

Advanced Workshop in Writing for Science & Engineering: ESL

A HASS Communication-Intensive Course*

Required Course Texts and Materials

- 1) Course Packet.
- 2) *Mayfield Style Guide for Engineers and Scientists*. (May)
- 3) A paperback English-English dictionary (e.g., *American Heritage English as a Second Language Dictionary*, *Oxford Advanced Learner's*) or Merriam Webster On-line Dictionary. Available World Wide Web: <http://www.m-w.com/home.htm>
- 4) "Specifications for Thesis Preparation." (Institute Archives Office)
 - An article reporting on research from a respected **academic** journal in your field, from *Nature* or from *Science*.
- 5) Betty Azar's *Chartbook: A Reference Grammar*.
- 6) A binder with pockets to hold handouts.

*(HASS CI subjects require at least 20 pages of writing divided among 3-5 assignments. Of these 3-5 assignments, at least one must be revised and resubmitted. HASS CI subjects offer students substantial opportunity for oral expression, through presentations, student-led discussion, or class participation. In order to guarantee sufficient attention to student writing and substantial opportunity for oral expression, the maximum number of students per section in a HASS CI subject is 18, except in the case of a subject taught without sections (where the faculty member in charge is the only instructor). In that case, enrollments can rise to 25, if a writing fellow is attached to the subject.)

Recommended Texts

- 1) Day, R. *How to Write & Publish a Scientific Paper*.
- 2) Day, R. *Scientific English: A Guide for Scientists*.
- 3) Hacker, D. *Pocket Style Manual*.
- 4) Michaelson, H. *How to Write & Publish Engineering Papers & Reports*.

- 5) Swales, J. & Feak, C. *Academic Writing for Graduate Students*.
- 6) Wilkinson, A. *The Scientist's Handbook for Writing Papers and Dissertations*.
- 7) William, J. *Style: Ten Lessons in Clarity & Grace*.

Course Description

This workshop is designed to help advanced students of ESL and bilingual students to write clearly, accurately and effectively in a professional or academic technical environment. In class, we will focus on analyzing examples of various forms of technical writing. In addition, while 21F.225/6 is not a grammar review, we will address many of the common problems of **advanced** non-native writers of technical English. Class members will occasionally be the authors of the work under review. They will also occasionally be responsible for leading group discussions and for short oral presentations.

The course, then, is not a grammar class nor a thesis editing service though we will spend considerable time developing students' editorial skills. Constructive participation in the group analyses, discussions and speaking exercises that take place in class is crucial to the learning process and to the success of the workshop. As a result, regular attendance and timely completion of assignments are requirements of 21F.225/6. Students who, due to general study habits or schedule conflicts, expect to have difficulty in arriving on time or in attending every class, and in completing assignments on time, do not belong in the class. No listeners are accepted in 21F.225/6.

Completion of 21F.226 with a grade of A or B fulfills Phase II of the MIT Undergraduate Writing Requirement. (It cannot fulfill both Phase I and Phase II at the same time.)

Attendance and Participation

A large part of your grade, 35%, will be based on punctuality, attendance, familiarity with the required readings, short exercises/quizzes and constructive contributions to class discussions. An attendance sheet will be circulated at the start of each class for students to sign. Those who do not prepare, contribute to discussions, complete assignments on time and attend class regularly can expect their final grade to be affected.

Grading Criteria

Your grade will be based on

- (1) Punctuality, attendance, and participation. (15%)
 - You are expected to come prepared, on time and to every class.

- You are expected to take responsibility for any necessary tardiness or absences by notifying me in advance and by preparing a one page memo describing what was covered in the class that you missed.
- You are expected to contribute constructively to class preparations.

2) Short assignments and quizzes. (20%)

- No late assignments will be accepted unless arranged in advance.
- No make-up quizzes will be given unless arranged in advance.

3) Four shorter formal papers. (40%)

- No late papers will be accepted unless arranged in advance.
- All shorter papers will require revisions.

