For lab related absences, the student must notify Drs. Osborn, Danley or your TA at least 7 days in advance of the absence. Only students with excused, documented absences are eligible to make-up labs. Make-up labs are typically scheduled for Friday morning of the same week during the excused absence/missed lab. After this point, the lab materials will be stored and it may not be possible to make-up the lab.

For emergency-related absences, students must notify the lecture or lab instructor no later than 4 hours after the missed exam or lab. Acceptable documentation must be submitted no later than 7 days, after missed assignment/exam. Excused, missed work must be completed within one week (7 days) of the original scheduled due date, unless other arrangements have been made with the TA/instructor. In all cases, you

must present a physician's note (as outlined above) to the instructors within 7 calendar days of missing any exam.

**Course Policy on Classroom Civility and Decorum:**

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

**Reading Assignments:**

Reading assignments and supplemental materials are listed on the lecture outline and posted on Blackboard with each unit. These assignments must be read before coming to class. All assigned readings and supplemental class material (websites, extra slides, videos) are presented as aids to your learning and achieving the objectives of the course. Thus, this material is considered potential exam material whether specifically covered in class or not.

**Grading:**

Exam 1 125 points

Exam 2 125 points

Final Exam 160 points

Lab Abstracts (3) 45 points (3 abstracts x 15 points each) (3 x 1 page each)

Lab Reports (3) 105 points (3 written lab assignments x 35 points each) (3 x 5 pages each)

Research Project 100 points (draft 8-10 pages, final manuscript 8-10 pages)

Lab Quizzes (8 x 5 points) 40 points (Best 8 out of 9 Quiz Scores)

700 points total

**Final grades** will be based on total points earned and will be assigned as follows:

A = 615 - 700 points

B = 550 - 614 points

C = 480 - 549 points

D = 400 - 479 points

E = less than 400 points

**Important Course NOTES:**

- There will be no extra credit.

- There is no curving of any grades in this course for any reason. Thus, all students have the full opportunity to earn the grade of A.
- February 5, 2014: Last day to drop courses without appearing on transcript.
- **Midterm grades will be posted by midnight March 14, 2014.**
- The last day to withdraw from the course is April 11, 2014.

### **Turning Point Transmitter**

A Turning Point RF transmitter (clicker) is required for the course and should be brought to class every day. If you have already purchased a Turning Point transmitter for another class, you can use the same transmitter for this class. Whether you have purchased a new transmitter or are using one from a previous semester you must register the transmitter in the class roll.

1. Log into BlackBoard using MyUK, Click on the BIO 350 course link.
2. Click on the TurningPoint Registration Button. Fill in and submit the form.

### **Examinations**

Exam dates are listed below in the course scope and sequence below. Exams 1 and 2 and the final exam will consist of multiple choice questions, data interpretation questions plus short answer and/or fill in the blank questions. Physiology concepts build upon one another and therefore, all exams will be cumulative from beginning to end of the course. In other words, concepts learned in all previous exams will be required or conceptual understanding of current exams. The final exam will consist of 160 points on material covered in the entire course. You must bring a pencil and UK Student I.D. to the examinations. **YOU MAY NOT BE PERMITTED TO TAKE AN EXAMINATION IF YOU DO NOT HAVE YOUR UK ID WITH YOU AT THE TIME OF THE EXAMINATION.** Make-up exams will only be given for excused absences as defined by University Senate Rules V, 2.4.2. and will consist of short-answer and/or oral questions. Make-up exams will be administered at a single scheduled time. Make-up exams (for all sections) are scheduled for Thursday May 1, 2014 from 6pm – 8 pm in T.H. Morgan Building, Room 201. This is the **ONLY** time make-up exams will be administered. A missed exam will result in a score of zero for that exam, unless an acceptable written excuse is presented within one week of the absence or missed exam time.

Exam scores will be posted in the grade book on BlackBoard after exam 1 or 2, and after the final examination. Questions and answer keys for exams 1 and 2 will be posted on BlackBoard at the same time as the exam scores are posted.

**Exam Dates:** Are shown in the course scope and sequence (see below).

**YOU MUST TAKE ALL EXAMS WITH THE SECTION IN WHICH YOU ARE OFFICIALLY REGISTERED AND/OR ARE PARTICIPATING ON A DAILY BASIS.** Credit will only be awarded for examinations completed with the section in which you are officially registered.

Any student with more than two final examinations scheduled on any one date is entitled to have the examination for the class with the highest catalog number rescheduled. The option to reschedule must be exercised in writing (via email) to the appropriate instructor two weeks prior to the scheduled examination.

Exam scores will be posted in the grade book on BlackBoard after either exam 1 or 2, and within 60 hours after the final examination. Questions and answer keys for exams 1 and 2 will be posted on BlackBoard at the same time as the exam scores are posted.

## Laboratory Assignments

There are nine lab activities, which must be completed during the semester. The "manual" for the lab exercises is posted on Blackboard. There is no separate lab manual to purchase. You will be responsible for printing out or having, in some means (computer/iPad, etc.), the protocol to use for each laboratory period. Hard copies are not provided. All lab reports must be submitted online through the assignment-specific Safe Assign links available on Blackboard. A separate link will be made available for each lab assignment. WARNING: Once the deadline for submission of an assignment has passed, you will no longer be able to submit the assignment for a SCORE. The computer is very unforgiving – if you go past the deadline by even one second you will not receive a score for the assignment. The computer/software records the time of submission for the instructor. If you are unable to successfully submit your assignment through Safe Assign, it is your responsibility to email a copy of the report in MS Word format, to your TA BEFORE THE DEADLINE has passed. Late submissions through email will be deleted, and no credit will be awarded (does not apply to excused absences, as indicated below).

Problems associated with printers, computers, corrupted files, parking, traffic, library services, loss of wireless signal, computer labs, procrastination, over-sleeping or forgetfulness are not acceptable excuses for late submission of assignments. It is YOUR responsibility to make sure that assignments are submitted on time. If you leave submitting the assignment to the last minute and then get caught out by unexpected events – this is not considered an excused late submission. If you are participating in a university-approved event on a due date, then you must submit the assignment before you leave campus/start that activity.

Submission of late assignments will only be permitted for excused absences as defined by University Senate Rules V, 2.4.2. WRITTEN SUPPORTING DOCUMENTATION regarding the late submission of an assignment MUST be presented to the course instructor within a week after a student returns to class after the excused absence otherwise an automatic score of zero will be earned for the assignment.

