

Syllabus: NCLC 301 001 16608 Science in the News -- Spring 2011

Time/Place: Wednesday 4:30 pm - 7:10 pm Robinson Hall B Room 205

Text: *Science Matters* by Robert M. Hazen and James Trefil, Second Edition, Anchor Books, June 2009

Required (free) subscription:

All students must subscribe to "*Science in the News Weekly*," an e-newsletter produced by Sigma Xi in conjunction with "American Scientist Online." The newsletter provides a digest of the week's top stories from "Science in the News," and is an excellent source of articles for this course. To subscribe, go to <http://www.americanscientist.org> click on subscribe, and then in the center box choose Free E-newsletters, and then in the paragraph headed "subscribe" click on "create an on-line profile." Fill this out. When you do, then you'll see a screen with a box in which you'll see "My Subscriptions." Choose that and then subscribe at least to "Science in the News Weekly." (NOTE: you do not need to purchase a subscription to "American Scientist," or join Sigma Xi.)

Online Readings: These will be posted on our Blackboard Website at <https://courses.gmu.edu/>

Instructor: Dr. Michael R. Gabel, Mathematical Sciences and New Century College (Enterprise Hall room 410)

E-Mail: mgabel@gmu.edu **Phones:** My Office in NCC: (703) 993 1484 NCC Main Office: (703) 993 1436

Office Hours: Tuesday/Thursday: 1:00 to 1:20, Wednesday: 4:00 to 4:20 and by appointment.

Course Web Site:

There is a course site on Blackboard. Go to <https://courses.gmu.edu/>. You should see this course listed there. Verify you can access this.

Course Description (from the Catalogue):

Examination and discussion of the current trends in science as reported in the popular media. Students learn how to evaluate the science that is reported so they may become informed consumers; discuss how scientific advancement might shape society by looking at how science and society have changed together over time; and use examples from the past to discuss future trends.

Course Competencies:

Critical Thinking, Strategic Problem Solving, Communication, Group Interaction. See <http://ncc.gmu.edu/competencies.html> for their descriptions.

Course Objectives and Goals

- To understand the nature of science as a disciplinary mode of enquiry
- To see the ways in which quantitative descriptions enhance and support both the doing and reporting of science.
- To see connections between scientific research and society
- To develop skills necessary to interpret and critically analyze scientific topics in the media
- To increase your effectiveness in oral and written communication
- For you to continue to subscribe to (and read) The American Scientist's *Science in the News Weekly*

Rough Categories of Topics

- Physics and Astronomy
- Chemistry and Geology
- The Environment and Biodiversity
- Biotechnology and Health

Assignments: [Total Points = 500] Due dates will be announced in class.

News Briefing Packets (8 of them) (10 points for each post to Blackboard plus 10 points each for each of two presentations) (100 points total):

Roughly each week you will find an on-line news story (I'll soon provide you with some sources in addition to those on the Science in the News newsletters from the American Scientist) and write a one-half to one page "briefing" sheet on the article containing the URL, a title, a short synopsis (that you have written – not one that's from the article), some notes you could use to present an informal report on the article to the class. These notes are not to be paragraphs that you read but just snippets, like you might put on a 3x5 note card. Twice in the semester you will be called upon to give an informal presentation on the article, using, naturally, the briefing packet you prepared. More details will be forthcoming.

News Analysis Essay (60 points):

I will help you choose a topic on which to write a News Analysis Essay. You will then be expected to find science articles on this topic from at least three reputable sources, at least one of which must be a peer-reviewed scientific journal and at least one of which must be from a reputable, science focused news source. In this essay you will examine your topic from both a scientific and societal perspective. You should also include a brief section which contains the background in science needed to understand your essay. Essays must be at least three pages but no longer than four pages in length, typed, double spaced, stapled, 12-point font, and one-inch margins. You will first hand in a draft, which will be worth up to 20 points. The final version will be worth up to an additional 40 points. A properly formatted bibliography should be attached at the end of your paper. This is in addition to the required page length of the essay.

Biography of a Well-Known/Important Scientist (50 points):

I will help you to choose a well-known/important scientist, about whom you will write a biography containing both standard biographical material as well as a description of the scientific contributions of this person. Essays must be at least two pages but no longer than three pages in length, typed, double spaced, stapled, 12-point font, and one-inch margins. A properly formatted bibliography should be attached at the end of your paper. This is in addition to the required page length of the essay.

