

**EASTERN SCHOOL DISTRICT**Course Description  
(September, 2006)**Course:** Science 1206**Subject Area:** Science**Text:** Nelson Science 10**Description:**

This science course is intended to be an introductory science course before taking Physics, Chemistry, Biology or Earth Systems courses. After completing this course, students will be better able to make an informed decision of which of the four areas of science they wish to pursue further. The course consists of four units, each of which provides an introduction to each of the four sciences. Each unit will be allocated approximately one quarter of the time available to the course. Each unit may be taught by a different teacher who has expertise in a particular area of science.

Science 1206 consists of four units: Life Science, Earth and Space Science, and two Physical Science units. Depending of scheduling, these units may be taught in any order.

**Unit 1 Life Science: Sustaining Ecosystems**

This unit extends the concepts gained by analyzing habitats and ecosystems to the issue of sustainability. The learners are challenged to think about large-scale systems and the flow of matter and energy within those systems. It is intended that students recognize the earth as essentially a closed system, which means sustainable use of resources becomes a major concern.

**Unit 2 Physical Science: Chemical Processes**

This unit builds on the previous study of atomic structure and the significance of the periodic table by asking students to observe some chemical reactions. How these reactions are initiated and proceed, and what products result are considered. In preparation for later chemistry courses, these investigations require students to name and write formulas and to begin representing chemical reactions in symbolic form.

**Unit 3 Physical Science: Motion**

This unit offers the first opportunity for students to observe, measure, and describe motion in a mathematical fashion. Analysis is restricted to one dimension only with uniform (constant) motion and uniformly accelerated

motion. As the unit develops, direction becomes important with vector notation being introduced. The learning outcomes encourage a study of motion in contexts which are familiar to students in this age group

#### **Unit 4 Earth and Space Science: Weather Dynamics**

This unit is designed to guide the learner to understand major concepts associated with atmospheric conditions that produce our weather. Students may construct weather data collection instruments and collect, analyses and interpret their data, as well as those from a variety of other sources. The influence of matter and energy exchanges on weather system development is central to the unit. Students are also encouraged to attempt weather forecasting and consider how weather affects our society.

#### **Evaluation Guidelines:**

Summative evaluation of students in Science 1206 shall utilize a variety of evaluation instruments. Primarily, these are designed to test students' basic knowledge of content, their understanding and ability to apply content, and ability to synthesize and problem solve (higher thinking skills) with respect to the content.

Summative evaluation of students in science courses must involve a variety of evaluation instruments. **Midyear examinations, final examinations, and unit tests/quizzes**, completed by students are traditional instruments which must be a part of any summative student evaluation scheme. As well, **Performance Assessment** instruments shall be used for a portion of the summative evaluation.

#### **Unit Tests/Quizzes:**

All unit tests are based on the learning outcomes of the course and the objectives. The tests include a variety of testing techniques such as multiple choice and essay items. There is at least one test after each unit and sometimes the unit can be broken into several sections for the purpose of testing if the teacher deems it necessary. Each test is designed for completion in a single class period.

#### **Performance Assessment:**

Performance assessment instruments shall be used for a portion of the summative evaluation. *Examples of performance assessment instruments are assignments, written homework, science fair, class observations, science projects, laboratory reports, in-class presentation, in-class cooperative education, practical laboratory tests, observation checklist, computer assisted evaluation and teacher-student interviews, research reports, field trip reports, portfolios, etc.*

Teachers can determine the performance assessment instruments used in Science 1206. However, a variety of instruments shall be used to accurately assess students' understanding of learning outcomes, with a focus on core labs and STSE topics.

**Cumulative Midyear Examination:**

The mid-year examination tests all course objectives to that point. It will include multiple choice, essay items and short answer questions on elective units. The test is designed to be completed in a 2 hour time period.

**Final Examination:**

The final examination is based on the course objectives for the last two units covered. It uses the same testing techniques used in the mid-year examination. The test is designed to be completed in a 2 hour time period.

**Weighting of Evaluation Component:**

Tests/Quizzes	20%
Performance Assessment	30%
Comprehensive Midyear Exam	25%
Final Examination	25%

**Notes:**

- 1) To parallel the evaluations for Biology, Chemistry, Physics, and Earth Systems, performance assessments in Science 1206 should primarily focus on STSE and core lab outcomes.
- 2) Student grades for the November reporting period comprised of results obtained from tests/quizzes (80%) and Performance Assessment (20%).