4) Final paper. (25%)

- No revision is possible.

94 and above=A	90-93=A-	86-89=B+	83-85=B	80-82=B-
76-79=C+	73-75=C	70-72=C-	60-69=D	Below 60=F

Assignments

Details of the short assignments (memos, quizzes, oral summaries and other exercises) are attached to the class schedule; please be familiar with your syllabus, read the indicated chapters in the materials, and come to each class prepared.

In addition to shorter formal papers, a final research project of fifteen pages will be required. Subjects and approaches will be discussed as the term progresses.

Procedures

You will be responsible for distributing copies of each formal text to your editing group members **before** the two classes when peer workshops are scheduled. When formal writing assignments are worked on in class, your first good draft will be due to me for comments by the next class. I will provide a close reading and return the draft within a week. Then you will have until the following class to revise your draft and submit it for a grade.

If you receive a grade of “C” or lower on any of the four shorter formal papers, you will have a chance to rewrite it. Rewrites are due the next class. Your new grade will be a combination of the original grade and the grade received for the rewrite.

There will be no opportunity to rewrite the final project. However, each of you will have a scheduled appointment with me for feedback on your final project in progress.

Major Assignments

All written assignments should be typed, double-spaced, on standard 8-1/2x11 paper, with your name and e-mail address in the upper right-hand corner of page one. Please do not staple pages together. Use a paper clip and include your name on each page. Please paginate your assignments.

Formal Paper	Due	% of Grade
Number 1	Class #5	10
Number 2	Class #9	10
Number 3	Class #14	10
Number 4	Class #18	10
Final Project	Class #25	25

Formal Paper 1: Sensitivity to Audience

In a short article (two pages) portraying your research in an understandable context, define a concept that is central to your field of interest. For example, one could define fusion and discuss its possible place in energy production. Your article must be suitable for the intended readership: an interested and well-educated, but not technical audience. Be prepared to explain how your imagined audience and purpose shaped your strategy. Please double-space this assignment.

Due in Class #5. Bring the original and 1 copy to class. Distribute a copy to each member of your editing group *at least one day* before class.

Formal Paper 2: Writing Correspondence (Individual Conferences)

Write a one to two page memo or job-application letter suitable for an academic or professional, technical environment. *Please single space this assignment.*

Due in Class #9 or one day after the class. Bring the original and 1 copy to our conference.

Formal Paper 3: Introducing Material

Write an abstract (150-250 words) and an introduction (two pages) to a technical report, article or short thesis. Include a short note to me explaining your audience and purpose. Label your abstract as “informative,” “descriptive,” or “combination.”

Due in Class #14.

Formal Paper 4: Proposing Research

Write a three page proposal for research funding, for permission to take action, or advocating for a change. You can use this assignment to propose your final project, which will help you organize it in advance. Below are some ideas for the kinds of proposals you can write:

1. A UROP or UG thesis proposal.
2. A section of a longer MS or Ph. D proposal.
3. A proposal for research (even research that you are already working on).
4. A proposal for a research paper you are working on in another course, or you may write in a future class .
5. A proposal for a literature review.
6. A proposal for a change in department policy.
7. A proposal for a change in graduate school policy/student life.

See me now if you are having trouble finding a topic for your proposal or for the final project. Do not wait until the end of term. *A tentative, but formal outline for your final project must accompany your proposal. Follow the outlining guidelines provided on the following page.*

Due five days after Class #19. Bring the original and 1 copy to class. Distribute a copy to each member of your editing group *at least one day* before class.

Final Project: Technical Report or Research Paper

Write a 12-15-page paper on a technical topic of your choice. The project can be one (or part) of the following:

- A technical term paper you are writing for another course.
- A review paper.
- A research paper.
- An undergraduate thesis.
- A section of a Master's or Ph.D. thesis.
- A Ph.D. thesis proposal.
- A UROP report.
- An expanded and revised lab report.
- A journal article.

