



DEPARTMENT OF ACADEMIC UPGRADING

COURSE OUTLINE – Fall 2013

SC0110 5(6-0-1.5) - Science Grade 10

INSTRUCTOR: Weixing Tan, PhD **PHONE:** (780)539-2793
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OFFICE HOURS: 2:30-5:30 Wed. and Thu. or by appointment or drop-by

PREREQUISITE(S)/COREQUISITE:

SC0100 or consent of the department; EN0090 or EN0110 placement; MA0091 or MA0110 placement

TRANSFERABILITY:

This course is equivalent to Alberta Science 10.

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.

REQUIRED TEXT/RESOURCE MATERIALS:

1. Addison Wesley, *Science 10*
2. Government of Alberta, *Chemistry Data Booklet*, Updated 2010 (available at bookstore or Moodle)

Other supplies:

You will need a binder, lined paper, unlined white paper, pencil, calculator, stapler, and lab coat. Many resources for this course are posted on Moodle, a computer-based course management system. You may access Moodle via any computer with an Internet link. You may sign in to use the computers in A205 during the daytime or in the library during evenings and weekends. Please be aware of the new Student

Printing Policy at

<http://www.gprc.ab.ca/pdf/policies/admin/StudentPrintingPolicy.pdf>

CALENDAR DESCRIPTION:

This course provides an introduction to major concepts in biology, chemistry and physics. The four areas of study are: Energy and Matter in Chemical Change, Energy Flow in Technological Systems, Cycling of Matter in Living Systems and Energy Flow in Global Systems.

CREDIT/CONTACT HOURS:

SC0110 is a 5-credit course with 7.5 contact hours each week.

Session Details: September 5, 2013 – December 20, 2013.

Course Schedule: Dates for tests, labs, and assignments will be announced in class and/or entered on Moodle.

Lecture Schedule: The course is scheduled from Monday to Friday 10:00am – 11:20pm. Since the course is taught in a variety of ways, the class may be meeting in one of three places on a given day:

- 1) Classroom J229 for Monday, Tuesday, Wednesday and Friday
- 2) Biology Lab J130 or one of the Chemistry or Physics Labs (TBA) for Thursday
- 3) Some lab times may be used for lecture.

Please attend classes and check Moodle to find out what is happening & where.

DELIVERY MODE(S):

SC0110 is lecture-based and is supplemented with labs and computer-based learning.

OBJECTIVES AND COURSE SYLLABUS:

This course has been designed to provide you with an introduction to the world of biology, chemistry and physics in 6 units. It incorporates learning opportunities for you in the science labs. Major biological themes explored in 2 units of this course include: Microscopy, Cell Structure and Function, Cell Membrane, Plant as an Example of a Multi-Cellular Organism, and World's Biomes. Several chemistry themes, also in 2 units, are covered including: Safety, Matter, Atoms, Elements and the Periodic Table, Ionic and Molecular Compounds, Acids and Bases, Chemical Changes and Equations. Major themes in Physics and Energy in Water in 2 units include: Uniform Motion, Velocity, Acceleration, Work and Energy, Forms of Energy, Thermodynamic Laws, Energy Efficiency, and Thermal Energy in Water. A course syllabus, which lists the detailed course objectives and timelines, can be found on Moodle.

Table 1. List of major units and key subjects

BIOLOGY & BIOMES	
<i>Unit 1: Microscopy, Cell Structure and Function</i>	<i>Unit 2: Cell Membrane, Plant as an Example of a Multi-Cellular Organism, World’s Biomes</i>
CHEMISTRY	
<i>Unit 3: Safety, Matter, Atoms, Elements and the Periodic Table, Ionic and Molecular Compounds</i>	<i>Unit 4:, Acids and Bases, Chemical Changes and Equations</i>
PHYSICS & THERMAL ENERGY IN WATER	
<i>Unit 5: Uniform Motion, Velocity, Acceleration, Work and Energy</i>	<i>Unit 6: Forms of Energy, Thermodynamic Laws, Energy Efficiency, Thermal Energy in Water</i>

Lab Manual and Schedule

The lab manual is available in Moodle. Please bring a copy with you to the first lab. Labs are not held each week. Please pay attention to announcements in terms of detailed lab schedule in Moodle and/or during lectures.

