

SYLLABUS PHYSICS 106

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Course Title: Physics 106 L

Credit Hours 5

Course Description

A survey of astronomy with emphasis on the scientific method, observation, tools of observation, and the models, physical principles, and processes that help describe and predict astronomical phenomena. Includes a laboratory component

Prerequisite

Math 40 or MATH 40L with a grade of C or better or satisfactory score on the math placement test.

Textbook Information

1. Required:

Starry Night College edition, v7. Available for download from the software vendor ([click here for directions](#)) for free. The lab fees included with your course tuition paid for the software. You will receive a *Message* in the Blackboard Course with your Access code for downloading the software. This needs to be one of the first things you do as the first lab assignment using the Software is due Friday at noon.

2. Optional:

Cosmic Perspectives (7th ed) by Bennett, Donahue, Schneider, & Voit, In fact, the 5th or 6th Edition will work too (and are much cheaper online!).

Are there reading assignments for this course? Absolutely, each Module in the course consists of a number web pages addressing the material to be mastered. You will also find a number of links to web resources relevant to the module. You will have the opportunity to go well beyond the basic materials provided in the course, so do not limit your research to just the materials found in the course site. Take advantage of all the resources provided!

Course Objectives

Upon Completion of this course, you will be able to:

1. Explain the scientific method, differentiating between scientific fact and theory.
2. Evaluate scientific evidence and argument within the context of astronomy.
3. Correctly apply physical laws to the motions, positions, and attributes of various celestial bodies.
4. Describe the function and purpose of various astronomical instruments.
5. Draw appropriate conclusions based on numerical and graphical data in the context of astronomy.
6. Estimate orders of magnitude of quantities using the metric system and apply systems of units, including the metric system, correctly in solving problems in the context of astronomy.
7. Demonstrate knowledge of the historical development of astronomy.
8. Use star charts to find the locations of constellations in the sky at night.
9. Use computer programs to simulate and predict sky conditions and events.
10. Use the celestial sphere and appropriate coordinate systems to locate celestial objects and to describe and predict the positions and motions of objects in the sky relative to various positions on Earth.
11. Describe the Sun's motions relative to the celestial sphere and explain that motion in the context of a heliocentric model of our solar system in which the spheroidal Earth rotates and the Earth's axes are tilted with respect to the ecliptic plane causing seasons.
12. Describe the Earth-Moon system and explain lunar phases, eclipses, tides, and motions affected by the Earth-Moon system.
13. Summarize the evolution, structure, and scale of our solar system.
14. Describe the main layers of the sun and give a general explanation of how the sun generates energy and transfers it through various layers and across space toward the planets.
15. Use stellar measurements to analyze the motions, characteristics, and life cycles of stars.
16. Describe the interaction of the field of astronomy with technology and society.
17. Summarize the evolution, structure and scale of the universe.

Communication and Turnaround Time

1. Communication Types:

- Announcements will be posted by the instructor in the Announcement Page.
- Course Messages:
 - If you have specific, personal questions for the instructor, send a message through Blackboards Course Messages link on the left.

- Discussion Boards: Questions and answers will be posted in the discussion board forums that you will want to read. Weekly discussion questions are posted for class interaction.

2. Communication Turnaround Time:

You can expect all correspondence via discussion board or messaging to be responded to within 24 hours Monday through Friday. The instructor will notify the class if there will be longer periods of time where responses may be delayed.

Grades and Feedback Turnaround time

It is imperative in an online class that you are aware of your grade status in the class always.

Please refer to the link below to see how to check your grades and feedback:

- [How to check my grades written tutorial](#)
[How to check my grades video tutorial](#)
- [How to check assignment grades written tutorial](#)
[How to check assignment grades video tutorial](#)

Here are the expected turnaround times for each assignment type.

1. Discussion forums will be graded within 3 days after the due date.
2. Multiple-choice, True/False, Match and other non-essay type questions in Quizzes and Exams are auto-graded immediately after you take them.
3. Papers, journals, essays, short-answer questions and other manually graded written assignments will be graded within one week after the due date.

Grades

Points/Percentage Grade:

Factor	% of Total Grade	Letter Grade	Score Range
Exams	40%	A	90% - 100%
Labs	30%	B	80% - 90%
Discussion	20%	C	70% - 80%
Observations	10%	D	60% - 70%

- 59% or less will result in failing the class
- Final Grades are calculated using the following formula:
Grade = (Exam Ave x .40) + (Lab Ave x .30) + (Discussion Ave x .30) + (Observation Ave x .30)

Assignment Types and Grading Policy

Exams

The material studied in this course will be assessed through four (4) exams. Each exam will consist of multiple-choice, matching, and short answer questions.

Notes of caution on Exams:

- Each question is pulled from a pool of related questions, so every student's exam is unique.
- Force completion is active, so any attempt to open another window in the browser when taking a quiz will result in premature completion of the exam. This is not the instructor's problem, and do not blame Blackboard for "kicking you out" of the exam.
- Tracking is active for all graded elements of the course within Blackboard, so I will have access to logs indicating time spent on each task in the course site.