Other formats may be approved with sufficient advance notice.

Remember, this paper counts for 25% of your grade. You will **not** have the opportunity to submit a second draft. The paper must

1. Be double-spaced in 12 point font.
2. Have indented paragraphs.
3. Incorporate figures, tables, and equations appropriately into the text.
4. Include internal and end references in conventional format.
5. Be written in formal academic prose.
6. Be handed in on time; no late papers will be accepted.

Due in Class #25. Bring the original to class.

Model Final Project Outline

1. Introduction
2. Stages of Sleep
3. Awake
4. Stage 1
5. Stage 2
6. Stage 3
7. REM sleep
8. Role of Slow-Wave Sleep
9. Restoration and growth
10. Immunity to viral infection
11. Role of REM Sleep
12. Memory Storage and retention
13. Memory organization and reorganization

14. Replenishment of neurotransmitters

15. The Sleep Cycle

16. Conclusions

TENTATIVE CLASS SCHEDULE

Class #1 Introduction to Technical Writing
In class writing exercise

Class #2 The Writing Process
Technical Writing Style: Effective Language & Paragraphs

Class #3 Writing for a General Audience
Memo #1 due: Interview Summary

Class #4 Grammar Workshop: Coherence, Subordination and Transition

Class #5 **Formal Paper #1** due: In-class Workshop on Writing for a
General Reader
Quiz # 1: Transitions

Class #6 Writing Letters and Memos

If possible, bring to class an English language memo and a
business letter that you have received.

Class #7 Grammar Workshop: Verb Tense Review

Class #8 The Job Application Process
**Memo # 2 due: Comparison of Communication Tasks in the
Job Application Process: United States vs other country**

Class #9 Formal Paper #2 due in Individual Conferences

Class #10 Writing about Research: General Details
Quiz # 2: Verbs

Bring to class two copies of a good example of a journal article
from a leading journal in your field. We will be referring to this
article for the rest of the term.

Class #11 Documentation Conventions and Formats

- Class #12 Writing about Research: Abstracts & Introductions
Memo # 3 due: Summary: Essentials of Abstracts & Introductions
- Class #13 Grammar Workshop: Articles
- Class #14 **Formal Paper #3 due:** Abstracts & Introductions
Mechanics Workshop: Punctuation
Quiz # 3: Articles
- Class #15 Writing About Research: Proposing Research Projects (I)
- Class #16 Writing About Research: Proposing Research Projects (II)
Effective Language for Proposals: Modal Auxiliaries,
Conditionals Inverted Verbs and Subjunctives
Memo # 4 due: Evaluation of Proposal
- Class #17 Grammar Workshop: Relative Clauses
Quiz # 4: Punctuation
- Class #18 **Formal Paper #4 due: Proposal**
- Class #19 Writing about Research: Methods, Results, Discussion and
Conclusions
Quiz # 5: Relative Clauses
- Class #20 Strategies for Presenting a Paper Orally
- Class #21 Student Mini- Presentations
- Class #22 **Poster Sessions, Proofreading & Publishing**
- Class #23 Student Conferences (come prepared with a list of your common
problems, outline and draft of part of Final Project)
- Class #24 Student Conferences (come prepared with outline and draft of part
of Final Project)
- Class #25 **Final Project Due**
Student Led Overview

Homework Assignments for Advanced Workshop in Writing for Science & Engineering

Homework due in Class #2

1. Buy books and materials; retain receipts; do not write in anything until you are sure you are staying in the course.
 2. Read Course Packet (CP), pp. 1-11, and skim the rest of the packet so that you know the kinds of materials it contains.
 3. Read *Mayfield Style Guide* (May), Ch. 1, 5, 6, & 7 (on line or hard copy)
 4. Prepare to provide your reaction to the texts and materials in class. What are your first impressions? Which do you predict will be most useful to you? Why?
 5. Read CP., Section I on **Technical Writing Style**, pp. 18-29. Do the exercises on pp. 28-9 and check your answers with the keys. Bring questions to class.
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Homework due in Class #3