If you are late for a lab, you might not be permitted to do the lab as important safety concerns are always addressed at the beginning of each lab period. Due to safety reasons, you will NOT have the opportunity for a make-up lab. If you miss a lab, and you will automatically receive a grade of zero for that lab. You cannot use another person’s data or class data to compile a lab report.

EVALUATIONS:

Tests –66%

- **BIOLOGY & BIOMES:**
- Unit 1 test – 9%
- Unit 2 test – 13%
- **CHEMISTRY:**
- Midterm Exam – Unit 3 – 13%
- Unit 4 test – 9%
- **PHYSICS & ENERGY IN WATER:**
- Unit 5 test – 9%
- Final Exam – Unit 6 – 13%

Assignments/Marked Quiz – 20%

Labs – 14%

TOTAL=100%

Assignments and Lab Reports:

All assignments and labs are weighted equally.

Final assignment grade is calculated using raw scores.

Your assignments and lab reports must be your own work. I do not want to see identical sentences, diagrams etc.

Lab work is an essential part of science, and as such **you must pass the labs to pass the course.**

Table 2. Grading criteria

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A ⁺	4.0	90 – 100	EXCELLENT
A	4.0	85 – 89	
A ⁻	3.7	80 – 84	FIRST CLASS STANDING
B ⁺	3.3	77 – 79	
B	3.0	73 – 76	GOOD
B ⁻	2.7	70 – 72	
C ⁺	2.3	67 – 69	SATISFACTORY
C	2.0	63 – 66	
C ⁻	1.7	60 – 62	
D ⁺	1.3	55 – 59	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline

General Rules for Exams, Tests, Assignments, and Lab Reports

As per the College calendar, students are responsible to “write tests and final examinations at the times scheduled by the instructor or the Office of the Registrar”.

Students are also expected to submit all assignments and lab reports according to the deadlines.

Any students missing a test/exam, or not submitting an assignment/lab report on the required due date, will receive a **grade of zero** for that exam/test/assignment/lab report, unless:

1. A notification is made to the instructor prior to the time of the test or the due date, AND,
2. A doctor’s note or a satisfactory explanation under the extreme circumstance is provided.

Once a test/exam/lab report/assignment has been handed back to the class, there is no opportunity for a late write or hand-in. The student will be assigned a grade of zero for that test/exam/lab report/assignment.

Statement on Plagiarism and Cheating:

The instructor reserves the right to use electronic plagiarism detection services. Although you work together in pairs in the lab, you are to write separate reports, which are your own work.

Please refer to the Student Conduct section of the College Admission Guide at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/**

Student Responsibilities (AUD Student Classroom Department Guidelines)

The Academic Upgrading Department (AUD) is an adult education environment. Students are expected to show respect for each other as well as faculty and staff. They are expected to participate fully in achieving their educational goals in a timely manner.

Certain activities are disruptive and not conducive to an atmosphere of learning. In addition to the ***Student Rights and Responsibilities*** as set out in the College calendar, the

following guidelines will maintain an effective learning environment for everyone. We ask the cooperation of all students in the following areas of classroom deportment.

1. Students are expected to turn off cell phones during class time or in labs.
2. Refrain from disruptive talking or socializing during class time.
3. Be respectful of others regarding food or beverages in the classroom. Clean up your eating area and dispose of garbage.
4. Recycle paper, bottles and cans in the appropriate containers.
5. Students are expected to be punctual. Arrive on time for classes and remain for the duration of scheduled classes or related activities.
6. Children are not permitted in the classrooms.

Attendance

If students miss more than 15% (or 10 days) of classes per semester in any course, they may be given a failing grade for the course. It is the student's responsibility to notify his/her instructor of any extenuating circumstances. You are responsible for getting the notes and handouts for material missed from your fellow classmates.

It is very important for you to come each class since the concepts and knowledge are in sequences. Come to each class will help you to boost your understanding and your marks, although you do have the right not to show up to each class. It is, however, your responsibility to make up the materials you miss on your own means and efforts due to your absences.

If you miss classes and feel challenged to catch up the subsequent class materials due to your own actions, please do assume your own responsibility.

Electronic Devices

Electronic devices, other than simple calculators, are not allowed into tests or exams.