INTRO ASTRONOMY
EAS 180-   Section: 001

Credit Hours:  4.00    Lab Hours: 3.00    Lecture Hours: 3.00
IAI Core:     P1 906L    IAI Majors:
Semester:     Fall    Course Begins: 8/18/2014    Course Ends: 12/12/2014
Days: MW (Lecture) and F (Lab)    Times: MW 10:00AM-11:20AM (Lecture)
                             Lab: F 9:00AM - 11:50AM (Lab)
Room: A223

Instructor:    Paul Hamill
E-mail:        phamill@mchenry.edu
Phone:         815-455-8698
Office Hours:  http://www.mchenry.edu/faculty/phamill/EAS180/courseschedule.pdf
Office Location: B252
Website:       http://www.mchenry.edu/faculty/phamill/EAS180/eas180.html

Required Course:


Supplies: Various models, charts, and instruments are used for demonstrations and laboratory exercises. PowerPoint slide shows are used in lecture.

Course Description:
Introduction to Astronomy looks at the origin, development and future of the physical universe. Students learn about the solar system, stars and galaxies, and they discuss topics of current interest such as black holes, quasars, pulsars and neutron stars. Lab work includes a study of the constellations and some telescopic observations.

Course Prerequisite: Credit or concurrent enrollment in MAT 075 or MAT 095.

Course Note: Credit cannot be earned for both EAS 180 and EAS 171. This course requires intermediate reading, intermediate writing and intermediate math.

Section Notes:
There will be four Friday night labs for binocular and telescope sky viewing in place of four daytime labs. Exact dates to be announced at first lab meeting.

Course Objectives:
Cognitive:
1. Demonstrate a familiarity with the basic vocabulary of astronomy.
2. Appreciate the basic principles and concepts of astronomy as applied to laboratory and field exercises.
3. Apply the concepts of astronomical analysis to celestial body classification, sky chart interpretation, and cosmological studies.
4. Demonstrate an ability to examine astronomical information through critical reading and discussion.
5. Employ the scientific method of inquiry to investigations in the laboratory and the field.

Affective:
1. Appreciate the astronomical processes and the magnitude of the universal forces that govern the Earth, the Solar System, and the Milky Way.
2. Accept responsibility for pursuing an increased awareness of the uniqueness of the Earth and its importance as a biosphere
3. Recognize the influence of both historical and present discoveries in astronomy to our daily lives
Manipulative
1. Demonstrate skill in field observations and the recording of data.
2. Apply the astronomical tools of lab and field instruments, sky maps, graphs, tables, and models to the examination and analysis of the celestial sphere.

Course Outline:
I. The Copernican Revolution: History of Astronomy
II. Light and Matter: Electromagnetic Radiation
III. Introduction to Telescopes and its uses
IV. The Solar System
   A. Planetary Properties
   B. Earth and Its Moon
V. The Solar System:
   A. Terrestrial Planets
   B. Jovian Planets
VI. Planetary Moons, Ring Systems, and Pluto
VII. Our parent Star: The Sun
VIII. Measuring the Stars:
   A. Stellar Classification
   B. Stellar Evolution
IX. The Milky Way Galaxy
X. Other Galaxies and Quasars
XI. Cosmology, Space Exploration, and E.T.

The instructional format for the lecture section of the course will include formal lectures, group discussion, review sessions, cooperative learning groups, and occasional demonstrations. Laboratory sessions are more informal with direct interaction between students and between student and instructor. A semi-discovery approach is used in laboratory assignments.

Assignments and Grading Criteria

A) Exams and Tests: 4 Exams, a midterm exam, and a final comprehensive exam are given.

B) Laboratory Exercises: Lab grades are based upon diligent completion of all lab questions.

C) Primary Grading Basis:
   *Lab Work 20%
   *Lecture Exams 30%
   *CLG's 10%
   Midterm Exam 20%
   Final Exam 20%

   * The instructor will drop the lowest lab, lecture exam, and CLG from the total point accumulation, therefore any lab, lecture exam, or CLG missed due to an absence from the class will be used as your dropped score. Any lecture exam, CLG or laboratory exercises missed due to an unexcused class absence cannot be made up. You may obtain a missed CLG or lab for learning purposes, but the score will not count.
D) **Grading Scale:** The components of the primary grading basis will be totaled to determine your cumulative grade. The grades awarded will be determined on the following scale:

- A – 90%
- B – 80%
- C – 70%
- D – 60%
- F – below 60%

**Policies**

**Attendance policy:** Laboratory attendance is required. If a student has two unexcused absences from lab, their grade for the entire course will be lowered one full letter grade. You must be on time and in attendance during the entire lab to be marked present.