Each Weekly Module includes a **study guide** that consists of questions related to that weekly module. You will want to try and answer as you work your way through the course materials. Exams 1, 2 and 3 each cover 4 course Modules (Exam 1 covers Modules 1, 2, 3 & 4, and so on)..

Exams will open at 12:00 **p.m. (noon)** Sunday and close at 12:00 **p.m. (noon)** the following Friday (please don't ask that it be available any later than Fridays, as I may not be available to support you if any problems occur). Exam dates are posted in the course calendar.

Note - Exam 4 will assess student learning of the material from the **final three** Modules (13, 14 & 15) and include a **comprehensive section** (25% of the 4th exam).

Discussions

Each Module has a set of discussions topics/questions and a corresponding Forum (named for the Module) in the Discussion area of Blackboard (links will also be located in the corresponding Weekly Module)... Discussion Forums for a given Module follow the start and end dates of that Module on the course calendar the following Saturday. This does not mean you should wait to start on Monday and end on Saturday. Each set of module activities will be made available at least one week early to accommodate those needing to use their weekends or with a known schedule conflict. It is safer to work ahead. Participation will be assessed according to the *Participation Rubric* (located in the Syllabus area - here is a [direct link](#)), and participation scores are based upon three criteria - original threads, contributions to other threads, and quality.

The purpose of the Discussion activity is to assist you with the synthesis of the material covered in this course, something we would normally do as part of our class discussions. You may have to do some additional research (using many of the links included with this course), and you must frame your contributions and feedback according to the principles of science and the scientific process. *Opinions and beliefs have little value in these discussions, and these are often where students get sidetracked from the real purpose of the activities.* In fact, you want to start reading the Weekly Module before jumping in - it can sometimes be easy to "demonstrate" a lack of knowledge without doing a little background reading...

Labs

Astronomy meets the one of the laboratory degree requirements; consequently, students must complete at least nine of the twelve lab assignments to receive a grade in this course. Students will be dropped once they do not submit a third lab (until to the final day to withdraw from the course). The purpose of the lab exercises is to build upon the concepts discussed through actual experience. Detailed information is located on the Lab Introduction (found in the Lab Area in the course site).

There are twelve labs and fifteen Weekly Modules, so you will **not** have lab assignments due the same week as an Exam. The labs are designed to go with the content of the related Module, but the numbers do not match up after week 4 (no lab during week 5 due to Exam #1, then Lab 5 will be due in Week 6...).

There are not traditional lab reports. Each lab will be submitted through a Lab Quiz and **may** require an additional document/image/graph submission. Every lab will have a Quiz, but not necessarily additional documents (Labs 1 and 2 will only require a Quiz). Additional information, instructions, and required submissions will be included in the Lab folder, and any additional materials will be highlighted in a way to catch your attention.

Be sure to check the due dates and times (always noon)! Solutions for the lab activity will be released at the deadline. Thus, *no late lab assignments will be accepted!*

Observations

To practice some real astronomy, you will be asked to keep a journal of weekly observations using the Journal/Blog tool in Blackboard. You will be expected to post at least one weekly observation (suggestions will be provided). Observation weeks correspond to the "official" Weeks posted in the course calendar, and you will find a link to that week's Observing Journal in Module area.

Weather will be considered (but **do not** post bad weather as an observation!), so be sure to check the Observations Description if poor conditions persist for more than a couple of days. Generally, a minimum of 2 "good" weeknights are necessary. Specifics

for this assignment can be found in the Observers Journal - found in the left-hand course menu...

Course Policies

1. Extra Credit

The question of extra credit always comes up at some point during the semester. There are not extra credit options, as that would require more work (think about how much is already required in this course!). As life does "happen," the lowest lab, observation, and discussion score is dropped in the final grade calculation, but please do not waste this "bonus" during the first few weeks of the course. Honestly, the expectations go up as the semester goes on, so I will be most lenient at the beginning!

2. Expectations

It is expected that you will access this blackboard site at least three times per week. Daily access is encouraged.

This course has been designed to be delivered in as flexible a manner as possible, but to be successful you should plan to log in and participate multiple times a week. This is a three-credit hour class so you should plan on spending about 8-10 hours a week on this course with the online requirements (discussions, videos), reading materials, and study time.

3. Attendance Policy

Since this course is online, your "attendance" in class is based on meeting assignment deadlines. You must submit work for the class to be considered attending the class. Federal Guidelines require you to login, participate, and submit assignments to be considered attending.

MCC regulations state that an instructor may withdraw a student from class after a consecutive absence equating to 15% of the total class time, or after total absences equating to 33% of the total class time. If you fail to submit any work for one week of an 8-week course or two weeks of a 16-week course, you may be withdrawn. If you fail to turn in 33% of your work in the course, you may be withdrawn from the course. An instructor may choose to enforce a stricter attendance policy.