1. Read handout: "Presenting Technical Information to the Public." Choose one of the model essays provided and be prepared to defend it as an effective example of writing for a non-specialist audience.
2. **Memo #1:** Interview a faculty member, research scientist or post-doctoral fellow in your department about the role communication skills play in their profession. Ask them questions about :
 - The kinds of professional writing and speaking they are required to do.
 - The amount of professional writing and speaking they typically do in a month.
 - Their attitudes toward writing and speaking.

Write a one-page memo, using strict memo format (See Mayfield Guide to preview characteristics of effective memos), summarizing what you learned.

Class #4

1. Study handout on "Transition Signals," and do Exercises 17, 18 and 19.
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Homework due five days after Class #4

Class #5

1. **Formal Paper #1 due:** Describe a scientific/technical concept for a general audience. Refer to your syllabus for a detailed description of this assignment. After you have written your best draft, distribute a copy to each member of your editing group at least one day before class. Bring two copies to class for the workshop.
 2. Read your editing group's papers and be prepared to provide constructive feedback in class. Use CP, p. 12 Guidelines.
 3. **Quiz # 1:** Transitions.
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Homework due in Class #6

1. Read May, Ch. 2, Sections 2.1 and 2.5 on Correspondence (business letters, job application letters and memos.
2. Bring to class a memo or business letter that you have received since coming to the US.
3. Read CP, Section II, Letters & Memos, pp. 43-63.
 - Analyze and be prepared to critique the sample memos, pp. 58-62 in class.
 - Do Exercise on pp. 63 to discuss in class **and to hand in.**

Class #7

1. Review CP, pp. 256-60 .
 - Do Exercises to discuss in class: Tense Moments, Ex.# 2 and Ex. 3.
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Homework due in Class #8

1. Read CP, Section III, Job Application Process, pp. 65-91.
 - Do Ex. # 1 (p. 74-6) to discuss in class.
 - Study Ex. # 3 (p. 91) to discuss in class. What advise would you give for revising the resume?
1. **Memo #2:** In a one-page memo, compare the communication tasks of the job application process in the USA with those in your country. (You may need to interview informants for this exercise.)

Class #9

1. **Formal paper # 2 due:** A one-to two-page memo or job-application letter suitable for a professional, technical environment. This assignment will be reviewed in individual mid-term conferences.
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Homework due in Class #10

1. **Quiz # 2:** Verb Forms
2. Read CP, pp. 93-120.
3. Bring to class two copies of a good example of a journal article from a leading academic research journal in your field, from *Nature*, or from *Science*. The article should have an abstract, references, and, if possible, figures, tables and equations. We will be referring to this article for the rest of the term.

Class #11

1. Read Section 10 (May) on “Citing Sources & Listing References.”
 2. Do. CP. Ex. # 1, p. 136, to hand in.
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Homework due in Class #12

1. Read Section 3.3 and 3.4.1 through 3.4.2 (May).
2. Read CP. pp. 139-162.
3. Analyze & evaluate abstracts in Ex. #3 in CP., pp. 143-144, to discuss in class.
4. Analyze & evaluate Ex. # 3 and 4 in CP., pp. 161-162, to discuss in class.
5. **Memo # 3:** In a one-page memo, summarize the basic guidelines for effective abstracts and introductions.

Class #13

1. Study “Articles” in Packet, pp. 237-248. Do Exercises; check answers with key.
2. Study “Articles” in Packet, pp. 249-255. Do Exercises to discuss in class.

