

Course|Gen_Ed|New-Close-Modify for request 10358

Info

Request: ENC3468 Writing in the Physical Sciences

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Responses

Course Prefix and Number : ENC3468

Course Title: Writing in the Physical Sciences

Request Type: Change GE/WR designation (selecting this option will open additional form fields below)

Effective Term: Spring

Effective Year: 2016

Credit Hours : 3

Prerequisites: ENC 1101 or ENC 1102

Current GE Classification(s): None

Current Writing Requirement Classification : None

One-semester Approval?: No

Requested GE Classification: C

Requested Writing Requirement Classification: E6

Type of writing skill feedback provided : Grade

Description of other writing skills feedback: *No response*

ENC 3468: WRITING IN THE PHYSICAL SCIENCES

Instructor:**Phone:** 846-1138**Email:** Instructor@ufl.edu**Office:** 302 Tigert Hall**Office Hours:** TBA and by appointment**On-line Syllabus:** <http://www.writing.ufl.edu/ENC3468Syllabus.doc>

COURSE DESCRIPTION

Catalogue Description: Designed to improve writing skills necessary for success in the physical sciences, both in graduate school and the workplace. Investigating an area of special interest, students learn advanced library research, correct documentation, stylistic conventions for their major fields, and how to present research effectively.

Credits: 3; Prereq: ENC 1101 or ENC 1102. ENC 3468 meets for 3 periods per week on Monday, Wednesday, and Friday or on Tuesday and Thursday.

In many aspects, science writing is like other writing, but in significant ways, it is quite different. Scientific writing should be clear, concise, persuasive, and unambiguous. Writing well in any area requires an appropriate appreciation of mechanics and style. The basic tools of writing must be carefully cultivated.

ENC 3468 will be driven more by application than theory, aiming for immediate practical value to students. We will write early and often, but in manageable proportions. Examples of good writing and not-so-good writing will be presented and analyzed. Skills will be developed by addressing specific types of writing that scientists are called upon to do (e.g., memos, reports, resumes, personal statements, abstracts, posters, manuscripts, reviews, letters, position papers, etc.). Even e-mail communication, which increasingly consumes us all, can be made more effective.

The course aims to improve current writing levels and to encourage continued attention to this important craft. If science is not communicated clearly to others, it is of little value. Moreover, the ability to write well is a life-long critical skill that can strongly affect career paths.

LEARNING OUTCOMES

In ENC 3468, students will learn to

- plan, draft, revise, and edit documents for use in the physical sciences
- adapt writing to different audiences, purposes, and contexts
- synthesize and report on the professional literature in the physical sciences
- write and present in a clear, coherent, and direct style appropriate for academic research in the sciences
- understand and employ the various forms of writing, including scientific description, research reports, analysis and synthesis of literature, and posters
- avoid plagiarism

REQUIRED READINGS

Michael Alley. *The Craft of Scientific Writing*, 4th Edition. Boston: Springer-Verlag, 2014.

William Strunk and E. B. White, *The Elements of Style*, 4th Edition. Boston: Allyn and Bacon, 2000.

ASSIGNMENTS

Biographical Sketch (500 words; 25 points)

Students introduce themselves to their professional community in a biographical sketch.

Description of a Scientific Principle (500 words; 50 points)

To learn a style of writing appropriate for various disciplines within the physical sciences, students choose a scientific principle within their own field and describe the principle using clear, coherent, and direct prose.

Reading in the Physical Sciences (200 words; 25 points)

To learn about the structure and content of research reports in the physical sciences, students will summarize a published article provided by the instructor. The summary will take the form of an abstract.

Most Memorable Experiment (500 words; 50 points)

Students describe a memorable experiment in language suitable for the professional and scientific community.

Application Materials (1150 words; 100 points)

Students prepare a résumé and cover letter and a personal statement appropriate for graduate school or an internship.

Research Report (3900 words; 500 points)

For the research report, students will choose a quantitative research project, examine the existing literature, formulate a methodology, present data, and draw conclusions on a real-world subject. This paper is written in parts over the course of the semester.

Poster Presentation (25 points)

Students learn to construct a professional poster and to present the poster at a local exhibit or conference.

In-class Work and Homework (100 points)

Throughout the term, students will work in class and at home on activities that strengthen specific writing skills. These activities include critiques of the published literature, quizzes, drafts, workshops, peer reviews, and reading responses. For peer reviews, a complete paper must be submitted; missed peer reviews will lower the final grade on the paper by 20%.