Simply logging in to Blackboard does not count as attendance.

4. Late Work

Due dates for assignments, exams, discussions and other work are posted on the course schedule or calendar. Late assignments will not be accepted.

5. Drop Policy

It is your responsibility to withdraw from the course if you decide to stop attending. If you choose to drop the course you must complete a drop form and submit it to the campus records office. Check myMCCCKC > Student Center for the specific dates, including the last date to drop your course without assessment (or grade posted) for the course

Before withdrawing, please contact an advisor to determine what if any impact this drop will have on your financial aid.

6. Code of Conduct

Students are required to follow the [Metropolitan Community College's Student Code of Conduct](#).

7. Student Support

If you need technical support for Blackboard, MCC student email, tutoring services, Library services, advising or counselling services, please click on the "Student Resources" tab on top of blackboard after you logged in to Blackboard.

Netiquette

Netiquette: Information on appropriate online conduct can be found in [The Core Rules of Netiquette](#). You are expected to follow these rules and any other specific rules your instructor may require for interacting in the class.

Satisfactory Academic Progress

In order to continue your eligibility for financial aid, you must make satisfactory academic progress toward your educational plan by maintaining a minimum grade point average and successfully completing a minimum number of courses throughout your enrollment at MCC, and completing your educational plan within a reasonable time. Your progress will be reviewed at the end of each semester. More information is available at [Satisfactory Academic Progress web site](#).

ADA

Metropolitan Community College (MCC) is committed to ensuring equal access to all qualified students with disabilities in accordance with the Americans with Disabilities Act (ADA). If you have a disability which may impact your ability to access or participate in any aspect of your online coursework, please contact the campus Disability Support Services (DSS) Coordinator or your choice. Phone numbers are listed at mccckc.edu/disability. The DSS Coordinator will work with you to determine what disability documentation/information is needed in order to provide accommodations.

Accommodations are determined on an individualized basis and may take some time to put in place, so early notification to DSS is helpful. Students can identify themselves to DSS as a student with a disability and request accommodations anytime during their education. Please note that accommodations are not retroactive and may vary based on the nature and requirements of the class. More information is available at mcckc.edu/disability.

- [Blackboard Accessibility Information](#)
- [Smart Proctoring Accessibility Information](#)
- [Pearson REVEL Accessibility Information](#)
- [Cengage SAM 365 & 2016 Accessibility Information](#)
- McGraw-Hill
 - [McGraw-Hill Education Connect Accessibility Information](#)
 - [MCGraw-Hill Education Accessibility Policy](#)
 - [MCGraw-Hill Accessibility Information and hand-waving excuse](#)

Academic Integrity

The Metropolitan Community College, as an academic community, expects all administrators, faculty, staff, and students to behave as responsible members of the college community and to be honest and ethical in their academic work. MCC strives to provide students with the knowledge, skills, judgment, and wisdom they need to function in society as educated adults. To falsify or fabricate the results of one's research; to present the words, ideas, data, or work of another as one's own; or to cheat on an examination corrupts the essential process of higher education and the values of the Academy.

The Metropolitan Community College expects all students to act according to the rules of academic honesty as outlined in the [Student Handbook](#). What this really means is that you are expected to turn in only your own work and that you will complete all quizzes and examinations unassisted. If you should violate this trust, then you will be treated the same as any traditional student that cheats.

Academic Dishonesty includes:

1. Plagiarism - the intentional use of the ideas or words of another as one's own in a paper or other academic assignment.
2. Cheating during examinations, whether by copying from a fellow student or by using information in the form of unauthorized aids brought to the examination.
3. The submission of work for any assignment that has been prepared by another student.
4. Submission of a single paper to fulfill requirements in two courses without prior approval of the instructors in both courses.

5. Using a false name or signing the name of another individual without proper authorization in connection with any course work.

Disciplinary action will be taken for those students suspected of academic dishonesty. At no point in this course is it acceptable for students to submit someone else's work as their own, or use the ideas of someone else as their own. It is also unacceptable for students to share their own work with another student.

Unilateral Instructor Action – If objective evidence exists indicating that a student has practiced academic dishonesty, the instructor may assign a grade of "F" on the paper, examination, or assignment or assign a grade of "F" for the course.

If the instructor feels that a more severe action is appropriate, the complaint may be referred to the division chair and the dean of instruction. The dean has the authority to recommend an action to the president, or the student may request a hearing.

Grievance

Questions or concerns about any aspect of this course should be directed to the instructor so the student and the instructor can work together to resolve any problems that may exist. In the unlikely event that the problem cannot be resolved, then the next step is for the student to make contact the MCC Online Enrollment Manager at 816 604 4487.

Metropolitan Community College is strongly committed to providing workplaces and classrooms that are free of sexual harassment. MCC will not tolerate any behavior, whether verbal or physical, which constitutes sexual harassment. Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct or communication of a sexual nature are prohibited. To file a complaint, contact the MCC Online Enrollment Manager at 816 604 4487.