## Additional Lab Guidelines

An essential component of learning in physiology requires the use of live animals. It is impossible to demonstrate the full extent of possible responses through textbook readings or lectures. As emerging professionals, it is expected that all students will demonstrate respect and maturity when working with these animals. If any disrespect or intentional cruelty is inflicted upon the animals, it may be reason to be expelled from the course with an "I" (incomplete), "W" (withdrawal), or automatic "E" (failing grade) depending the timing and degree of the offense.

No horse play, cutting up, playing around, etc. is allowed in the laboratory. There are many students coming and going in the lab throughout the day and materials are sometimes shuffled around. Squirting someone with a solution in a syringe or a bottle can be dangerous. You might "know" it is water but another person does not. A 3M KCl solution can easily be mistaken for water, and can be very harmful if squirted by accident in someone's eye.

Some people may have allergies to materials used in the lab. Materials lists are included for all laboratory exercises. If you know you are allergic to any materials being used during a particular exercise, please inform the instructor (Dr. Osborn) as soon as possible so we can make alternative plans.

Every student will have to have completed the online safety test and bring to the lab on the 1st day of your section meeting time. It is an easy test and you can take it multiple times until you get a 100 %. Either save and email your TA, or print it out and bring it to the first lab of the semester. The TA will check you off for having completed the exercise. The website for the safety test is:  
<http://ehs.uky.edu/classes/chemhyg/chemclass.php>

## Lab Quizzes

Each lab exercise has a laboratory protocol associated with it, that includes a set of pre-laboratory questions. At the start of every laboratory session, a quiz will be given based on those pre-laboratory questions. To prepare for the quiz, you should not only be able to answer the pre-lab questions, but also how that material specifically pertains to the laboratory exercises.

Lab Quizzes are given during the first 10 minutes of lab. Quizzes are not announced in advance. Quizzes are worth 5 points each. You will receive points for the best 8 out of 9 administered quizzes (40 points).

## Research Project

There will be a major paper due this semester in the form of a student- designed research project, worth up to a maximum of 100 points. This research level project is roughly the equivalent of 1 classroom exam score. This project is intended to give you the opportunity to learn how to design an experiment, utilize the techniques learned in lab and write a research style manuscript similar to that required for scientific publication. The project will utilize the methods used during one of the scheduled lab activities. The experimental design will follow guidelines provided in the laboratory by the instructors and/or your teaching assistant. The initial research proposal is due on March 2, 2014. The draft manuscript on April 7, 2014 and the final manuscript, which must be written independently (no group submissions), is due no later than Friday, April 29, 2014 by 11:59 PM. The writing format described by the Journal of Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology will be used. Go to the journal's web page and look up information for authors at: [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/525464/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/525464/description)

The “guide to authors” provided by the journal provides the formatting guidelines that must be followed for this assignment. Additional information for this assignment will be made available through lab and posted on the course website.

The grading rubric for this assignment will be provided in class. Draft papers will undergo peer review through the use of *Calibrated Peer Review* ©

## Questions About Grades

If you have a concern regarding your posted score for an assignment or exam, you have 1 week from the day the scores are posted (in Blackboard) to contest that score. After one week the score remains as posted. It is your responsibility to check your scores in a timely manner and to follow-up immediately if you have a concern. Contact Dr. Osborn for any exam or laboratory related questions.

### \*\*\*A Note Concerning Academic Offenses (READ THIS INFORMATION CAREFULLY)

PLAGIARISM and CHEATING are serious academic offenses.

The following is an excerpt taken from the “Students Rights and Responsibilities Handbook, University of Kentucky” regarding cheating.

"Cheating is defined by its general usage. It includes, but is not limited to, the wrongful giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade."

The following is an excerpt taken from the “Students Rights and Responsibilities Handbook, University of Kentucky” regarding plagiarism.

“All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression.

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

Plagiarism includes reproducing someone else’s work..... If the words of someone else are used, the student MUST put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic.”

Charges of an academic offense will be made against any student that cheats or commits plagiarism. Penalties for such an offense will be assessed according to University Regulations regarding Academic Offenses. The most severe penalties include suspension or dismissal from the University. We have a zero-tolerance policy regarding academic offenses.

NOTE\* In addition to the circumstances listed above, the following activities are considered evidence of cheating:

- 1) Any talking to another student during an examination.
- 2) Looking at another students work during an examination, or allowing another student to look at your work.
- 3) Use of a cell phone or any electronic device during an examination (this includes receiving calls). All cell phones and electronic devices MUST be turned off and put away during an examination period. They must not be turned back on again until after exiting the examination room.

## **BIO 350: Animal Physiology**

### **Combined Class/Lab Scope & Sequence**

<b>Date</b>	<b>Classroom Topic</b>	<b>Lab</b>
16 Jan	Feedback Control Systems/Membrane Function	No Lab (Short Week)
21 Jan	Membranes, Channels, Transport:	No Lab (MLK Week)
23 Jan	Physical Basis of Neuronal Function	
28 Jan	Physical Basis of Neuronal Function	Lab #1
30 Jan	Communication Along and Between Neurons	
4 Feb	Communication Along and Between Neurons	Lab #2
6 Feb	Integration of Neuronal Function	
11 Feb	Integration of Neuronal Function	Lab #3
13 Feb	Organization of the CNS and Sensory Mechanisms	
18 Feb	<b>Exam #1: 18 February, 2014</b>	No Labs
20 Feb	Sensory Mechanisms & Neuromuscular Junction	
25 Feb	Neuromuscular Function	Lab #4
27 Feb	Muscle Contraction – Skeletal/Cardiac	
4 March	Muscle Contraction –	Lab #5
6 March	Cardiovascular Function	
11 March	Cardiovascular Function	Lab #6
13 March	Cardiovascular Function	
17-21 March	Spring Break	
25 Mar	Renal Function & Blood Pressure Control	Lab #7
27 Mar	Ionic & Osmotic Balance	
26 Mar	Ionic & Osmotic Balance	
<b>1 April</b>	<b>EXAM #2: 1 April, 2014</b>	

