

## Does Size Matter? The Development of Nanoscience and Its Impact on Society

**Instructor** Prof. Anderson L. Marsh  
Office: Garber 248  
Phone: 867-6149  
E-mail: marsh@lvc.edu  
Office Hours: MWF 8-9 am, 10-11 am, TTh 9-11 am, or by appointment

**Required Texts** *The Bedford Handbook* by Hacker  
collegiate dictionary  
*Flatland* by Abbott  
*The Pleasure of Finding Things Out* by Feynman  
*Engines of Creation* by Drexler  
*Understanding Nanotechnology* by Scientific American

**Class Times** TTh in Lynch 170 at 12:30 pm

**Attendance** Regular attendance is expected. To be present and accounted for you must be seated and ready before class begins. You will be allowed up three excused absences from class without penalty. In order for an absence to be counted as excused, you must present a note from a physician or from a college official explaining the reason for the absence.

**Course Description** The main purpose of this course is to teach you to develop your writing skills while focusing on a specific topic. In this First Year Seminar will explore the development of nanoscience and the broad impact of its implementation on society. You will read, discuss, and write about various topics related to nanoscience. Over the course of the semester you will learn grammar, rhetoric, and how to develop ideas and assemble them together to formulate an essay.

|                   |                     |         |       |
|-------------------|---------------------|---------|-------|
| <b>Evaluation</b> | Essays              | 4 × 100 | = 400 |
|                   | Final Exam          | 1 × 200 | = 200 |
|                   | Grammar Quizzes     | 5 × 20  | = 100 |
|                   | Class Participation | 1 × 50  | = 50  |
| -----             |                     |         |       |
|                   | Total               |         | 750   |

**Essays** Four formal written essays, each of which will be 1250 words in length, will be required over the course of the semester. These essays must adhere to the format guidelines given in this syllabus. Before each essay is due you will submit to me a tentative thesis, and one week later you will meet with me for an individual conference to discuss your essay. The

conference will last around 15 minutes and you should bring a draft of your essay along with you. Each essay will be worth 100 points and there will be no rewrites or revisions allowed. Grading emphasis on grammar and rhetoric will increase over the course of the semester. As we cover more topics, my expectations of your writing abilities will grow. Each essay will be due on the date indicated in this syllabus, or you will be penalized 3 points for each day it is late. With each essay you will also hand in your prewriting and rough drafts. Graded essays will be returned no later than two weeks after they are handed in to me.

**Essay  
Guidelines**

1. Essays must be written on a word-processing program such as Microsoft Word. Always keep backup copies of your essays.
2. The length of each essay must be at least 1250 words and contain a minimum of four paragraphs.
3. Essays must be double-spaced, written in a font no less than 12 point, with one inch margins on all sides and the right justification off.
4. Each essay must have a title. Center the title at the top of the first page and number your pages in the top right hand corner, starting with page one. Do not put your name on the first page. Instead, put it on the essay grading sheet. Staple your pages in order, with the grading sheet as the last page.
5. With each essay you should demonstrate that:
  - a. you are able to follow the conventions of standard written English, as outlined in *The Bedford Handbook*;
  - b. you are capable of understanding and thinking critically about what you have read;
  - c. you can formulate a thesis statement and develop it fully and sufficiently through support from text and from reasoning;
  - d. you can plainly express your own opinions and that you are aware of which opinions are yours and of those which belong to others;
  - e. you can communicate clearly and effectively through a coherent argument laid out effectively in well-structured paragraphs with sound transitions between them;
  - f. you are able to reflect on what you have read with considerable thought and depth.

**Grammar  
Quizzes**

Quizzes based on the assigned topics will be posted online in Blackboard throughout the semester. Each quiz will consist of 10 questions worth 2 points apiece. There will be 5 quizzes over the course of the semester.

Each quiz will be posted on Thurs. after class and must be completed by class on the following Tues.

**Class Participation** In addition to attending class regularly, you will be expected to contribute to the class discussion by asking and answering questions. Because of the small size of this section, there will be ample opportunity for you to ask and answer questions. You will also be responsible for leading one of the class discussions at some point this semester. At the end of the semester I will award a score out of 50 points based on the level of your class participation.

**Grades** The following cutoffs will be used in determining semester grades:

| Grade | Cutoff Percentage |
|-------|-------------------|
| A     | 93                |
| A-    | 90                |
| B+    | 87                |
| B     | 83                |
| B-    | 80                |
| C+    | 77                |
| C     | 73                |
| C-    | 70                |
| D+    | 67                |
| D     | 63                |
| D-    | 60                |

**Writing Center** The LVC Writing Center, located in the basement of the Bishop Library, provides individual peer tutors who are students that have been recommended by the LVC faculty. They assist students with all aspects of writing, ranging from developing a thesis to helping you learn to identify and correct grammatical errors. This semester the hours of operation are Mondays through Thursdays 11 am to 2 pm and Sundays through Thursdays 6 to 10 pm. During these hours you may call x6790 to make an appointment, or you may e-mail [wcenter@lvc.edu](mailto:wcenter@lvc.edu) at any time. Tutors are also available on a drop-in basis.

