

Science

Course: Science 6

Level: Grade 6

Prerequisite: None

Text: *Heredity and Change* (McGraw Hill); teacher-prepared handouts, videos, controlled use of Internet sites; *Science Court: Seasons* software (Tom Snyder Productions); *Science Seekers: Hidden in Rocks* software (Tom Snyder Productions and American Museum of Natural History)

Course Description and Overview: The sixth grade science curriculum is designed to allow students to experience a mixture of life, earth, and space sciences. Through hands-on experiences, students learn about Genetics, Evolution, Astronomy, Geology, and Forces & Motion.

Course Objectives: The sixth grade science curriculum is designed to enhance and develop scientific skills, critical thinking skills, and writing skills. Through the exploration of scientific concepts, students learn to apply their knowledge to new situations. Scientific skills that are developed and enhanced include measuring length, volume, mass, weight, time, temperature, density, and force; using appropriate units for measured or calculated values; making observations, inferences, and predictions; designing experiments and communicating results; designing and interpreting bar graphs and line graphs; designing and using Punnett Squares and Pedigree Charts to predict probabilities; plotting and locating surface features using latitude/longitude; identifying mineral samples; plotting seismic/volcanic activity on a map and identifying patterns of distribution; creating and interpreting charts and diagrams; and determining the speed and acceleration of a moving object .

Requirements: Students are expected to be active participants in their learning. They are required to complete assignments and projects to the best of their abilities. They are encouraged to seek extra help when needed.

Writing Requirements: In order to share their discoveries, scientists need to be able to communicate with each other, both orally and through writing. Throughout the year, a major focus of sixth grade science is placed on writing. Students will gain experience in writing a variety of genres such as biographies, persuasive paragraphs, journal entries, lab reports, editorials, friendly letters, essays, newspaper articles, and help-wanted ads. Students are also introduced to several note taking strategies and are expected to utilize these strategies throughout the year.

Evaluation/Grading Policy: Quarterly science grades will be based on tests, quizzes (both announced and unannounced), lab skills, homework assignments, organization, projects, and class participation. Each assessment piece will be weighted accordingly to how much was done in that area within each individual marking period.

Course Outline:

Genetics:

- Why do children often look like their parents?
- How are traits passed from parents to offspring?
- How can we predict the probability of offspring inheriting certain traits?
- How did the work of Gregor Mendel contribute to our understanding of genetics?
- How is genetics being used today to change organisms?
- What are the social, ethical, and legal implications of modern genetics?

Evolution:

- How do species change over time?

Astronomy:

- Why do we experience daily, monthly, and seasonal changes on Earth?
- How has our knowledge of the solar system changed over time?

Geology:

- How do the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change?
- Why is the Earth referred to as being dynamic?
- How do scientists learn about the earth's interior?
- How can technology help us to learn about the Earth?

Forces and Motion:

- What causes and affects an object's motion?
- How can we observe and compare the effects of forces?

Science

Course: General Science

Level: Grade 7

Prerequisite: None

Text: *Life Science* (Prentice-Hall); *Earth Science* (McDougal-Littell); *Matter, Building Blocks of the Universe* (Prentice-Hall)

Course Description and Overview: An exploration of the nature of scientific thought and inquiry, an introduction to some of the basic concepts of Biology and Physical Science, and an introduction to Earth Science at the Regents level.

Course Objectives: To provide a solid basis for higher level scientific study by providing a foundation of basic science skills and curriculum content in the areas of biological, physical, and earth sciences. Students will use the scientific process for problem solving and reporting. They will develop their skills in scientific measurement and the use of some standard laboratory equipment. They will develop a general understanding of introductory physical and biological sciences concepts. They will master the first third of curriculum and skills content for the Earth Science Regents course.

Requirements: Students are active participants in their own learning process. Tests, quizzes, projects, homework, laboratory work and other class work are assigned throughout the year. Students will maintain neat and accurate science and laboratory notebooks. Behavioral requirements include considerate, respectful and honest behavior towards classmates and the teacher, willingness to put forth reliable and consistent effort, and the ability to work both independently and cooperatively.

Writing Requirements: Throughout the year, students must effectively communicate scientific information in the form of essays, lab reports, graphs, charts and tables. A research paper may also be required. Writing is used consistently throughout the year to enhance the learning of scientific concepts. Therefore, students must be able to present their thoughts and ideas in writing in a thoughtful and organized way. The seventh grade standards for writing in Language Arts are consistent across the curriculum in science.

