

# SCI 131: Revolutions in Science

## Fall 2010

Course Syllabus

## Course Information

- This Course is 100% Online

### Instructor Information:

- Instructor name: Dr. Charles W. Jacobs
  - Office number: S-107
  - Office hours: by appointment
  - Phone: (313) 845-9734
  - Email: [cjacobs@hfcc.edu](mailto:cjacobs@hfcc.edu)
  - Course Website [henryford.ucompass.com](http://henryford.ucompass.com)
  - Science Division office: 845-6310

### Textbooks:

Edmund Blair Bolles: Galileo's Comandment. 1999. Freeman.

John Gribbin: The Scientists. 2003 Random House.

W. C. Dampier and M. Dampier. Cosmology, Atomic Theory, Evolution 2003. Dover.

J. Bronowski and B. Mazlish. The Western Intellectual Tradition. 1975. Harper Perrenial.

### Course Description:

Explores the development of modern Western science from its origins in the ancient world to the present day. Students will develop an understanding of major scientific theories through the study of selected original writings in translation as well as modern commentaries.

### Prerequisites:

None, although a previous college-level science course is recommended.

### Goal Statement:

Students will become conversant with major theories of modern science by investigating Science itself as an evolving method for understanding the natural world. Important scientific concepts and theories will be introduced and developed while the major paradigm shifts within the various scientific disciplines (including Astronomy, Physics, Chemistry and Biology) will serve as the backdrop for this investigation.

### Course objectives:

- Successful students will:
  - Explain selected concepts and theories in science.

Explain the processes and methodologies involved in modern scientific inquiry.

\*Identify the characteristics of the major paradigms in development of Western science and explain how scientific theories come to be considered successful.

Distinguish science from the pseudo-sciences (such as astrology, alchemy, etc.) by identifying and examining (discerning) characteristics of successful scientific theories.

Discuss the significance of the contributions of the major players in the development of Western science.

Relate advances in science or technology to their effects on, and their influence by, the society in which they developed.

## Instructional Policies

Course Completion requirements:

- There are fifteen weeks in the course. Each week there are a series of readings and a series of online activities for you to do. You must complete the readings and the activities by the deadlines listed each week.

Grading policy:

- Each week you will complete the following items:

Starting Assumptions	5 points
Comments on Starting Assumptions (2 x 3 pts)	6 points
Discussion Questions	10 points
Comments on Discussion Questions (3 x 3 pts)	9 points
Final Words	10 points

Possible points each week: 40 points

Total possible points (40 points x 15 weeks): 600 points

Grading Scale:

A 504 - 600

B 448 – 503

C 392 – 447

D 336- 391

E 335 or fewer

- . "Incomplete" grades will not be considered unless there are extenuating circumstances that prevent the student from completing the course and the student currently has at least a "C" grade. Students given an incomplete may only finish work; they may not repeat any work already done.

Late Assignments:

- All assignments have a deadline associated with them. There are no extensions of deadlines.

#### Drop policy:

Students who drop the course in the registrar's office on or before the official drop date are automatically assigned a grade of DR. We recommend that students remaining in the class after the official drop date receive a letter grade.

#### Academic Honesty:

“Henry Ford Community College considers academic dishonesty to be a serious offense. It is the policy of the College that determination of and appropriate action in respect to academic dishonesty by a student shall be a matter of individual judgment by the instructor. The instructor may administer a penalty up to and including failure in the particular course.” From: HFCC Catalog, Policy on Academic Dishonesty. Incidents of academic dishonesty will be reported to the Registrar, who will maintain a file on each incident. Two reported incidents will result in the student’s debarment from the college. Attach the college's Policy on Academic Dishonesty (next page), and the Open Letter to Science Students (following).

#### Course conduct:

Students must abide by the college's code of student conduct. Attach the excerpt from the Code of Student Conduct (follows the Policy on Academic Dishonesty)

Tape recording lectures without the faculty member's consent is prohibited.

#### Tentative Instructional Plan:

The schedule for the course is listed in the links on the Announcements page. You may work ahead as you wish, but remember to go back and comment on starting assumptions and discussion questions of your classmates.

# Policy on Academic Dishonesty (Cheating)

Excerpted from HFCC Catalog

Henry Ford Community College considers academic dishonesty to be a serious offense. It is the policy of the College that determination of and appropriate action in respect to academic dishonesty by a student shall be a matter of individual judgment by the instructor. The instructor may administer a penalty up to and including failure in the particular course. It is the professional obligation of the faculty to enforce academic integrity in their courses.

Academic dishonesty is any activity intended to improve a student's grade fraudulently.\* It includes, but is not limited to, the following:

1. Unauthorized acquisition of tests or alteration of grades (such as the stealing of tests, test keys, or grade books from faculty offices or elsewhere, or the purchasing of tests or grade books);
2. Unauthorized use of notes, books, or other prohibited materials during an examination;
3. Open cheating on an examination (such as copying from another student's paper);
4. Permitting another person to take a test in the student's place or receiving unauthorized assistance with any work for which academic credit is received;
5. Providing unauthorized assistance with any work for which academic credit is received;
6. Revision of graded work in an attempt to receive additional credit fraudulently;
7. Plagiarism (using another person's work without acknowledgment);
8. Any other conduct intended to obtain academic credit fraudulently or dishonestly.

If an instructor fails a student in a course for academic dishonesty, the instructor must immediately notify in writing the student and the registrar of the infraction, retaining copies of both notifications.