**Late work/make-up policy:** Deadlines for all course material is due by the dates specified by the instructor. Materials turned in late will have grades lowered accordingly.

**Weekly Course Schedule**

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<tr>
<th>Date</th>
<th>Class Section</th>
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| 8/18/14 | Introduction to Class  
Go Over Syllabus  
Chapter 1 “The Copernican Revolution” |
| 8/20/14 | Chapter 1 Continued  
Video: History of Astronomers |
| 8/25/14 | Chapter 2 “Light and Matter”  
Video: Eyes on the Universe |
| 8/27/14 | Chapter 3 “Telescopes”  
Video: Eyes on the Universe |
| 9/01/14 | **No Class. Labor Day Holiday Observed. College Closed.** |
| 9/03/14 | Chapter 4 “The Solar System”  
Video: Capturing the Cosmos |
| 9/08/14 | Chapter 5 “Earth and Its Moon”  
Video: Moon Landing |
| 9/10/14 | **Exam #1 (Chapters 1-3)** |
| 9/15/14 | Chapter 5 Continued  
Chapter 6 “The Terrestrial Planets” |
| 9/17/14 | Chapter 6 Continued  
Videos: Mercury and Venus, Mars |
| 9/22/14 | Chapter 7 “The Jovian Planets” |
| 9/24/14 | Chapter 7 Continued  
Videos: Jupiter, Saturn, The Outer Planets |
| 9/29/14 | Chapter 8 “Moons, Rings, and Pluto” |
| 10/01/14 | **Exam #2 (Chapters 4-8)** |
| 10/06/14 | Chapter 9 “The Sun”  
Video: The Sun |
| 10/08/14 | Chapter 9 Continued  
Video: The Sun |
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<tr>
<th>Date</th>
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<tr>
<td>10/13/14</td>
<td>Chapter 10 “Measuring the Stars”</td>
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<tr>
<td>10/15/14</td>
<td><strong>Midterm Exam: (Chapters 1-8)</strong></td>
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| 10/20/14   | Chapter 10 Continued  
Chapter 11 “The Interstellar Medium”                                  |
| 10/22/14   | Chapter 11 Continued                                                  |
| 10/27/14   | Chapter 12 “Stellar Evolution”  
Video: Lives of the Stars                                               |
| 10/29/14   | Chapter 13 “Neutron Stars and Black Holes”                            |
| 11/03/14   | **Exam 3 (Chapters 9-13)**                                            |
| 11/05/14   | Chapter 14 “The Milky Way Galaxy”                                     |
| 11/10/14   | Chapter 15 “Normal Galaxies”                                          |
| 11/12/14   | Chapter 16 “Active Galaxies”                                          |
| 11/17/14   | Chapter 17 “Cosmology”                                                |
| 11/19/14   | Chapter 18 “Life in the Universe”  
Video: In the Beginning                                                  |
| 11/24/14   | Chapter 18 Continued  
Video: “History Channel Search for ET”                                 |
| 11/26/14   | **No Class. Thanksgiving Holiday Observed. College Closed.**           |
| 12/01/14   | **Exam 4 (Chapters 14-18)**                                           |
| 12/03/14   | Review for Final Exam                                                 |
| 12/08/14   | **Final Exam (10:15AM – 12:15PM)**  
**Final Exam (Chapters 1-18)**                                          |

**Withdrawals:** The last day to drop this course is **11/14/14**. Failure to attend class does not constitute official withdrawal. If students are considering a withdrawal, they should consult directly with the instructor and an academic advisor. Students may withdraw from a class through the Registration Office, either in person or by fax: (815) 455-3766. In their request, students should include their name, student ID number, course prefix, number and section, course title, instructor, reason for withdrawing, and their signature. Withdrawal from a course will not be accepted over the telephone.