Evaluation/Grading Policy: Grades are based on a combination of tests, quizzes, homework, class work, laboratory work, and class participation. Science laboratory notebooks are also graded. Two major projects are assigned during the year. Tests and quizzes are weighted at approximately 50% of the student grade. The other 50% is divided between the other areas that are assessed.

Course Outline:

Unit 1: Science Skills (No Text)

Laboratory safety, scientific measurement, the scientific method, experimental design and reporting

Unit 2: Introductory Biology (Text: Prentice-Hall *Life Science*)

The structure of the cell, using a microscope, taxonomy and biological classification

Unit 3: Introduction to Physical Science (Text: *Matter, Building Blocks of the*

Universe) Classification of matter, Properties of matter, physical and chemical changes

Unit 4: The Elements (Text: *Matter, Building Blocks of the Universe*)

Atomic structure and the periodic table

Unit 5: Ecology (Text: McDougal-Littell *Earth Science*)

Systems view of the earth, cycles in nature, natural resources, ecosystems, human impact on the environment

Unit 6: Models of the Earth (Text: McDougal-Littell *Earth Science*)

Measuring and mapping the earth, reading and creating topographic maps

Unit 7: Weather and Climate (Text: McDougal-Littell *Earth Science*)

The atmosphere, weather, climate, world biomes

Science

Course:	Regents Earth Science
Level:	Grade 8
Prerequisite:	None
Texts:	Spaulding and Namowitz, <i>Earth Science</i> (McDougal Littell); <i>Brief Review for New York Earth Science</i> (Pearson Prentice Hall); <i>Earth Science Regents Review</i> (Barron's)

Course Description and Overview: Regents Earth Science course engages students in the investigation of the earth, its role as a changing planet, the earth's environment, and the dimensions surrounding the earth, such as, the solar system, our Milky Way Galaxy, and the universe. The students develop an understanding of our planet's history and present conditions, and will be able to develop logical predictions for the future of the earth and our universe.

Course Objectives: Five areas are basic to the comprehensive study of earth science in this course. Astronomy yields an understanding of our earth in space and the forces that control earth's position and movement. Geology is the study of the landscape over time. Oceanography is a field that is increasing in importance since it illustrates the complex relationships between the hydrosphere, its contents and its surroundings. Meteorology is the study of the ever-changing blanket of gases that surrounds our planet and impacts daily life. The earth and its environment is an ever-growing area of focus.

Requirements: The course requires that each student complete a Regents lab component and Regents written component. The lab component requires that each student complete a minimum of thirty earth science labs. The student is also required to satisfactorily complete a written Regents Earth Science exam at the completion of the course (June). A lab performance examination comprises approximately 10 percent of the Regents exam grade. The Regents exam serves as the final exam for the course. A local midterm is also given at the end of the first semester.

Writing Requirements: Throughout the academic year, the student will be required to perform lab activities. A key component of these activities will require the student to exhibit writing skills which will include a need for them to compare & contract, analyze, interpret, and integrate data to produce thoughtful conclusions and assessments based on their results. Also, students frequently read relevant current events articles and write reaction papers to the articles.

Evaluation/Grading Policy: The assignments, lessons and discussions will prepare students for satisfactory completion of this course and the Regents Earth Science requirements.

- Tests and quizzes are a major part of each marking period and account for 65% of the student's grade
- Labs and homework will require the student to perform tasks inside and outside of the classroom and account for 25% of the student's grade\
- Class and lab participation account for 10% of the student's grade
- Extra credit (occasional): averaged into homework grade

Note that each of the four marking period grades counts as 20 percent of the final course grade, and the Regents examination score counts as the final 20 percent.