3 April	Respiration	
8 April	Respiration & Acid-Base Balance	Lab #8
10 April	Endocrine Function	
15 April	Endocrine Function	Research Project Lab
17 April	Sexual Reproduction	
22 April	Sexual Reproduction	Research Project Lab
24 April	Digestion and Nutrient Balance	
29 April	Digestion and Nutrient Balance	
28 April	Research Project Due	
1 May	Energy Balance	

**FINAL EXAM WEEK: 5-9 May, 2014**



## **BIO 350: Animal Physiology**

### **Lab Scope & Sequence**

27/29 January	Lab #1: Measuring Physiological Functions: How Does it Work? Due: Lab Assignment Questions – End of Lab Period.
3/5 February	Lab #2: Extracellular Ions & Membrane Potentials
10/12 February	Lab #3: Conduction Velocities & Integration of Neural Functions
14 February	Due: Abstract #1
17/19 February	No Lab – Exam #1
24/26 February	Lab #4: The Electrocardiogram, Heart Rate and Blood Pressure Control Resubmitted Abstracts #1 due
28 February	Due: Lab Report #1 Neural Function and Conduction
2 March	Research Proposal due
3/5 March	Lab #5: Regulation of Na <sup>+</sup> & Water Balance
10/12 March	Lab #6: Regulation of Oxygen Consumption and Metabolism Due: Resubmitted Lab Report #1 Neural Function and Conduction
14 March	Due: Lab Report #2 Heart Rate, ECG and Blood Pressure Control
17-21 March	SPRING BREAK
24/26 March	Lab #7: Regulation of Respiration in Humans
28 March	Due: Abstract #2 Oxygen Consumption and Metabolism Due: Resubmitted Lab Report #2 Heart Rate, ECG and Blood Pressure Control
31 March	No Lab – Exam #2
4 April	Due: Lab Report #3: Regulation of Na <sup>+</sup> & Water Balance Resubmitted Abstracts #2 due
7 April	Due: Draft manuscript for Research Project

7/9 April	Lab #8: Sensory Mechanisms and Endocrine Control of Glucose Due: Lab Assignment Questions – End of Lab Period. Due: Resubmitted Lab Report #3: Regulation of Na <sup>+</sup> & Water Balance
14 April	Due: Abstract #3 Regulation of Respiration and Metabolism
14/16 April	Research Project Lab
21/23 April	Research Project Lab Resubmitted Abstracts #3 due
28 April	Due: Research Project Report – Final Copy
1 May	Last Day of class.
5-9 May	Final Exams - see the official Final Exam schedule for the time of the final exam for your section of the course.

## SAMPLE SYLLABUS

**BIO 425 -XXX Biology Seminar – Subtitle Required (Emerging Infectious Diseases)**  
**Semester Fall XXX**  
**1 CR HR**

**Instructor:** Dr. Ruth E. Beattie  
**Office:** 219 T. H. Morgan Building  
**Telephone:** 257-7647  
**E-Mail:** rebeat1@uky.edu  
**Office Hours:** W, 10.00am – 11.30am; T, R, 8.00am - 9.30am  
**Any other time: By appointment**  
**Class Time and Location:** M 11.00am - 11.50am BS 205

**Course Description:** This seminar course develops effective analysis, presentation and discussion skills required of Biology majors by exploring various life science topics.

In order to meet the Graduation Composition and Communication Requirement students must successfully complete **BOTH BIO 425 and BIO 350**

This course provides credit for the GCCR oral component only.

In order to receive GCCR credit a student must

- (a) Earn an average grade of C or better on all GCCR assignments\* and
- (b) Have completed at least 30 credit hours of college-level coursework prior to registering for the course.

Prereq: **Senior standing in Biology recommended.** BIO 150-153 or equivalent. Additional prereq(s) may be identified by instructor when topic is selected.

### **Student Learning Outcomes:**

By the end of the course the students will be able to:

- o · Describe general concepts of existing and emerging infectious diseases,
- o · Describe natural and human-origin reasons of emerging infectious diseases,
- o · Outline the means and limits of controlling, managing emerging infectious diseases,
- o · Describe specific emerging bacterial, viral, and zoonotic animal and human diseases,
- o · Search the primary biological literature
- o Explore a focused topic within the primary biological literature
- o Write a clear, well organized research paper
- o Develop and give a formal oral presentation about an article in the primary biological literature;
- o Discuss, analyze and critique articles in the primary biological literature

**Disabilities:** If you have a disability or medical condition that requires special accommodations, please arrange to meet with me during the first week of the semester to discuss these accommodations.

**Grading:**

Short Presentation *	20 points
Long Presentation *	30 points
Peer Reviews *	10 points
Attendance and Participation*	10 points
Research Paper	30 points

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100 points possible

\* = GCCR Assignments

Final grades will be based on total points earned and will be assigned as follows:

- A = 90 - 100 points
- B = 80 – 89 points
- C = 70 – 79 points
- D = 60 – 69 points
- E = less than 60 points

Midterm grades will be posted no later than XXXX date

**Oral Presentations (50% of grade):**

You will be required to give two oral presentations during the semester.

**1) Short (Ten Minute) Presentation (20%)**

**2) Long (Twenty Minute) Presentation (30%)**

Information on how to prepare for your presentations will be given in class on Weeks 2 & 3. Each student will be provided with a copy of one edition of the journal **Emerging Infectious Diseases**. You will give a short presentation on one of the **Dispatch** articles in the journal and a long presentation from one of the **Research** papers in the journal. One week before each presentation you must provide the instructor with a copy of each article in electronic pdf format. This file will be posted in the course BlackBoard web pages. Each student must access, print out and bring to class the copies of the papers being presented on any given day. Points will be deducted from your presentation score for failure to provide the electronic copies of the papers to the Instructor by the deadline (one week before presenting).

Sign-up for presentation dates will occur the first day of class.

Presentations will be scored based on both content and delivery

Scoring rubrics for each presentation will be provided to each student during class on Week 2.

**Peer reviews (10% of grade)**

Each student will submit a peer-review of all presentations given on the days when they are not presenting. This amounts to submitting reviews at ten of the class meetings. Failure to submit or to fully complete a review will result in a one point reduction (up to a maximum of ten points) for **every missing / incomplete review**. This includes reviews not turned in because of unexcused absences. Peer review rubrics will be provided to each student during class on Week 2

Each student will be provided with copies (names redacted) of the peer reviews. In addition each student is required to meet with the Course Instructor within one week of their first presentation for a review of their

presentation. Students are expected to address/ correct any presentation issues with the first presentation when giving their second presentation.

