

Dr. Onuegbu Comp 003 Spring 2015 Syllabus

HOWARD UNIVERSITY
COLLEGE OF ARTS AND SCIENCES
COMPREHENSIVE SCIENCES
SPRING, 2015

COURSE: PHYSICAL SCIENCES COMP-003-SECTION: _____
PROFESSOR: DR. JONATHAN ONUEGBU OFFICE: ROOM B-6, LOCKE HALL
LECTURE ROOM: _____ LAB ROOM: CHEMISTRY BLDG. ROOM 204
LECTURE DAY (S) & TIME: MW AT- LAB DAY & TIME W AT-
OFFICE TELEPHONE: 202/806-6984 OR 806-6744 E-MAIL: jonathan.onuegbu@howard.edu
CONFERENCE HOURS: MONDAY AND WEDNESDAY 8-9 AM FAX: 202/806-5786
MONDAY 11.10 AM-12.10PM; FRIDAY 11AM – 1 PM

COMPREHENSIVE SCIENCES HOME PAGE: www.comprsci.howard.edu

TEXT:

LECTURE: Tillery, Physical Science, HU Edition, McGraw-Hill College Publishing 10TH Edition

LABORATORY EXPERIMENTS - HANDOUTS

OTHER MATERIALS: SUPPLEMENTAL HANDOUTS

COURSE RATIONALE:

Comprehensive Sciences Lecture-Laboratory courses are Life Sciences (COMP-001), Planetary Sciences (COMP - 002), Physical Sciences (COMP -003) and Computer Sciences (COMP -004). These courses are designated among the introductory natural science course offerings. These courses are requirements in the General Education Curricula of the College of Arts and Sciences; The Schools of Business, Communications and Education; The Division of Nursing and Allied Health; and Programs in the School of Engineering and Architecture. These academic units have determined the necessity of a natural science component in the schedule of courses that students must complete in order to receive a degree from the University.

COURSE OVERVIEW/DESCRIPTION:

This course is designed to offer students a broad overview of the Physical Sciences. Emphasis is placed on understanding some of the most basic science concepts and how these concepts can be used and related to everyday phenomenon. Students are challenged to look at science as a way of knowing and understanding the things that happen in the world, their lives and their environment.

COURSE LABORATORY FEES STATEMENT:

The laboratory fee that is assessed for this course is used to supplement the expenditure for the purchase of equipment; permanent, temporary and fresh consumable supplies; and for repair, replacement and maintenance of equipment and supply items that are used in the laboratory.

COURSE RELATIONSHIP TO OTHER COMPREHENSIVE SCIENCES COURSES:

Physical Science is linked with Life Sciences (COMP -001). Life Science examines phenomenon associated with matter that is part of living things. Living matter is composed of organic and inorganic substances that have a molecular composition. This matter is affected also by the laws that govern living and non-living things (Chemistry and Physics).

Physical Science is linked to Planetary Science (COMP -002). Planetary Science studies physical aspects of the Earth (Geology) and the Constellations (Astronomy). The Earth is composed of inorganic and organic substances (Chemistry). The laws that govern living and non-living matter affect the matter that comprises the planets and constellations.

Physical Science uses technology and information provided in Computer Science (COMP -004).

COURSE POLICIES AND REQUIREMENTS:

Synopsis:

Physical Science Lecture and Laboratory is a three (3) credit course with multiple sections.

The lecture is comprised of two (2) 50 - minute meetings per week and a hands on lab once weekly.

Attendance at all lectures and laboratory sessions is crucial to success in passing the course, as well as success in obtaining a conceptual overview of the physical sciences.

COURSE GRADING SYSTEM:

There will be a total of 1,000 points possible for this course; the point distribution is as follows:

| | | | |
|---------------------------|--------------|---|---|
| 1 st Hour Exam | 100 | } | <u>THE BEST 3 OF 4 TESTS</u> <u>WILL BE COUNTED*</u> |
| 2 nd Hour Exam | 100 | | |
| 3 rd Hour Exam | 100 | | |
| 4 th Hour Exam | 100 | | |
| Final Exam | 200 | } | |
| Quizzes** | 50 | | |
| Homework | 150 | | |
| Laboratory | 300 | | |
| TOTAL | 1,000 | | |

