August 28  Introduction, Organization  SWH Ch 1
          The nature of science

Sept 3  —NO CLASS—LABOR DAY

Sept. 10  archeoastronomy, phases of the moon, numbers  SWH Ch 2,3

Sept. 17  Greek and Alexandrian science  SWH Ch 4
          QUIZ on numbers

Sept. 24  Islamic science  SWH Ch 5
          QUIZ on Rubaiyat
          Rubaiyat

Oct 1  Copernicus, Brahe, Kepler  SWH Ch 6

Oct 9  MIDTERM I  SWH Ch 8
          The science of life

OCT 8—FALL BREAK—CLASS MEETS ON TUESDAY, OCT 9

Oct 15  Galileo, Newton, Maxwell  SHW Ch 7
          QUIZ on Sidereal Messenger
          Galileo, Sidereal Messenger

Oct 22  Rough draft presentations

Oct 29  Class presentations

Nov 5  Individual meetings with instructor

Nov 12  Evolution/ dinosaurs  Origin of Species
          QUIZ on Origin of Species  (Ch 1-4)

Nov 19  individual meeting with instructor to discuss term paper

Nov 27  cell theory, modern medicine, Preview of Modern Science
          individual meeting with instructor as needed

Dec 3  term paper presentations  MIDTERM II
Reading:

SWH – Science in World History, James Trefil

Sidereus Nuncius, or The Sidereal Messenger—Galileo Galilei

Origin of Species—Charles Darwin

Rubaiyat—find the poem on the web

GRADING
  Exams/quizzes—50%
  Presentation—25%
  term paper—25%
HNRS 240 INFORMATION

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GENERAL INFORMATION

This is a course that will cover the development of science from the earliest times to 1900. No previous knowledge of science will be assumed, and scientific concepts will be introduced when necessary. Attendance will not be taken, but each student is responsible for material presented and announcements made in class.

REQUIREMENTS

There will be weekly readings from the primary text, as outlined in the syllabus. In addition, as outlined in the syllabus, there will be reading assignments from two supplementary texts. A quiz on material from these texts will be given on the day the reading assignment is due, and may be included in other quizzes and exams. Additional reading assignments will be made from time to time.

At the instructor's discretion, there will be occasional short quizzes. These quizzes will always be announced a week in advance. There will be two midterm exams, which will consist of short answer essay questions. In lieu of a final exam, students will write a term paper due on the last day of class. Information on the term paper will be passed out later.

Finally, students will form small research groups of approximately five students each and prepare a PowerPoint presentation, choosing their topic from a list supplied by the instructor. Groups will give a 'rough draft' presentation for the instructor and, after incorporating his comments, a full scale presentation to the class. This will be followed by individual meetings with the instructor for comments.
LIST OF POSSIBLE TOPICS FOR PRESENTATION

The rise of railroads
Canals
The Electrification of America
The internal combustion engine
Phlogiston/Caloric *
The Rise of Agricultural Technology
The development of the telescope or microscope
Chinese Astronomy*
Chinese Medicine
Indian Mathematics
Debate Over the Reality of Atoms*
Trial of Galileo
Newton’s Alchemy or Theology *
Development of Energy Sources
*may be challenging

You may choose other topics with the consent of the instructor
Additional topics may be added with the consent of the instructor
HNRS 240—TERM PAPER

In this paper I want you to answer a simple question: which scientific discovery or development we talked about in class was the most important? The paper should be organized as follows:

1) state which discovery you have chosen and explain the science behind it
2) state the criteria you used to make this judgment and explain why your choice meets these criteria
3) explain why your choice is better than the second best discovery you considered

NOTE: There is no ‘right’ answer to this question

length

The paper can be as long as you like, but I will only read the first five pages (including bibliography)

References

Aim at about 5 references. At least one of these should be a hard copy source, like a book, rather than something off the web.

You may NOT use Wikipedia as a reference, though you may use it to find other sources

If you use a source from the web other than those generally recognized as reliable (e.g. .gov sites, major newspapers and magazines, laboratory websites) you must give me a one or two sentence statement about why the source is to be trusted

Due Date

The paper is to be turned in on the last day of normal class, Dec. 3. At that time I will ask each of you to give a short (ONE OR TWO MINUTE) summary of your paper to the class.