### **Attendance / Participation (10% of grade)**

This class is discussion oriented. In order to learn, it is imperative that you attend class and read the assigned material, and fully participate in all class activities.

One point will be deducted for each unexcused class absence or for each class period that a student does not actively participate in the discussion. Active participation means contributing in a meaningful way to the discussion – asking questions, being engaged in the classroom, paying attention, **bringing your copy of the papers to class.**

**Excused absences from class will be given only for absences as defined by University Senate Rules V, 2.4.2.. Documentation regarding such an absence must be presented to the instructor in advance of the absence or by the next official class meeting following the absence.** Make-up of missed class activities will be arranged on a case-by-case basis.

### **Paper on Pathogen (30% of grade)**

The instructor will assign each student in the class a different pathogen that is responsible for an emerging or reemerging infection.

1. Write a paper on your pathogen that includes the following information:
  - Basic information about the nature the pathogen. Include its structure (shape, Gram reaction if bacterial).
  - Life cycle and replication. How does your pathogen replicate? Does it replicate only in the host? Are there any unusual or interesting features of its life style?
  - Mechanisms of pathogenesis. How does your pathogen cause disease? What is known about the molecular basis of pathogenesis?
  - Immune response to your pathogen. What are the major antigens? How does the immune system respond to the pathogen? Is there or is there a prospect of a vaccine? What type?
  - Epidemiology. What is the reservoir for your pathogen? What hosts can it infect? How is it transmitted? Is a vector involved?
  - Emergence or re-emergence. What caused this disease to emerge or re-emerge? Is it a new pathogen? Did the pathogen evolve to shift to a new host? Is it a pathogen that has been around but was only recently discovered? Did environmental or cultural factors cause the re-emergence?
  - Treatment and prevention. Is the disease amenable to chemotherapy? Is resistance a problem? How can the disease be controlled or prevented?
  - The future. What's forthcoming? What avenues of research are currently being pursued? What are the future prospects?

Locate the primary scientific references that document those findings. Include key experiments and their results in your paper.

### **Paper specifics**

- Format and **length**. Papers are to be computer generated to conform to MLA format; The body of the text must be double-spaced. Figure and table legends and references may be single-spaced and in slightly smaller font. Each page except the first should be numbered. **The minimum length is 8 pages, including figures, tables, and references.**
- Sources. The information in your paper must come from appropriate sources. In general your sources will be the primary (original journal articles) and secondary (textbooks, review articles)

scientific literature. The "Literature Cited" section must include at least ten sources, of which six must be original journal articles. In general web sites are acceptable only if they are from a scientific society, government agency, or other scientifically reputable source. It is fine if you occasionally cite news articles and non-scientific web sites to make a particular point, but don't use such sources for information that could be obtained from legitimate scientific sources.

- Literature citation and plagiarism. Proper citation of references is essential. Using others' information or ideas without proper credit is plagiarism, even if done unintentionally. Since you aren't doing your own experimental research, essentially everything should have a literature citation. Further specifics:
  - Use the "Name & Date" system to cite the references in the text.
  - List the references alphabetically by the first author's last name.
  - Journal article references are to include all authors last names and initials, the year of publication, the title of the article, the name of the journal (may be abbreviated), the volume number, and inclusive page numbers, as in this example:

Perna, N. T., G. Plunkett III, V. Burland, B. Mau, J. D. Glasner, et al. 2001. Genome sequence of enterohaemorrhagic Escherichia coli O157:H7. Nature 409: 529-533.  
[Note that if there are more than six authors, you may list the first five and "et al."]
  - Web site references should include the author, the date of posting, the title of the page or article, the organization, the URL, and the date accessed, as in this example:

The Institute for Genome Research. 1999-2002. "Escherichia coli O157:H7 VT2-Sakai." <http://www.tigr.org/tigr-scripts/CMR2/GenomePage3.spl?database=ntec03> (7 February 2004). [Here no author was given, so the organization is listed in the author spot. If no date is given, list the date accessed in the date spot.]
- Audience. Write the article with your classmates in mind as the intended audience.
- Figures. Do include figures and tables as needed to illustrate concepts or validate statements. They may be your own or obtained from elsewhere so long as the source is properly cited.
- Sections. Label the sections of your paper with headings. Although each paper will generally include the topics on the first page of this handout, the section headings will vary a bit from paper to paper. Be sure to include an "Introduction" and a "Conclusion".

### **Due Dates:**

1. The first draft of your paper is due at the beginning of class on 11<sup>th</sup> October
2. Graded drafts will be returned to students on 18<sup>th</sup> October
3. Final papers are due at the beginning of class on 22<sup>nd</sup> November

Points for this activity will be assigned as follows:

Draft of paper is worth up to 10 points  
Final paper is worth up to 20 points

Total possible = 30 points

**Note: Failure to turn in draft of paper on the due date will result in a score of zero for that component of the assignment.**

Problems associated with printers, computers, corrupted files, parking, traffic, library services, computer labs, procrastination, over-sleeping or forgetfulness are not acceptable excuses for late submission of this assignment. It is YOUR responsibility to make sure that assignments are submitted on time.

Late assignments will only be accepted for excused absences as defined by University Senate Rules V, 2.4.2.. Late assignments MUST be turned in within one week of the absence otherwise an automatic score of zero will be earned for the assignment.

**Course Policy on Classroom Civility and Decorum:**

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

**\* A Note Concerning Academic Offenses \***

**PLAGIARISM and CHEATING are serious academic offenses.**

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding cheating.

*"Cheating is defined by its general usage. It includes, but is not limited to, the wrongful giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade."*

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding plagiarism.