Please refer to the following link for other important college dates: www.mchenry.edu/academiccalendar.asp

**General Education Goals:**
1. Critical Thinking: To identify, define, analyze, synthesize, interpret, and evaluate ideas.
2. Information Literacy: To locate, evaluate, and use resources effectively.
3. Effective Communication: To develop, articulate, and convey meaning.
4. Ethical Awareness: To identify and make responsible choices in a diverse world.
5. Technological Literacy: To use tools skillfully.

**Assessment:**
Some student work may be collected for the purpose of assessment, including student competency in the general education goals, the program, or the course.

**Effective Fall 2014: Student E-Portfolio:**
The instructor of the course will designate at least one graded assignment for possible inclusion in the student E-portfolio. Students applying for an AA, AS, AFA, AES, or AGE degree must document their learning outcomes with a graded assignment for each of the five general education goals by the time of graduation. These five assignments and a cover letter will be in the student E-portfolio in Canvas.
**Special Needs Statement**
McHenry County College offers support services for students with special needs. It is your responsibility to meet with the Special Needs Coordinator and provide current documentation regarding a disability. Please call or stop by the Special Needs Department, (815) 455-8676, Room A260, as soon as possible if you would like more information about the accommodations that are available. In addition, it is important for you to discuss those accommodations with your instructor so you are fully able to participate in this course.

**Academic Integrity**
As an educational community, McHenry County College values the pursuit of academic excellence and integrity. In accordance with this philosophy and Chapter 10, Act 5 of the 1994 Illinois Community College Act, academic dishonesty in any form, including cheating, plagiarism, and all other acts of academic theft, is considered intolerable. Appropriate sanctions, up to and including suspension from the College will be imposed by authorized College personnel.

**Copyright Policy**
MCC will maintain current procedures and guidelines to ensure that all staff and students comply with applicable copyright laws and other intellectual property protection laws. The College will encourage staff and students to engage in the development of intellectual property and facilitate ownership protections with respect to such development of intellectual property.

The College expects that staff and students will act responsibly and ethically in a manner consistent with all copyright laws and College copyright procedures and guidelines. This policy authorizes the College to adopt and maintain such procedures and guidelines necessary to ensure compliance with copyright laws and to facilitate ownership protection with respect to the development of intellectual property.

**Student Code of Conduct and the Judicial Process**
Consistent with the MCC mission is an expectation that students will govern themselves in terms of appropriate behavior with emphasis on self-respect and respect for others. It is the practice of the College to respect the properly exercised rights of its students. The College recognizes a student’s rights within the institution to freedom of speech, inquiry and assembly; to the peaceful pursuit of education; and to the reasonable use of services and facilities at MCC.

MCC has adopted a Student Code of Conduct and judicial process to maintain a learning environment of respect, civility, safety, and integrity for all members of the MCC community.

Whenever possible, sanctions for violations of the Student Code of Conduct may be educational in nature. However, violations affecting the health and safety of members of the MCC community are deemed to be the most serious. Therefore, acts of violence, threats or dangerous behavior are most likely to result in a suspension from the College. Violations of the academic dishonesty policy may also result in suspension or expulsion from the institution and/or reduced or failing grade.

**Children on Campus**
For the safety of children on campus, children (i.e., less than 16 years of age) are not permitted on campus unattended by a parent/guardian, except when they are attending classes offered by MCC for children. The College requires that no children be allowed into a classroom/laboratory environment, including the Testing Center, Learning Center and computer labs, solely for the purpose of a parent/guardian to provide direct supervision of his/her child.
Teaching Schedule
The scheduling of the activities and teaching strategies on this syllabus, but not the objectives or content, may be altered at any time at the discretion of the instructor.

Resources
The following are useful resources available to you as a student at McHenry County College:

Advising and Transfer Center:
Phone (815) 479-7565; Office A257
www.mchenry.edu/ATC/Index.asp

Counseling:
Phone (815) 455-8765; Office A257
www.mchenry.edu/counseling

Financial Aid:
Phone (815) 455-8761; Office A262
www.mchenry.edu/financialaid

Library:
Phone (815) 455-8533; Office A212
www.mchenry.edu/library

Special Needs:
Phone (815) 455-8676; Office A260
www.mchenry.edu/specialneeds

Tutoring and Study Skills (Sage Learning Center):
Phone (815) 455-8579; Office A247
www.mchenry.edu/sage