GRADING

Grading for this course will be rigorous. Successful assignments will demonstrate understanding and practice of professional writing. Students are expected to follow the conventions of the discipline as specified in the appropriate manuscript form and illustrated in the major scholarly and professional publications in the field. To receive a passing grade in the course, each paper must reach the minimum assigned word count.

Assignment Values and Word Counts

Assignments	Words	Points
Biographical/Writing Background	500	25
Description of a Science Principle	500	50
Abstract (from a published paper)	200	25
Most Memorable Experiment	500	50
Personal Statement	750	50
Resume & Cover Letter	400	50
Major Project (Introduction)	900	50
Major Project (Methods/Experimental)	600	25
Major Project (Results)	600	25
Major Project (Discussion)	1000	50
Major Project (Abstract)	200	25
Poster (from Major Project)		25
Major Project (Revisions)	500	300
Homework and In-class Activities		100
Mid Term Exam		150
Total	6550	1000

Grading Scale

A	4.0	93-100	930-1000	C	2.0	73-76	730-769
A-	3.67	90-92	900-929	C-	1.67	70-72	700-729
B+	3.33	87-89	870-899	D+	1.33	67-69	670-699
B	3.0	83-86	830-869	D	1.0	63-66	630-669
B-	2.67	80-82	800-829	D-	0.67	60-62	600-629
C+	2.33	77-79	770-799	E	0.00	0-59	0-599

Note: A grade of C- is not a qualifying grade for major, minor, Gen Ed, or College Basic distribution credit. For further information on UF's Grading Policy, see:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx#hgrades>

<http://www.isis.ufl.edu/minusgrades.html>

Revisions

At the teacher's discretion, major assignments may be revised for a higher grade.

Assessment Rubric

	SATISFACTORY (Y)	UNSATISFACTORY (N)
CONTENT	Papers exhibit evidence of ideas that respond to the topic with complexity, critically evaluating and synthesizing sources, and provide an adequate discussion with basic understanding of sources.	Papers either include a central idea(s) that is unclear or off- topic or provide only minimal or inadequate discussion of ideas. Papers may also lack sufficient or appropriate sources.
ORGANIZATION AND COHERENCE	Documents and paragraphs exhibit identifiable structure for topics, including a clear thesis statement and topic sentences.	Documents and paragraphs lack clearly identifiable organization, may lack any coherent sense of logic in associating and organizing ideas, and may also lack transitions and coherence to guide the reader.
ARGUMENT AND SUPPORT	Documents use persuasive and confident presentation of ideas, strongly supported with evidence. At the weak end of the satisfactory range, documents may provide only generalized discussion of ideas or may provide adequate discussion but rely on weak support for arguments.	Documents make only weak generalizations, providing little or no support, as in summaries or narratives that fail to provide critical analysis.
STYLE	Documents use a writing style with word choice appropriate to the context, genre, and discipline. Sentences should display complexity and logical structure.	Documents rely on word usage that is inappropriate for the context, genre, or discipline. Sentences may be overly long or short with awkward construction. Documents may also use words incorrectly.
MECHANICS	Papers will feature correct or error-free presentation of ideas. At the weak end of the satisfactory range, papers may contain a few spelling, punctuation, or grammatical errors that remain unobtrusive and do not obscure the paper's argument or points.	Papers contain so many mechanical or grammatical errors that they impede the reader's understanding or severely undermine the writer's credibility.

GENERAL EDUCATION OBJECTIVES

This course confers General Education credit for Composition (C). Composition courses provide instruction in the methods and conventions of standard written English (i.e., grammar, punctuation, usage) and the techniques that produce effective texts. Composition courses are writing intensive, require multiple drafts submitted to your instructor for feedback before final submission and fulfill 6,000 of the university's 24,000-word writing requirement. Course content

should include multiple forms of effective writing, different writing styles, approaches and formats, and methods to adapt writing to different audiences, purposes and contexts. Students should learn to organize complex arguments in writing using thesis statements, claims and evidence, and to analyze writing for errors in logic.