3. Create a list of ten key phrases for your field with a sentence example of how each term is used. Pay particular attention to whether the terms are count/noncount and how articles are combined with them. Bring your list to class.
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Homework due one week after Class #13

Homework due in Class #14

1. Read Section 8 (May) on “Punctuation.”
1. Do. CP, pp. 270-72, Ex. 1, 2 and 3 to discuss in class.
3. **Formal Paper # 3 due:** An Abstract (length depends on purpose) & Introduction (no more than two pages) of a formal scientific or technical proposal, report, journal article or short thesis. See syllabus for details.

Class #15

1. Read Packet, pp. 163-194. Analyze and evaluate the sample proposals in Exercise # 1 (pp. 186--) to discuss in class.
 2. Quiz # 4: Articles
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Homework due in Class #16:

1. Handout on Persuasive Language: Review info. and do exercises.
2. **Memo # 4:** In a one-page memo, evaluate the content, organization and format of the proposal for an alternative kind of RatFeed in the Packet, Ex. 2, pp. 195-6.

Class #17

1. Read Section 12.4.1 (May) on Relative Clauses.
 2. Read CP, 265-69. Do Ex. 1, 2 and 3.
 2. Quiz # 5: Punctuation.
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Homework due in Class #18

1. **Formal Paper # 4 due:** Write a two-three page proposal, preferably related to your final project. See the course syllabus for details. Distribute a copy to each member of

your editing group at least one day before class. Bring the original and one copy to class.

2. Quiz # 6: Relative Clauses

Class #19

1. Read Section 3 (May), on writing the approach, results, discussion, conclusion sections of a scientific, technical or policy paper.
2. Read CP on Writing up Research, pp. 199-216.
3. Study materials in CP on "**Data Commentary**," pp. 202-216. Prepare **Tasks 1, 2, 4, 5, 6 & 11** to discuss in class.

Homework Due one week after Class #19

Homework due in Class #20

1. Read Course Packet, pp. 221-233 on Presenting Papers Orally.

Class #21

1. Carefully consider the features of an effective visual aid after reviewing course materials.
Design one overhead transparency/slide as part of the beginning, middle or end of an informative presentation. Prepare to spend 1-2 minutes presenting information, incorporating this one slide, to the class. In other words, each of you will be presenting a "slice of a presentation" to practice effective design and use of visual aids, as well as good delivery style. Class members will provide feedback.

Homework due in Class #22

1. Read CP., pp. 219-20 on Poster Sessions.
2. Volunteer experts in giving poster sessions and going through publishing process.

Class #23: Conferences

1. Analyze the drafts of past assignments and make a list of your common problems in English technical writing (e.g., organization; verb forms, tone). See model on pp. 8 of CP.

2. Be prepared to discuss any questions or problems you are having with your final paper draft.
 3. Meet for your individual consultation.
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Homework due in Class #24 : Conferences

1. Analyze the drafts of past assignments and make a list of your common problems in English technical writing (e.g., organization; verb forms, tone). See model on p. 8 of CP.
2. Be prepared to discuss any questions or problems you are having with your final paper draft.
3. Meet for your individual consultation.

Class #25: Last Class

1. **Final Formal Papers are due**; no rewrites will be possible; no late papers will be accepted.
2. Student-led overview of 21f.225/6.

21F225/6 Grading Scheme

I have reviewed the following grading scheme and am aware of how grades will be determined in 21F225/6.

- (1) Punctuality, attendance, and participation (15%)
- You are expected to come prepared, on time and to every class
 - You are expected to take responsibility for any necessary tardiness or absences by notifying me in advance and by preparing a one page memo describing what was covered in the class that you missed.
 - You are expected to contribute constructively to class dynamics.
- 2) Short assignments and quizzes (20%)
- No late assignments will be accepted unless arranged in advance.
 - No make-up quizzes will be given unless arranged in advance.
- 3) Four shorter formal papers (40%)
- No late papers will be accepted unless arranged in advance.
 - All shorter papers will require revisions.
- 4) Final paper (25%)
- No revision is possible.

Printed Name: _____

Signature: _____ Date: _____