*"All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression.*

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

*Plagiarism includes reproducing someone else's work..... If the words of someone else are used, the student MUST put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic."*

**Charges of an academic offense will be made against any student that cheats or commits plagiarism.** The **MINIMUM** penalty for such an offense is the assignment of a grade of E for the course in which the offense occurred. More severe penalties include suspension or dismissal from the University. **I have a zero-tolerance policy regarding academic offenses.**

**BIO 425-002 Class Schedule**  
**Fall XXX**

**WEEK OF:**                      **TOPIC**    **Presenters**

Week 1                      Introduction to Course, requirements for the research paper

Week 2	How to prepare for an oral presentation
Week 3	Presenting data in an oral presentation. tables, figures, diagrams,
Week 4	Short Presentations #1, 2, 3
Week 5	Short Presentations #4, 5, 6
Week 6	Short Presentations # 7, 8, 9
Week 7	Short Presentations # 10, 11, 12
Week 8	Short Presentations 13, 14
Week 9	Long Presentations #1 & 2
Week 10	Long Presentations #3 & 4
Week 11	Long Presentations # 5 & 6
Week 12	Long Presentations #7 & 8
Week 13	Long Presentations #9 & 10
Week 14	Long Presentations # 11 & 12
Week 15	Long Presentations #13 & 14



# Graduation Composition and Communication Requirement (GCCR)

## Syllabus and Assessment Plan | WRD 204, Technical Writing

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This document contains:

- + a narrative overview of GCCR-related assignments and pedagogical processes for WRD 204
- + an assessment plan (and rubric) for evaluating written and visual communication in WRD 204
- + a WRD 204 syllabus with all GCCR components delineated and highlighted

### Overview of WRD 204 as a GCCR Course

WRD 204, Technical Writing, explores the major genres, norms, and practices of technical writing and communication for students majoring in STEM disciplines. It is currently designated GWR. A statement of GCCR credit may be found on the syllabus, at the bottom of p. 2 (all GCCR-related items are highlighted).

Students in 204 will write approximately 6,500–7,500 words in formal deliverables during the course, in technical genres specific to their fields (see syllabus p. 4). In addition, students will deliver presentations of progress (i.e., an oral Progress Report) toward their final projects that demonstrate facility with both oral and visual communication.

Beginning with 4 brief, inquiry-driven deliverables, students develop their knowledge and practice of genres and norms specific to their disciplines. One such deliverable—the Professionalization Cheat Sheet—demonstrates information literacy, as students are required to identify, discuss, and hyperlink to key stakeholders, professional organizations, and epistemic courts (e.g., peer-reviewed journals, grey literature) in their field. This assignment also provides practice in single-sourcing and an additional layer of information literacy by having students compose in Markdown syntax and export valid HTML.

The major course deliverables are twofold (syllabus p. 4): (a) the collaborative field report, based on a specific site study that deploys both primary and secondary research, and (b) the final project suite, composed of three interrelated deliverables: (i) project proposal (750–1,000 words), (ii) oral/visual presentation (10 minute oral presentation accompanied by visually suasive supporting materials), and (iii) final lab, field, or recommendation report (3,000 words minimum, not including references and appendices). A statement of the minimum GCCR grade requirement may be found on p. 4 of the syllabus.

Each of the major assignments includes ample, in-class opportunities for model review, ideation, and peer and instructor review of drafted sections (see pp. 6–8 of the syllabus for details on ideation and review processes).

### Assessment Plan

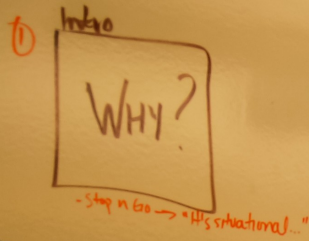
To assess written and visual communication for both GCCR and course outcomes, WRD will randomly sample an agreed upon percentage of Final Project reports during odd years (e.g., 2015, 2017, etc.). Few students from the Department of Biology are expected to select WRD 204 to fulfill the GCCR. WRD already uses the Written Communication rubric from the Accreditation Board for Engineering and Technology (ABET, Outcome G, attached) for other STEM disciplines; raters will therefore use this rubric to assess student proficiency across metrics that gauge both written and visual components of the GCCR, and of the WRD 204 curriculum. In even years, WRD faculty will meet with Department of Biology faculty to discuss course outcomes, trends in professionalization, and contemporary technical communication artifacts from the field that could productively shape the curriculum.

## Written Communication Rubric (ABET Outcome G)

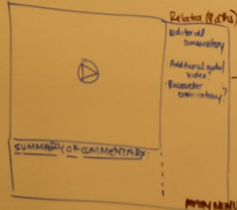
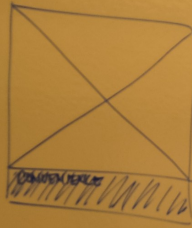
	Exceeds Standards, 4	Meets Standards, 3	Partially Meets Standards, 2	Does Not Meet Standards, 1
Visual Format	<ul style="list-style-type: none"> <li>Document is visually appealing and easily navigated.</li> <li>Formatting is compelling used appropriately to separate blocks of text and add emphasis.</li> </ul>	<ul style="list-style-type: none"> <li>Document is organized.</li> <li>Formatting is used appropriately to separate blocks of text and add emphasis.</li> </ul>	<ul style="list-style-type: none"> <li>Small errors, for example in the Table of Contents are present.</li> </ul>	<ul style="list-style-type: none"> <li>The document is not visually appealing and there are few “cues” to help the reader navigate the document.</li> </ul>
Organization	<ul style="list-style-type: none"> <li>Document flows very well, making it easy for the reader to follow.</li> </ul>	<ul style="list-style-type: none"> <li>Document flows pretty well, but there are some chopping areas.</li> </ul>	<ul style="list-style-type: none"> <li>Within section, the order in which ideas are presented is occasionally confusing.</li> </ul>	<ul style="list-style-type: none"> <li>There is no apparent ordering of paragraphs.</li> </ul>
Language (Word Choice, Grammar)	<ul style="list-style-type: none"> <li>Sentences are complete and grammatical. They flow together easily.</li> <li>Words are chosen for their precise meaning.</li> <li>Engineering terms and jargon are used correctly.</li> <li>There are no misspelled words.</li> </ul>	<ul style="list-style-type: none"> <li>For the most part, sentences are complete and grammatical, and they flow together easily. Any errors are minor and are not a distraction to the reader.</li> <li>Repetition of words and phrases is mostly avoided.</li> <li>For the most part, engineering terms and jargon are used correctly.</li> <li>There are one or two misspelled words.</li> </ul>	<ul style="list-style-type: none"> <li>In a few places, errors in sentence structure and grammar distract the reader and interfere with meaning.</li> <li>Word choice could be improved.</li> <li>Occasionally, technical jargon is used without definition.</li> <li>There are a few misspelled words.</li> </ul>	<ul style="list-style-type: none"> <li>Errors in sentence structure and grammar frequently distract the reader and interfere with meaning.</li> <li>There is unnecessary repetition of the same words and phrases.</li> <li>There is an overuse of jargon and technical terms without definition.</li> <li>There are many misspelled words.</li> </ul>
Equations, Numerical Usage, and Illustrations	<ul style="list-style-type: none"> <li>All equations are clear, accurate, and labeled. All variables are defined and units specified.</li> <li>Discussion regarding the equation development and use has been stated.</li> <li>All figures, graphs, charts and drawings are accurate, consistent with the text and of</li> </ul>	<ul style="list-style-type: none"> <li>Most equations are clear, accurate, and labeled. Most variables are defined and units specified. With minor exception, discussion regarding the equation development and use has been stated.</li> <li>For the most part, figures,</li> </ul>	<ul style="list-style-type: none"> <li>Most equations are accurate. Too many variables not defined.</li> <li>Discussion regarding the equation development and use is unclear.</li> <li>In some cases, illustrations are not conveying information clearly.</li> </ul>	<ul style="list-style-type: none"> <li>There may be inaccuracies within the equations. Little or no attempt is made to make it easy for the reader to understand the use of an equation or its derivation.</li> <li>Figures, graphs, charts, and drawings are of poor quality, have numerous</li> </ul>