The registrar maintains a record of all such violations. If a student fails two classes as a result of academic dishonesty, he or she is dismissed from the College for two academic years. In addition, a notation of the reason for academic dismissal is placed on the student's transcript. The notation may be expunged at the discretion of the appropriate vice president if the student petitions for its removal after at least two years have elapsed since the disciplinary action.

If a student believes that the accusation is false, he or she may appeal through the Student Complaint Procedure. If the appeal reaches the Student Complaint Board, the Board may consider only whether the charge is justified. The Board may not set aside or change the penalty given by the instructor unless the charge of academic dishonesty is set aside.

\*Any action that violates the Student Conduct Policy and Due Process Procedure is also subject to review under that policy.

# Student Conduct Policy

Excerpted from the HFCC Catalog

## RIGHTS AND RESPONSIBILITIES

Students have the rights and accept the responsibilities of participating in an educational environment when they enroll at HFCC. Each student is expected to respect the rights of others and to help create an environment where diversity of people and ideas is valued. A collegiate community should be free from intimidation, discrimination, and harassment, as well as safe from violence. Students are also expected to know and obey federal and state laws and local ordinances, as well as be responsible for following College policies. Students at HFCC have the same rights under the constitutions of our nation and state as other citizens. These rights include freedom of expression, press, religion, and assembly. Freedom of expression, for example, includes the expression of reasoned dissent and the voicing of unpopular views. With every freedom goes the responsibility of according the same right to others. All students have the right to be treated fairly and to have access to College policies. Students are entitled to appropriate due process should they be accused of behavior that is in violation of laws or College policy.

## STUDENT CODE OF CONDUCT

A. Students at HFCC are expected to show respect for order, law, the personal rights of others, and the educational mission of the College, as well as to maintain standards of personal integrity.

B. Behavior or situations that violate these standards include, but are not limited to:

1. interference with normal College or College sponsored activities, including, but not limited to: teaching, College administration, and College Board meetings;
2. non-compliance with the directions of College personnel, including campus safety, or with the orders of any College board, such as the Student Center Board;
3. violation of accepted standards of decency;
4. discrimination against an individual or group in any activity, opportunity, or organization on the basis of race, ethnicity, gender, religion, sexual orientation, creed, national origin, ancestry, age, disability, height, weight, or marital status;
5. harassment that interferes with an individual's work or educational performance;
6. physical assault;
7. stalking;
8. threats of injury or harm;
9. arson;
10. theft;
11. gambling;
12. property damage;
13. possession of firearms or dangerous weapons;
14. possession, use, or distribution of alcohol or illegal drugs.

The complete text of this policy is available in the office of the Vice President/Dean of Student Services, 430A Administrative Services and Conference Center.

An Open Letter to HFCC Science Students:

We have had a sudden increase in incidents of cheating among students in science courses. Cheating is defined in the Policy on Academic Dishonesty, and applies to tests, quizzes and exams, to in-class and out-of-class assignments, and to any other aspect of class for which you receive credit toward a grade. We consider cheating in class to be a very serious offense.

There are many ways students can cheat in class, some of which are quite sophisticated. Here are some recent examples of cheating on Tests, Quizzes, or Exams:

Communicating, or appearing to communicate with another person:

- Talking (no matter what you say)
- Passing notes (no matter what is on the note)
- Using suspicious signals of any sort (hand signals, tapping pencils, sniffing, etc.)
- Sharing calculators or other implements (no matter what is on it)
- Using cell phones, PDAs or similar items for any reason (even if it is only for the calculator function).
- Sharing any items your instructor allows individual students to bring into the exam.

Sharing or appearing to share information:

- Copying from another person's paper
- Allowing another person to look at your paper
- Looking at another person's paper
- Appearing to look at another person's paper

Possessing a prohibited item or information (even if you do not use it):

- Any notes you are not specifically permitted to bring with you
- Any permitted sheet that contains any nonpermissible information (e.g., your instructor says you may have only equations on an equation sheet and you have anything else written on it.)
- Notes written on your clothing, your body, or anywhere else (no matter what they say).
- Using calculators, etc. other than those specified by the instructor.

Assisting other students:

- Creating a diversion that allows other people to cheat by distracting the proctor.
- Passing information about an exam to students who have not yet taken it.
- Taking an exam for another student.

Contrary to popular belief, the proctor does not have to catch you in the act of cheating – they may discover it beforehand, later, or while grading. The same rules apply.

Students who cheat or assist others in cheating will be subject to academic penalties up to and including failure in the course. Incidents of cheating reported to my office will be forwarded to the Registrar for action. Two reports to the Registrar will result in your being debarred from the College.

Instructors have the duty to enforce general test-taking conditions to ensure the integrity of exams. They may use generally accepted security practices in carrying out this duty, including assigning seats, restricting access to the room, setting the rules for answering questions during the exam (or refusing to answer them), enforcing reasonable dress codes (e.g., no ball caps, no jackets, etc.), requiring photo identification, specifying exactly what items you are allowed to have with you at the exam, and examining any items you have with you (whether they are allowed or not). If you do anything that appears to be cheating, they have a duty to confiscate your exam and enforce the cheating policy without further notice.

You have been warned. If you don't do these things, you won't have a problem. If you do these things, you can't plead ignorance.

Charles W. Jacobs, Ph.D.  
Associate Dean