* During the SPRING TERM, the fourth exam for graduating seniors is your final; therefore, the best two out of the previous three exams are counted for seniors and the best score is counted twice. All other scoring remains the same

** Quizzes are given at the discretion of the instructor and may or may not be announced.

CLASS SCHEDULE

| COMP - 003 | DAY | PHYSICAL SCIENCE LECTURE/LABORATORY | INSTRUCTOR |
|------------|-----|--|------------|
| 10239 - 01 | MW | 10:10-11:00 AM DOUGLAS HALL 126 | Onuegbu |
| LAB | W | 11:10-1:00 PM CHEMISTRY BUILDING, ROOM 204 | Onuegbu |
| 10240 - 02 | MW | 10:010-11:00 AM DOUGLAS HALL 126 | Onuegbu |
| LAB | W | 1:10-3:00 PM CHEMISTRY BUILDING, ROOM 204 | Onuegbu |
| 10241- 03 | MW | 9:10-10:00 AM ALAN LOCKE HALL ROOM 242 | Onuegbu |
| LAB | W | 3:10-5:00 PM CHEMISTRY BUILDING, ROOM 204 | Onuegbu |

EXTRA CREDIT:

There are several opportunities to receive additional points for lectures you may attend, film presentations and submission of articles you may read pertaining to physical science. You have 4 opportunities to earn extra credit towards an exam. An article with a summary submitted on or before the day of the exam will earn you extra credit towards the exam.

COURSE SYLABUS INFORMATION FOR SPRING, 2015:

| DATE | LECTURE UNIT/HOMEWORK ASSIGNMENT |
|---|---|
| | |
| January 12 | CLASSES BEGIN – INTRODUCTION |
| January 12, | UNIT 1: THE FOUNDATIONS OF SCIENCE |
| January 14, 21 , 26, & 28 | CHAPTER 1 - ALL SECTIONS |
| | CHAPTER 2 - ALL SECTIONS |
| | CHAPTER 3 - ALL SECTIONS |
| | |
| January 28 | HOMEWORK DUE |
| | Homework Assignments |
| | Chapter 1: Group B (questions 2 and 6) |
| | Chapter 2: Group B (questions 3 and 7) |
| | Chapter 3: Group B (questions 4 and 8) |
| | (45pts) |
| February 02 | REVIEW UNIT 1 |
| | |
| | |
| February 04 | EXAMINATION UNIT 1 |
| | |
| February 09, 11, 18, 23 & 25 | UNIT 2: MATTER AND ENERGY |
| | CHAPTER 4 - ALL SECTIONS |
| | CHAPTER 5 - ALL SECTIONS |
| | CHAPTER 6 - ALL SECTIONS |
| | CHAPTER 7 - ALL SECTIONS |
| | |
| February 25 | HOMEWORK UNIT 2 DUE |
| | Homework Assignments |
| | Chapter 4: Group B (questions 6 and 7) |
| | Chapter 5: Group B (questions 1 and 7) |
| | Chapter 6: Group B (questions 3 and 6) |
| | (45 pts) |
| March 02 | REVIEW UNIT 2 |
| | |
| March 04 | EXAMINATION UNIT 2 |
| | |
| March 09, 11, 23, 25, & 30 | UNIT 3: ORDER AMONG ATOMS |
| | CHAPTER 8 - ALL SECTIONS |
| | CHAPTER 9 - ALL SECTIONS |
| | CHAPTER 10 - ALL SECTIONS |
| | |
| | |
| April 01 | HOMEWORK UNIT 3 |
| | Homework Assignments |
| | Chapter 8: Group B (questions 1 and 4) |
| | Chapter 9: Group B (questions 5 and 6) |
| | Chapter 10: Group (questions 1 and 4) |
| | (40 points) |
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| DAY | LECTURE UNIT/HOMEWORK ASSIGNMENT |
|-----------------------------------|--|
| April 01 | REVIEW UNIT 3 |
| April 06 | EXAMINATION UNIT 3 |
| April 08, 13, 15, & 20 | UNIT 4: ORGANIC CHEMISTRY AND BEYOND |
| | CHAPTER 11 - ALL SECTIONS |
| | CHAPTER 12 - ALL SECTIONS |
| | CHAPTER 13 - ALL SECTIONS |
| April 20 | HOMEWORK DUE |
| | Homework Assignments |
| | Chapter 11: Group B (questions 1 and 3) |
| | Chapter 12: Group B (questions 7 and 8) |
| | (20 points) |
| April 20 | REVIEW UNIT 4 |
| April 22 | EXAMINATION UNIT 4/FINAL EXAM FOR SENIORS |
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Your final examination in physical science will be Tuesday, April 28, 2015 from 1.00 pm - 3:00 pm. The place for the exam will be announced later. Students who have an examination conflict due to scheduling of courses should see the instructor to make arrangements for an alternate time for the exam if it is deemed necessary.