	<ul style="list-style-type: none"> <li>good quality. They enhance understanding of the text.</li> <li>All items are labeled in accordance with the ASABE standards.</li> </ul>	<ul style="list-style-type: none"> <li>graphs, charts and drawings are accurate, consistent with the text and of good quality.</li> <li>All items are generally labeled in accordance with the ASABE standards.</li> </ul>	<ul style="list-style-type: none"> <li>While items are labeled, references to these items are missing.</li> </ul>	<ul style="list-style-type: none"> <li>inaccuracies and mislabeling, or may be missing.</li> <li>There is no corresponding explanatory text for included items.</li> </ul>
Use of references	<ul style="list-style-type: none"> <li>Prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings.</li> <li>References are complete.</li> </ul>	<ul style="list-style-type: none"> <li>With an occasional oversight, prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings.</li> <li>With minor exceptions, references are complete.</li> </ul>	<ul style="list-style-type: none"> <li>On several instances, references are not stated when appropriate.</li> <li>Reference entries are not complete.</li> </ul>	<ul style="list-style-type: none"> <li>Little attempt is made to acknowledge the work of others.</li> <li>Most references that are included are inaccurate or unclear.</li> </ul>
Use of Appendices	<ul style="list-style-type: none"> <li>Information is placed appropriately in the main text of the appendix.</li> <li>Appendices are documented and referred to in the text.</li> </ul>	<ul style="list-style-type: none"> <li>Appendices are used when appropriate.</li> <li>Selection and/or extent of material in appendix may not be optimal.</li> </ul>	<ul style="list-style-type: none"> <li>While appendices are present, material in appendix is not referred to properly in the text.</li> <li>Content in appendix is not complete.</li> </ul>	<ul style="list-style-type: none"> <li>Appendices were not utilized appropriately.</li> <li>There is unnecessary inclusion of detailed information in the main body of the text.</li> </ul>

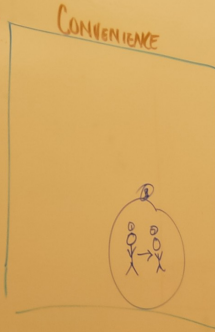
DO NOT ERASE



Behaviors Based on... "It's situational!"



PERCEPTIONS SHAPE BEHAVIORS



CREDIBILITY



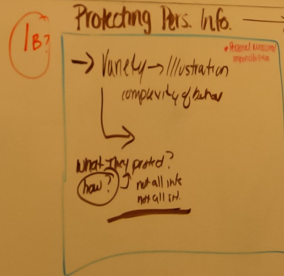
Slide Show

Image + Audio + quotes

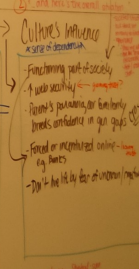
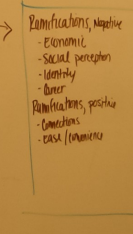
Image + Audio + commentaries



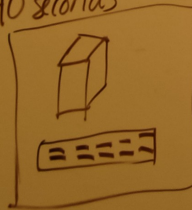
The Behaviors



Why Share / Withhold?



~40 seconds



[ TECHNICAL WRITING ]

WRD 204-001 :: Generic

T/TH 9:30-10:45 :: WTYL B-35

Brian J. McNely, Ph.D.

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Office Hours :: T/TH 2:00-3:15 and by appointment

## [ ABOUT ]

“Writing does not exist apart from its uses, for it is a tool for accomplishing object(ive)s beyond itself. The tool is continually transformed by its use into myriad and always changing genres.” “Learning to write means learning to write in the ways (genres) those in an activity system write.” Genres, therefore, are “historically constituted ways of forming and using this tool called writing among the people who carry on an activity.” “There is no autonomous, generalizable skill or set of skills called 'writing' that can be learned and applied to all genres or activities.”

— Russell, 1995

“Genres are not simply text types; they are culturally and historically grounded ways of 'seeing and conceptualizing reality.'”

— Spinuzzi, 2003

“Agency arises not from some unified valorized self but from the positions in which we function and the power those positions allow us to exert.”

— Winsor, 2006

“Knowing how to use the routines, rituals, and structures of language is to have agency in the face of change. In other words, human agency is enacted when people take the structures of language and use them to create interpretive stories of change.”

— Faber, 2002

“Displays of evidence implicitly but powerfully define the scope of the relevant, as presented data are selected from a larger pool of material. Like magicians, chartmakers reveal what they choose to reveal. That selection of data ... can make all the difference, determining the scope of evidence and thereby setting the analytic agenda that leads to a particular decision.”

— Tufte, 1997

—

Over the next 16 weeks, we'll explore technical communication as a function of culturally and historically conditioned forms of professional practice; such practice regularly occurs through a variety of technical *genres* —typified responses to recurring situations with field-specific norms and expectations related to *social actions* in the world. In other words, genres make things happen.