Quizzes on your course readings and the class discussions (80 points):

There will be 8 ten point multiple choice/true-false/short answer quizzes based on the assigned readings and the class discussions/activities. You will be allowed to use as a reference when you are taking the quizzes one sheet of paper on which you may (hand) write whatever you wish. This sheet is to be of your own making. You may not use someone else's sheet. These sheets are to be handed in with your quiz. They will be returned to you. I will drop the lowest grade and replace it with your highest grade (thus) there will be no make-up quizzes should you be absent from or late to class. Quizzes are given at the start of class.

News "Skit" Presentation and Research paper (60 points for paper, 60 for presentation so 120 points total):

Small groups of students will investigate in-depth a current scientific issue. I will help you choose the topic. There will be two products to this effort. First, each student in the group will write an independent, well-referenced paper on the selected scientific topic of length at least 3 but no longer than 4 pages. A properly

formatted bibliography should be attached at the end of your paper. This is in addition to the required page length of the essay. In addition, each group will create a skit in the style of a news broadcast which discusses this topic, presents background information, describes the current controversy, etc. The 30-minute skit will be performed in front of the class. You will get more details on this assignment later. More details will be forthcoming.

Science Literacy Essay (50 points):

Students should keep all of their research, articles, analyses, and essays over the course of the semester. At the end of the term you will look back over all of your class materials and write a two to three page essay discussing any changes in how you perceive science in the news and your own scientific literacy. You should include a discussion of your progress on two of the course competencies: pick one of Strategic Problem Solving and Critical Thinking and also pick one of Communication and Group Interaction. It is also important that you discuss your progress within at least one of the New Century College's competency areas due to your work in this course (<http://ncc.gmu.edu/competencies.html>). All formatting and structural requirements are the same as for the News Analysis Essays.

Class Participation (40 points)

Homework problems to think about as then come up in class (no points, no grade, but fair game for the quizzes)

Grades and Points:

[Probable] Grade Ranges (in %)			
A+	98-100	C+	77-79
A	93-97	C	73-76
A-	90-92	C-	70-72
B+	87-89	D	60-69
B	83-86	F	Less than 60
B-	80-82		

Assignment	Points	Per Cent	
Weekly News Briefing Packets	80	16%	8 at 10 points each
Presentation on Briefing Packet	20	4%	two times at 10 pts each
News Analysis Essay - Draft	20	4%	
News Analysis Essay - Final Version	40	8%	
Biography	50	10%	
Quizzes	80	16%	8 at 10 pts each
News "Skit" - Research paper	60	12%	
News "Skit" - Presentation	60	12%	
Science Literacy Essay	50	10%	
Class Participation	40	8%	
TOTAL	500	100%	

HONOR CODE: GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. Except when explicitly stated to the contrary, all work is to be your own work. In particular, collaboration on homework is permitted. Exam and quiz work is to be your own. Evidence of violation of this policy constitutes grounds for referral to the University Honor Committee.

GMU EMAIL ACCOUNTS Students must use their Mason email accounts—either the existing “MEMO” system or a new “MASONLIVE” account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.

OFFICE OF DISABILITY SERVICES If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS: <http://ods.gmu.edu>

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS): (703) 993-2380: <http://caps.gmu.edu>

UNIVERSITY POLICIES The University Catalog, <http://catalog.gmu.edu>, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at <http://universitypolicy.gmu.edu/>. All members of the university community are responsible for knowing and following established policies.

NCC Commitment to Diversity

New Century College, an intentionally inclusive community, promotes and maintains an equitable and just work and learning environment. We welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion or irreligion, age and disability.

- We value our diverse student body and desire to increase the diversity of our faculty and staff.
- We commit to supporting students, faculty and staff who have been the victims of bias and discrimination.
- We promote continuous learning and improvement to create an environment that values diverse points of view and life experiences.
- We believe that faculty, staff and students play a role in creating an environment that engages diverse points of view.
- We believe that by fostering their willingness to hear and learn from a variety of sources and viewpoints, our students will gain competence in communication, critical thinking and global understanding, and become aware of their biases and how they affect their interactions with others and the world.

DROP DATE: (without a Dean's permission): Friday, Feb 25, 2011 at 5 pm.