95.121 Exploring the Universe
SPRING 2012

COURSE POLICY / INFORMATION

Coordinator **Dr. Stimets**

Section Info **102** – MWF; 10:00 – 10:50 in Olney 150 (Dr. Cook)
101 – MWF; 12:00 – 12:50 in Olney 150 (Dr. Laycock)

Instructors **Dr. Cook** (**Timothy_Cook@uml.edu**/Olney (NC) –
Dr. Laycock (**Silas_Laycock@uml.edu**/Olney (NC) – 127 / 978.934.**3777**)

Corequisite **96.121 Lab for Exploring the Universe** (see **page 5** of this document)

Websites Course: **http://faculty.uml.edu/rstimets/95.121/**
Text: **http://mhhe.com/arny**

Catalog Description Topics covered will include: planet Earth, its structure, plate tectonics, greenhouse effect, ozone layer, craters and dinosaurs; our satellite - Moon; other planets; our star - Sun and its energy source; other stars, the HR diagram and stellar evolution, white dwarfs, neutron stars, supernovae, blackholes; our galaxy, the Milky Way, its structure; other galaxies; the universe, its structures and expansion; evolution of galaxies, quasars, cosmology, the Big Bang and unification of the forces of nature.

General Education This course counts towards the Science with Laboratory (**SCL**) General Education requirement **if and only if** it is taken with the **corequisite** ***96.121 Exploring the Universe Laboratory.***
Please note that taking just 95.121 will ***NOT*** satisfy the Science **(SC)** General Education requirement regardless of whether you have satisfied your lab science requirement.

Required Materials
a) Text: ***Explorations*** (**An Introduction to Astronomy)** by Thomas T. Arny & Stephen E. Schneider, **6th** edition, McGraw-Hill

b) Study Guide and Lab Manual: ***Exploring the Universe*** (**revised**) by Richard W. Stimets, Kendall Hunt (needed for both 95.121 and 96.121)

c) **Response Pad** (clicker): **P**ersonal **R**esponse **S**ystem (**PRS**) by eInstruction

(Course Materials are available at the UML bookstore.)

Course Coverage **Arny** : Chapters 1-4, 6-18; **Stimets**: Chapters 1-17

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Attendance **required** for all classes

Restrictions No consumption of any **FOOD** or **DRINKS** is allowed in the classroom. During class time all electronic devices (except response pads, calculators, and computers – allowed in the front rows) must be **turned off**.

Hand-in Homework

a) The first sheet must be labeled on the **top right** with: **Your NAME** (**printed with family name first**; **in capital letters**), **section number**, and the **assignment label**. Failure to follow this guidelines may result in lost work.

b) Only **8.5 x 11 inch** paper with **straight edges** may be used.

c) Multiple pages for a given assignment **must be stapled** together.

d) Typewritten or hand-printed homework assignments are preferred. Handwritten assignments are acceptable only if they are clear and legible.

e) Keep your answers brief and to the point.

f) Hand-in homework must be turned in at the **beginning** of the class on the date indicated on the assignment schedule. (If class is cancelled on a quiz day, the quiz will be given and the homework collected on the next class day.)

g) **No *LATE or EARLY*** hand-in homework will be accepted for **any** reason.

In-class Questions / Quizzes

a) Questions:

Bring your response pad (clicker) to **every** class as questions will be given daily.

Possession of more than one response pad constitutes academic dishonesty. Any communication during the answering of questions will also be considered academic dishonesty.

You will NEVER be able to use paper in place of your response pad.

No makeup questions will be given.

b) Quizzes: Bring a **number 2 pencil**, **eraser, and scientific calculator**.

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Grading

In-class questions	**10 %**
In-class quizzes	**25 %**
Hand-in homework	**25 %**
Final Exam	**40 %**

Your grade for in-class questions will be determined by **dropping the lowest scores for 25 %** of the questions asked.

Your grade for in-class quizzes will be determined by **dropping the lowest 3 quiz scores.**

Your grade for hand-in homework will be determined by **dropping the lowest 4 homework scores**.

FINAL EXAM -- consists of 94 questions from the quizzes and 6 questions from the topic of cosmology; time/date/place to be announced by the registrar's office

Make-up Work **May** be permitted but **only** in cases of documented **unavoidable** absence due to acceptable cause (such as serious illness, death in the family, court summons, etc.). Only students who have authorized absences from at least 3 in-class quizzes are eligible for makeups.

Academic Conduct You are responsible for proper academic conduct - please refer to the university's academic integrity policy at the following URL:

www.uml.edu/catalog/undergraduate/policies/academic_dishonesty.htm

Policy for In-Class Quizzes and Final Exam

1. The work is to be **your own** work. No communication with other students is permitted. The only items which are allowed on your work space are:

   a) the question sheet(s)
   b) your answer sheet (bubble form)
   c) an electronic calculator
   d) pencil and eraser

2. Electronic communication devices such as cell phones, ipods, etc. must be turned off and placed in your book bag or on the floor. If you have one of these in your hand or on your work space, it will be presumed that it is being used for academically dishonest purposes.

3. Any student observed violating rules 1 and/or 2 above will at a **minimum** be asked to leave the room and forfeit that quiz or exam score, i.e. you will receive a score of zero.

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COURSE GOALS and STUDENT LEARNING OBJECTIVES

Course Goals

- illuminate the excitement of the field of astronomy
- develop a thirst for a better understanding of what astronomy is
- explain how science is done (and that it is never done)
- explain how we know what we think we know
- clearly define the fundamental science that astronomy rests on
- develop an appreciation of the relative size of things in the cosmos
- provide scientific explanations of material related to astronomy
- enhance the ability of solving simple scientific numerical problems

Student Learning Objectives

- develop an awareness of orders of magnitude
- understand meaning of proportionality and ratios
- be able to use logarithmic scales
- be able to interpret graphical data
- discern the meaning of tabular data
- know the **scientific method**; meaning of 'theory'
- be able to express yourself clearly on the course topics

96.121 Exploring the Universe Laboratory (SPRING 2012)

(Sections will NOT meet during the first week of classes,Jan 23-27)

Lab sections meet on Monday, Wednesday, **or** Friday in either Olney 103A or Olney 108A. There are only **six (6)** meetings and **all** are required.

The ***initial*** meeting (1 of the 6!) for each section is given below:

ODD-NUMBERED SECTIONS

M Sep. 12 sect. 807 / 809 / 817 / 819 / 821 / 823 / 829 / 833

W Sep. 14 sect. 825 / 827 / 835

F Sep. 09 sect. 801 / 803 / 805 / 811 / 813 / 815 / 831 / 837

EVEN-NUMBERED SECTIONS

M Sep. 19 sect. 808 / 810 / 818 / 820 / 822 / 824 / 830 / 834

W Sep. 21 sect. 826 / 828 / 836

F Sep. 16 sect. 802 / 804 / 806 / 812 / 814 / 816 / 832 / 838

Registration Questions for 96.121 labs?

Contact Dr. Mittler using one of the following ways:

a) email: **Arthur_Mittler@uml.edu**
b) office: **Olney 137**
c) telephone ext.: **3775**

physics lab website: **http://faculty.uml.edu/amittler/phlabs/**