Genres are “traditions of producing, using, and interpreting artifacts” (Spinuzzi, 2003) that emerge from *practice* —from everyday expectations about how people in a given social group or profession will think, make, and do. Genres embody “a galaxy of assumptions, strategies, and ideological orientations” (Spinuzzi, 2003) that a given technical writer must negotiate in any given communicative situation.

Technical writing, therefore, is about everyday practice and meaning within the context of one's professional and organizational culture. In WRD 204, you will explore technical writing as a way of knowing, being, and interacting professionally —through writing, speech, and visual communication.

This course provides full GCCR credit for some majors and programs in the College of Engineering and in the Department of Biology. Check with your advisor for more information.

## [ OBJECTIVES ]

Students will—

### **Practice** technical communication:

- Recognize and work with important genres and styles of technical communication
- Consider the prevalence of technical writing in everyday experience
- Practice using common tools and technologies of technical writing production with proficiency

### **Analyze** technical writing artifacts and practices:

- Critically interact with technical writing in everyday professional experience
- Explain rhetorical choices made as a result of both individual and collaborative work
- Analyze specific artifacts and/or organizations to better understand rhetorical, social, cultural, and political implications of technical writing in everyday experience

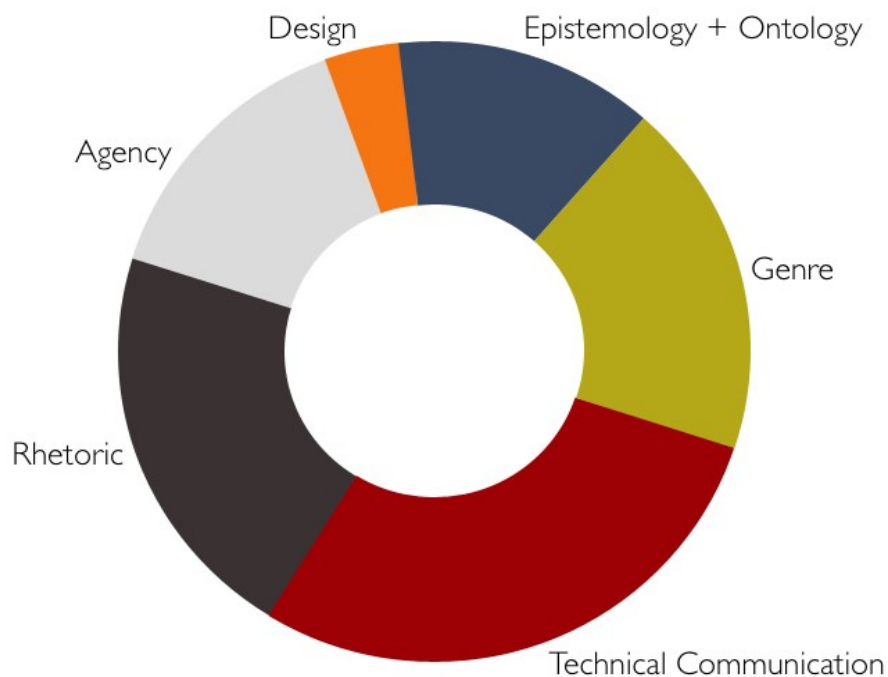
### **Research** practices that impact technical writing scenarios:

- Plan and implement appropriate research practices that impact technical writing contexts
- Recognize appropriateness of different methods for producing and researching practices and contexts
- Explore and practice technical writing as a way of thinking, knowing, and being

### **Produce** professional artifacts:

- Apply rhetorical and design principles to produce professional artifacts
- Apply principles of fair use, copyright and documentation conventions for print and digital media
- Recognize rhetorical possibilities of different modes and make sound choices when combining modes

## [ KEYWORDS ]



## [ SOURCES ]

Selected academic journal articles and chapters provided via Blackboard [BB] or syllabus [[hyperlinked](#)]  
Markel, M. (2012). *Technical communication* (10th ed.).

## [ ASSESSMENT ]

### *Deliverables*

Practica (4) [2,500–3,000 words across four assignments   GCCR]	300
Collaborative Informational Report [3,000–4,000 words   GCCR]	150
Proposal for Lab or Recommendation Report [750–1,000 words   GCCR]	100
Professional Presentation (Oral/Visual Progress Report) [GCCR]	100
Final Lab or Recommendation Report [3,000 words   GCCR]	350

Course Total: 1,000

### *Grading Scale*

A	900–1,000
B	800–899
C	700–799
D	600–699

NB: An average grade of “C” or better is required for GCCR credit on GCCR assignments. Midterm grades will be posted at [MyUK](#); in lieu of a Final Exam, final projects are due by N:NN pm on mm/dd/yy.

## [ DETAILS ]

### *Grading Policy*

Deliverables are assessed according to criteria distributed through Blackboard.

### *Storage and Backup*

This course will require the consistent use of one or more of the following methods of digital storage and backup:

[Dropbox](#) :: [SugarSync](#) :: [Evernote](#) :: [Google Drive](#)

### *Plagiarism and Academic Dishonesty*

Proper citation is a hallmark of good scholarship. Crediting someone else's work—whatever form that work takes—is a nice thing to do.

It's nice to be nice to people.

Don't use someone else's work without giving them credit. Don't submit work for this class that you did for



another class. Don't falsify data. If in doubt, see Section 6.3.1 of [UK's University Senate Rules](#) on academic offenses and procedures. But mostly? [Be nice to people](#) and give credit where it's due.

### *Attendance, Withdrawals, and Incompletes*

Come to class—it's fun!

Don't be late—you'll miss important stuff!

If you have more than 3 unexcused absences—for any reason—your final grade will be lowered by 50 points (5% of the course grade) for *each* missed class beyond the limit (for example, 4 absences will result in a 50 point reduction from your final course total).

Let me know early in the semester if you will miss class for university business or religious holidays. Please see the University Catalog for more information on withdrawals and incompletes.