**Academic Dishonesty** In this course you may be asked to submit some or all of your assignments for review by an on-line plagiarism service. This service will compare the content of your work to content found on the internet and several proprietary databases. Any work submitted to this service may become part of the service's permanent collection of submitted papers. After your work is submitted, the service will generate an originality report which will be sent to your instructor. Any student who submits plagiarized work will be subject to the penalties outlined in LVC's Academic Honesty Policy found on pages 113-114 of the Student Handbook.

**Disability Statement**

If you have a physical, medical, psychological, or learning disability that is going to impact your attendance or require accommodation, please let me know. In order to ensure that your learning needs are appropriately met, you will need to provide documentation of your disability or medical condition to the Coordinator of Disability Services in Humanities 206-D, 867-6071. The Office of Disability Services will then provide a letter of verification of disability that describes the accommodations needed for this class.

**Schedule of Assignments**

| <b>Date</b> | <b>Grammar Topic</b>                  | <b>Discussion Topic</b>      | <b>Due</b>            |
|-------------|---------------------------------------|------------------------------|-----------------------|
| Tu 8/29     | course introduction                   | Stix p. 6-16                 |                       |
| Th 8/31     | Bedford Ch. 1                         | film <i>Tiny Machines</i>    |                       |
| Tu 9/5      | Bedford Ch. 46                        | Abbott p. 53-64              |                       |
| Th 9/7      | Bedford Ch. 47                        | Abbott p. 65-85              |                       |
| Tu 9/12     | <b>NO CLASS – ACS MEETING</b>         |                              | <b>Quiz 1</b>         |
| Th 9/14     | <b>NO CLASS – LIBRARY ORIENTATION</b> |                              | <b>Essay 1 thesis</b> |
| Tu 9/19     | Bedford Ch. 2                         | Abbott p. 85-103             |                       |
| Th 9/21     | conferences                           |                              |                       |
| Tu 9/26     | Bedford Ch. 3                         | Feynman p. 97-115            | <b>Essay 1</b>        |
| Th 9/28     | Bedford Ch. 4                         | Feynman p. 117-139           |                       |
| Tu 10/3     | Bedford Ch. 19                        | Feynman p. 141-149           | <b>Quiz 2</b>         |
| Th 10/5     | Bedford Ch. 20                        | Feynman p. 205-216           | <b>Essay 2 thesis</b> |
| Tu 10/10    | conferences                           |                              |                       |
| Th 10/12    | Bedford Ch. 21                        | Drexler p. 3-20              |                       |
| Tu 10/17    | <b>NO CLASS – FALL BREAK</b>          |                              |                       |
| Th 10/19    | Bedford Ch. 22                        | Drexler p. 21-50             |                       |
| Tu 10/24    | Bedford Ch. 23                        | Drexler p. 147-167           | <b>Essay 2</b>        |
| Th 10/26    | Bedford Ch. 24                        | Drexler p. 191-216           | <b>Essay 3 thesis</b> |
| Tu 10/31    | Bedford Ch. 28                        | Drexler p. 217-239           | <b>Quiz 3</b>         |
| Th 11/2     | conferences                           |                              |                       |
| Tu 11/7     | Bedford Ch. 33                        | Roukes p. 18-33              |                       |
| Th 11/9     | Bedford Ch. 34                        | Whitesides and Love p. 36-53 | <b>Essay 3</b>        |
| Tu 11/14    | Bedford Ch. 35                        | Alivisatos p. 56-69          | <b>Quiz 4</b>         |
| Th 11/16    | Bedford Ch. 36                        | Astumian p. 72-84            |                       |
| Tu 11/21    | Bedford Ch. 37                        | Ashley p. 86-90              |                       |
| Th 11/23    | <b>NO CLASS – THANKSGIVING BREAK</b>  |                              |                       |
| Tu 11/28    | Bedford Ch. 39                        | Lieber p. 92-102             | <b>Essay 4 thesis</b> |
| Th 11/30    | Bedford Ch. 44                        | Reed and Tour p. 110-122     |                       |
| Tu 12/5     | conferences                           |                              | <b>Quiz 5</b>         |
| Th 12/7     | review for final                      |                              | <b>Essay 4</b>        |
| W 12/13     | <b>FINAL ESSAY EXAM</b>               |                              |                       |