In Writing in the Physical Sciences, these objectives will be met in a variety of ways. Each major writing assignment, such as the description of a scientific principle, application materials, and research report, constitute a particular form of writing that requires a different writing style, approach, and format. In all of the assignments, adapting rhetoric to different audiences, purposes, and contexts is essential. For example, for the application materials and the research report, students will be asked to define the primary readers and to tailor their work to that audience. Several of the assignments, the application and the research report in particular, require that students develop complex arguments, establishing a claim, hypothesis, or research question and providing effective evidence in support of the claim or in answer to the hypothesis. As students examine the scientific literature for their research reports, they will analyze errors of logic in methodologies as well as in the presentation and interpretation of data. Errors in logic will also be discovered and corrected in students' own work in peer review sessions. All written work will require clarity of expression, conciseness, and professional standards of presentation.

GENERAL EDUCATION STUDENT LEARNING OUTCOMES

Content: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.

Communication: Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline.

Critical Thinking: Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.

Student Learning Outcomes will be assessed through the written assignments and presentations. Students will demonstrate content knowledge when they analyze the work of peers and the published work related to their fields. The communication outcome will be assessed primarily through the major writing assignments in which students are required to reason well and convey their knowledge and ideas clearly, as well as through collaborative activities both in-class and out-of-class, all in forms appropriate to specific scientific disciplines. Critical thinking, a fundamental component of scientific writing, will be assessed by measuring the degree to which papers effectively analyze and synthesize information, develop reasonable explanations of scientific principles, build appropriate methodologies to find solutions to problems or to test research questions, and draw well-reasoned conclusions from clearly-presented data.

WRITING REQUIREMENT

This course also confers 6000 words towards the Writing Requirement (WR), which ensures students both maintain their fluency in writing and use writing as a tool to facilitate learning. While helping students meet the broad learning outcomes of content, communication, and critical thinking, the instructor will evaluate and provide feedback on students' written assignments with respect to grammar, punctuation, clarity, coherence, and organization

Course grades have two components. To receive Writing Requirement credit, a student must receive a grade of C or higher and a satisfactory completion of the writing component of the course.

COURSE POLICIES AND PROCEDURES

Attendance and Participation

Writing in the Physical Sciences is a skills-based class requiring regular attendance and participation. Writing skills are gained by experience, so sessions often include in-class activities and discussion, which are difficult or impossible to replicate outside of class. Consequently, frequent absences will affect students' success in the course. For each 3 unexcused absences, students will lose one letter grade (100 points).

Repeated tardiness will also hurt students' grades, so come to class on time and be prepared for discussion. Arriving more than 15 minutes after class starts will count as an unexcused absence. If students are absent or tardy for any reason, they are still responsible for the work done in class and for the assignments given that day.

The policy of the University Writing Program is that if students miss more than six periods during the term, they will fail the entire course. Double periods count as two absences. The UWP exempts from this policy only those absences involving university-sponsored events, such as athletics and band, and religious holidays. For absences due to illness or injury, the instructor may require a signed doctor's note.

Since so much of professional writing is collaborative, participation is a crucial part of the class. Students are expected to work with their peers in a professional manner designed to support the success of the groups.

Academic Honesty

Student conduct at the University of Florida is governed by the UF Student Honor Code, (<https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx>). The Honor Code requires Florida students to neither give nor receive unauthorized aid in completing all assignments. Violations include cheating, plagiarism, bribery, and misrepresentation, all defined in detail at the above site.

Plagiarism

Plagiarism is a serious violation of the Student Honor Code. The Honor Code prohibits and defines plagiarism as follows:

Plagiarism. A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

1. Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
2. Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authored by the student. (University of Florida, Student Honor Code, 4.041[3] [a], 19 August 2014)

University of Florida students are responsible for reading, understanding, and abiding by the entire [Student Honor Code](#). The University Writing Program takes plagiarism very seriously, and treats instances of plagiarism as dishonesty and as a failure to comply with the scholarly requirements of this course. Students commit plagiarism when they present the ideas or words of someone else as their own.

Important tip: Never copy and paste something from the Internet without providing the exact location and citation information for the source.

If a student plagiarizes all or any part of any assignment, he or she will receive a failing grade on the assignment. Additionally, instructors may impose a course grade penalty and report any incident of academic dishonesty to the Office of the Dean of Students. Each student's work may be tested for its originality against a wide variety of databases by anti-plagiarism sites to which the University subscribes, and negative reports from such sites may constitute proof of plagiarism. Other forms of academic dishonesty will also result in a failing grade on the assignment as a minimum penalty. Examples include cheating on a quiz or citing phony sources or quotations.