### *Students Needing Accommodations*

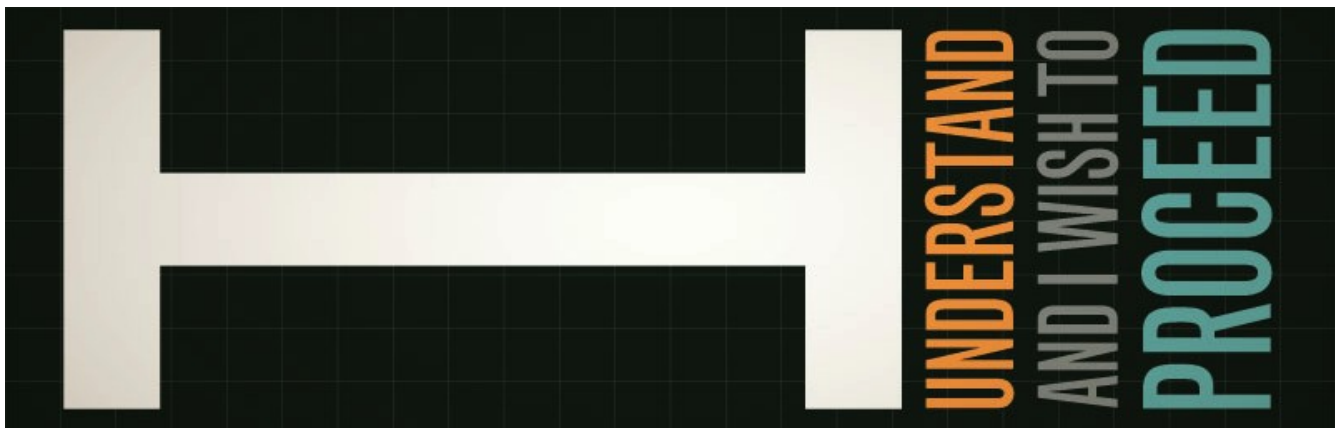
If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours (or via appointment). In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address [jkarnes@email.uky.edu](mailto:jkarnes@email.uky.edu)) for coordination of campus disability services available to students with disabilities.

In other words, please see me so that we can focus most effectively on your learning!

### *Writing Center*

The [UK Writing Center](#) offers free one-to-one assistance on all of your writing projects for all of your classes. The Writing Center is full of wonderful people.

They are located in the HUB of the W.T. Young Library (B108B) and are open from 9:00am to 9:00pm, Monday through Thursday, and 9:00am to 3:00pm on Friday.





## [ CALENDAR + SCHEDULE ]

### *Important Dates*

Collaborative Informational Report	Tues, Week 10
Proposal for Lab or Recommendation Report	Tues, Week 12
Final Projects Presentations	Weeks 15 & 16
Final Projects	12.16

[ Complete readings *before* the class for which they are assigned, take notes, and prepare to interact in class. ]

### Week 1

Tues [Writing is the Greatest Invention](#) | [On the New Literacy](#)  
[Golden Rules of Technical Writing](#) | [Agile Basics](#)  
[Hall of Technical Documentation Weirdness](#)

### Week 2

Tues Boroditsky, L. (2009). [How does language shape the way we think?](#)  
Markel pp. 660–669; 713–754 | Grammar and usage refresher

Thur Markel Ch. 1 | Introduction to Technical Communication

### Week 3

Tues Winsor, D. (2006). Using writing to structure agency. [BB]  
Markel Ch. 2 | Ethical and Legal Considerations

Thur Markel Ch. 3 | Writing Technical Documents

### Week 4

Tues Brummett, B. (1979). Three meanings of epistemic rhetoric. [BB]  
Freedman, D. (1992). The aggressive egg. [BB]  
**Practicum Due | Analytic Memo [GCCR]**

Thur Markel Ch. 5 | Analyzing Audience and Purpose

### Week 5

Tues Spinuzzi, C. (2006). What do we need to teach about knowledge work? [BB]  
Markel Ch. 10 | Writing Effective Sentences  
**Practicum Due | Audience Profiles [GCCR]**

Thur Markel Ch. 6 | Researching Subject Matter  
Collaborative Project Group Assignments

### Week 6

Tues Markel Ch. 20 | Writing Definitions, Descriptions, and Instructions  
**Practicum Due | Professionalization Cheat Sheet in Markdown and HTML**  
**[GCCR Information Literacy in the Discipline]**  
Collaborative Project Ideation and Development **[GCCR]**

Thur Markel Ch. 4 | Writing Collaboratively

### Week 7

Tues Markel Ch. 17 | Writing Informational Reports

**Practicum Due | [Descriptions and Instructions](#) [GCCR]**

- Thur Markel Ch. 9 | Writing Coherent Documents  
Collaborative Project Methods Section and Peer/Instructor Review [GCCR]
- Week 8
- Tues Markel Ch. 7 & 8 | Organizing Information & Communicating Persuasively
- Thur Markel Ch. 11 | Designing Documents and Websites  
Collaborative Project Intro/Framing and Peer Review [GCCR]
- Week 9
- Tues Bawarshi & Reiff. (2010). [Rhetorical Genre Studies](#).  
Markel Ch. 12 | Creating Graphics  
Collaborative Project Analysis Section and Peer/Instructor Review [GCCR]
- Thur Markel Ch. 13 | Reviewing, Evaluating, and Testing Documentation
- Week 10
- Tues Markel Ch. 14 | Writing Correspondence  
**Collaborative Informational Report Due [GCCR]**  
Final Project Suite Ideation, Development, and Peer/Instructor Review [GCCR]
- Thur Doheny-Farina, S. (1986). Writing in an emerging organization. [BB]  
Winsor, D. (1990). Engineering writing/writing engineering. [BB]
- Week 11
- Tues Markel Ch. 16 | Writing Proposals  
Proposal Draft and Peer Review [GCCR]
- Thur Markel Ch. 18 | Writing Lab Reports
- Week 12
- Tues Markel Ch. 19 | Writing Recommendation Reports  
**Proposal Due [GCCR]**
- Thur Markel Ch. 22 | Connecting with the Public (social media)
- Week 13
- Tues Markel Ch. 21 | Making Oral Presentations  
Professional Presentation (Oral/Visual Progress Report) Ideation and Peer/Instructor  
Review [GCCR]
- Thur Markel Ch. 15 | Writing Job-Application Materials
- Week 14
- Tues **Final Projects Workshop and Peer/Instructor Review [GCCR]**
- Thur **No Class—Thanksgiving**
- Week 15
- Tues **Final Projects Presentations [GCCR]**

	Thur	<b>Final Projects Presentations [GCCR]</b>
Week 16	Tues	<b>Final Projects Presentations [GCCR]</b>
	Thur	<b>Final Projects Presentations [GCCR]</b>
Final	Thur	3:30–5:30pm <b>Final Project Due [GCCR]</b>