Course Outline:

Topic 1: Introduction to Earth's Changing Environment

- Observations
- Density
- The Changing Environment
- Human Interaction with the Environment

Topic 2: Measuring the Environment

- Size and Shape of the Earth
- Spheres of the Earth\
- Locating Positions on Earth
- Fields
- Mapping the Earth's Surface

Topic 3: Earth in the Universe

- Origin and Age of the Universe
- Structure of the Universe
- Solar System

Topic 4: Motions of Earth, Moon and Sun

- Apparent Motions of Celestial Objects
- Models That Help Explain Apparent Celestial Motions
- Actual Earth Motions
- Earth and Moon Motions and Time
- Actual Motion's of Earth's Moon

Topic 5: Energy in Earth Processes

- Electromagnetic Energy
- Transfer of Energy
- Transformation of Energy
- Temperature and Heat
- Heat Energy and Changes of State
- Earth's Energy Supply

Topic 6: Insolation and the Seasons

- Solar Radiation and Insolation
- Variation of Insolation
- Heat Budget and Climate Change
- Seasons

Topic 7: Weather

- Atmospheric Temperature
- Atmospheric Pressure and Density
- Wind
- General Circulation of the Air in the Troposphere
- Atmospheric Moisture
- Air Masses and Fronts
- Storms and Severe Weather
- Weather Prediction and Probability

Topic 8: Water and Climate

- The Water Cycle
- Climate

Topic 9: Weathering and Erosion

- Weathering
- Erosion

Topic 10: Deposition

- Factors Causing Deposition
- Sorting of Sediments and Deposition
- A Model of an Erosional-Deposition System
- Characteristic Features of the Chief Depositional Agents

Topic 11: Earth Materials

- Minerals
- Rocks
- Mineral Resources

Topic 12: Earth's Dynamic Crust and Interior

- Small Scale Crustal Changes
- Earthquakes and Igneous Activity, Including Volcanoes
- A Model of Earth's Interior
- Plate Tectonics

Topic 13: Interpreting Geologic History

- Relative Dating of Rocks and Events
- Correlation
- Geological History from the Rock Record
- Absolute Dating of Rocks Using Radioactive Decay
- Evolution of the Earth and Life

Topic 14: Landscape Development and Environmental Change

- Measuring Landscape Characteristics
- Landscape Regions
- Factors of Landscape Development
- Bedrock
- People, Environmental Change, and Landscape

Science

Course:	Living Environment
Level:	Grade 9
Prerequisite:	Earth Science
Text:	Miller and Levine, <i>Biology</i> (Prentice Hall)

Course Description and Overview: Since this course is a New York State Regents course, students will follow the Living Environment core curriculum as outlined by the NY State education Department on www.nysed.gov. Biology is an ever growing field and students will have the opportunity to explore numerous areas. This is a survey course that seeks to provide students with basic understandings of the world in which they live from the cellular/organism level to the biosphere.

Course Objectives: Through lectures, laboratory investigations and internet/video resources, students will learn more about the world in which they live, their interactions with the environment and their understanding of human body systems. Students will work on their problem-solving abilities, development of laboratory procedures, and scientific inquiry.

Requirements: The use of scientific inquiry is critical to understanding science concepts. Therefore, as a prerequisite for admission to the Regents examination for the Living Environment, students must have successfully completed 1200 minutes of laboratory experience with satisfactory written reports for each. There are also four state mandated laboratory exercises as noted on the NYSED website: <http://www.emsc.nysed.gov/ciai/mst/pub/livingen.pdf>.

Writing Requirements: Students will be required to turn in projects, and write formal laboratory reports.

Evaluation/Grading Policy: Students are graded approximately as follows:

• Exams/projects	55%
• Labs	20%
• Homework	10%
• Quizzes	10%
• Participation	5%

Course Outline:

- Scientific Skills and Inquiry
- The Chemistry of Life
- Cell Theory
- Nutrition and Digestion
- Cellular Respiration and Photosynthesis
- The Nervous System
- The Circulatory System and Respiratory System
- The Immune System
- The Endocrine System, Reproduction, and Development
- Mendelian Genetics
- Modern Genetics
- Evolution
- Ecology
- Review

Science

Course:	Independent Science Research
Level:	Grades 9-12
Prerequisite:	Completion of Regents Earth Science course and willingness to make a three-year commitment
Text:	Primary Resources: Scientific magazines (<i>Scientific American</i> , <i>Discover</i>), professional journals (i.e. <i>Nature</i>), and on-line databases (<i>ProQuest</i> , <i>Silverplatter</i>).

Course Description and Overview: This unique course offers motivated students with a strong interest in science the opportunity to explore authentic science research in a genuine scientific setting. Students spend their first year of the course exploring different fields of research, focusing on one particular topic of interest to them, and locating a mentor in the scientific community who will assist them with their research. In their second year, students will begin their research in earnest, spending a minimum of 5 hours a week (on average) under the supervision of their mentor. In their final year, students complete their research, prepare their results for presentation to a variety of audiences and submit their final projects to several local, regional and national competitions.