Assessment Rubric

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CONTENT	Papers exhibit evidence of ideas that respond to the topic with complexity, critically evaluating and synthesizing sources, and provide an adequate discussion with basic understanding of sources.	Papers either include a central idea(s) that is unclear or off- topic or provide only minimal or inadequate discussion of ideas. Papers may also lack sufficient or appropriate sources.
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Classroom Conduct

Much of this class is discussion-based, so it is vital that we show respect for each other's views. Students are required to set cell phones to vibrate during class. Ringing phones and text messaging are unprofessional disruptions, which may result in students being asked to leave the classroom and being counted absent.

Due Dates, Make-up Policy, and In-Class Work

Papers and drafts are due at the beginning of class or online at the assigned deadline. Late papers will not be accepted without a valid excuse as outlined above. In these cases, students should consult with the instructor to turn in the work as soon as is feasible given the situation. Note that failure of technology is not an excuse.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Readings

Reading assignments typically appear in the syllabus on the date on which they are due. Students should have completed these readings before coming to class that day.

Conferences and Writing Studio

Students are encouraged to use the instructor's office hours if there are questions about progress in the course, work underway, or any other course-related concerns. If there is a conflict with the posted office hours, please contact the instructor to schedule a better time. Having conferences on assignments is often the best way to improve the quality of final drafts.

The [Writing Studio](#) also offers one-on-one assistance on writing projects and is available to students of all levels.

Evaluations

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu>.

Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Schedule of Classes and Assignments

This schedule is subject to change. The on-line syllabus and schedule supersede the paper copy. Unless otherwise indicated, assignments and readings are due the day they are listed on the syllabus, not the following day.

Unit 1: The Rhetoric of Scientific Writing

Week 1

- Introduction: Syllabus, Texts, Goals, and Course Organization.
- The Scientific Style. *The Craft of Scientific Writing*, Chapter 1.
- **Due: Biographical Sketch.** The Scientific Method and the Organization of Research Papers. *The Craft of Scientific Writing*, Chapter 2.

Week 2

- Scientific Style: Writing Simply and Clearly. *The Craft of Scientific Writing*, Chapters 5, 7, 8.
- **Due: Description of a Scientific Principle.** Quantitative Research Reports: An Example.
- **Due: Abstract.** Introduction to Secondary Research Methods and Sources.

Unit 2: Library Research and Research Methods

Week 3

- How to Conduct Library Research.
- Field Trip: Library Scavenger Hunt.
- In-Class Research Workshop.

Week 4

- Discuss Library Research and Manuscript Form.
- **Homework Due: 10 Sources.** Introductions and the Synthesis of Literature.
- Discuss Exemplary Introductions in Quantitative Essays.

Week 5

- Analyzing and Crafting Synthesized Literature.
- Scientific Style: Paragraphs and Coherence.
- **Due: Introduction and Synthesis.** Punctuation Review.

Week 6

- Methods Section Overview: Structure and Style.
- Quantitative Methods: Sampling and Statistical Analysis.
- Keeping Good Lab/Field Notes.

Week 7

- Methods Workshop.
- Methods Peer Review.
- **Due: Methods and Research Instrument.**

Unit 3: Graduate School Applications

Week 8

- Graduate School Application: Process and Strategy.
- The Résumé and Cover Letter
- Personal Statements.

Week 9

- **Due: Application Materials (hard copy in class).**
- Individual Conferences.
- Individual Conferences.

Unit 4: Results and Discussion

Week 10

- **Due: Revised Application Materials.** Results Section Overview.
- Organizing and Presenting the Results.
- Discuss Exemplary Results.

Week 11

- Incorporation of Graphics into Research Papers.
- Results Section Workshop.
- Peer Review of Results Sections.

Week 12

- **Due: Results.** Discussion Section Overview.
- Discussion Section Workshop.
- Discuss Exemplary Discussions and Conclusions. Conduct Discussion Section Peer Review outside of class.

Unit 5: Professional Presentations

Week 13

- **Due: Discussion.** Discuss Abstracts.
- **Due: Abstract.** Poster Presentations in the Physical Sciences.
- Example Posters and the Presentation Flyer.

Week 14

- **Due: Research Paper.** E-mail and Letters of Transmittal. Submitting Your Paper to an Academic Journal.
- Discuss Oral and Poster Presentations.
- Poster Presentations Practice and Review.

Week 15

- Poster Presentations Practice and Review.
- **Due: Poster Presentation Conference (Thursday, 6:15 pm-9:15 pm, Location TBA)**
- Discuss Presentations.