OTHER IMPORTANT DATES DURING SPRING 2015

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|--------------------|--|
| January 12 | INSTRUCTION BEGINS IN ALL SCHOOLS AND COLLEGES. |
| January 17 | COURSE WITHDRAWAL FEE EFFECTIVE |
| January 19 | MARTIN LUTHER KING'S BIRTHDAY - LEGAL HOLIDAY |
| February 13 | DEADLINE FOR PROSPECTIVE SPRING 2015 GRADUATES TO APPLY FOR GRADUATION VIA BISONWEB |
| February 16 | PRESIDENT'S DAY: LEGAL HOLIDAY |
| March 05 | DEADLINE FOR INSTRUCTORS TO SUBMIT MID-TERM STATUS |
| | DEADLINE TO SUBMIT UW'S AND NR'S STATUS |
| March 06 | CHARTER DAY CONVOCATION - CRAMTON |
| | CLASSES SUSPENDED 10:00 AM - 1:00 PM |

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|--------------------------|---|
| March 14- 22 | SPRING BREAK |
| March 28 | SENIOR COMPREHENSIVE EXAMINATION IN MAJOR FIELDS FOR COLLEGE OF ARTS AND SCIENCES PROSPECTIVE MAY, SUMMER, AND DECEMBER 2015 GRADUATES |
| March 30 | SUMMER & FALL 2015 REGISTRATION BEGINS FOR CONTINUING STUDENTS |
| April 03 | LAST DAY TO WITHDRAW FROM A CLASS |
| April 23 | FORMAL CLASSES END |
| April 24 | READING PERIOD |
| April 25 – May 01 | FINAL EXAMINATION |
| May 01 | SECOND SEMESTER ENDS |
| MAY 09 | COMMENCEMENT |

SCHEDULE OF LABORATORY EXPERIMENTS

| DATE | LAB # | EXPERIMENT TITLE |
|--------------------|--------------|---|
| January 21 | 1 | LAB SAFETY PRESENTATION INTRODUCTION /MEASUREMENTS |
| January 28 | 2 | LAW OF THE PENDULUM |
| February 04 | 3 | DRY LAB – ASSIGNMENT TO BE GIVEN |
| February 11 | 4 | STATE OF MATTER |
| February 18 | 5 | SPECTROPHOTOMETRY DEMONSTRATION |
| February 25 | 6 | SOLUTIONS AND SOLUBILITY |
| March 04 | 7 | DRY LAB – ASSIGNMENT TO BE GIVEN |
| March 11 | 8 | SEPARATION OF A MIXTURE |
| March 18 | | NO LAB – SPRING BREAK |
| March 25 | 9 | DRY LAB – ASSIGNMENT TO BE GIVEN |
| April 01 | 10 | FORMULA OF A HYDRATE |
| April 08 | 11 | BIODIESEL PREPARATION |

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|-----------------|------------|---|
| April 15 | 12 | STANDARDIZATION OF A SODIUM HYDROXIDE SOLUTION |
| | | |
| April 22 | --- | EXTRA CREDIT LAB |
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ACADEMIC CODE OF STUDENT CONDUCT

Howard University expects that a student's conduct will be in accordance with accepted standards of behavior. In keeping with this expectation, a student may be disciplined for cheating, which is an Academic Offense. (See Page 37 of the Revised Howard University Reference Manual and Directory of Classes.)

SPECIAL STUDENT SERVICES

Students with disabilities are encouraged to register with the Office of Special Student Services in Room 725, Howard Center, Howard University Washington, D. C. 20059. Phone: 202/238-2420