Course Objectives: Through regular goal setting, extensive reading of technical science literature, explorations in the laboratory and lectures from invited speakers, students will expand upon their love of science, hone their scientific analysis skills, and conduct and present their own scientific research.

Requirements: To be successful in this course, students must be willing to do more than just ‘the minimum’. They must be able to work responsibly and independently, meet bi-weekly goals and deadlines, and be willing to put in the time to ‘get the job done’.

Writing requirements: In the first few years of the course, much of the writing students perform will involve summarizing technical papers and other scientific articles, creating PowerPoint presentations presenting an author’s research, and communicating with researchers. During their research, students’ writing will consist primarily of writing in their lab books (recording data, developing conclusions, planning further research, etc...). Once their research is complete, students will generate a research paper presenting their work. This paper will be in the style of an authentic scientific technical paper, meeting strict Intel Science Talent Search guidelines.

Evaluation/Grading Policy: Quarterly grades are based primarily on the progress students make towards setting their bi-weekly goals, their participation in class, and their performance on group tasks and individual presentations.

Course Outline:

Unit 1: Introduction to Science Research

Unit 2: Creating a Timeline

Unit 3: Scientific Ethics and Informed Consent Rules

Unit 4: How to Explore the Scientific Literature

Unit 5: The Social Sciences

Unit 6: The Biological Sciences

Unit 7: The Physical Sciences

Unit 8: Engineering

Unit 9: Mathematics

Unit 10: Contacting Potential Mentors

Unit 11: Communications Skills

Unit 12: Science Symposium Preparation

Unit 13: Junior Year Research (conducted during junior year)

Unit 14: Senior Year Research (conducted during senior year)

Science

Course:	Topics in Chemistry
Level:	Grades 10-11
Prerequisite:	Completion of Regents Earth Science and Living Environment courses, or approval of the instructor
Text:	<i>Brief Review for New York Chemistry: The Physical Setting</i> (Prentice Hall, Annual Edition)

Course Description and Overview: Chemistry is often referred to as the central science because it overlaps so many of the other sciences. It is the study of matter and the changes that occur to matter. This course is a survey of several topics within the study of chemistry and has its foundations in the New York State Physical Setting/Chemistry Core Curriculum. The course seeks to provide students with practical applications of the basic understandings of chemistry. A segment of the applications will be laboratory experiences involving both traditional and inquiry-based investigations.

Course Objectives: Through an understanding of the basic concepts of chemistry, students will appreciate its fundamental role in many sciences and in their everyday lives. Students will gain experience with tools that chemists use in their investigation of scientific questions. With its basis in the scientific method, students will also further develop their skills in oral and written presentations of those investigations.

Requirements: Written assessments, in the form of quizzes and tests, will be given throughout the course. A lab report will be required for each laboratory investigation. A final exam will be completed by each student upon completion of course material in June.

Written Requirements: Students will be expected to write short answers on quizzes and tests. Labeling and describing diagrams, and interpretation of graphs will also be required. Students will also be expected to record qualitative and quantitative observations during lab investigations. Written reports will be expected for each laboratory investigation.

Evaluation/Grading Policy: Quarterly grades are based on quizzes, examinations, lab reports and other assessments. Tests will usually be announced five school days in advance. Quizzes may, or may not be announced in advance. Students will usually be given a minimum of five school days for a written lab report. A cumulative final exam will be given in June.

Course Outline: The typical topics covered in this course are:

Unit 1: Introduction to Chemistry

Unit 2: Energy and Matter

Unit 3: Atomic Structure

Unit 4: The Periodic Table

Unit 5: Chemical Formulas and Bonding

Unit 6: An Introduction to the Mathematics of Chemistry

Unit 7: Gases

Unit 8: Liquids and Solids

Unit 9: Solutions and Solubility

Unit 10: Kinetics and Equilibrium

Unit 11: Acids, Bases and Salts

Unit 12: Oxidation and Reduction

Unit 13: Organic Chemistry

Science

Course:	Regents Chemistry
Level:	Grades 10-11
Prerequisite:	Completion of Regents Earth Science and Living Environment courses
Text:	LeMay, Beall, Robblee, Brower, <i>Chemistry Connections to Our Changing World</i> (Prentice-Hall); Kavanah, <i>Brief Review for New York Chemistry, The Physical Setting</i> (Prentice-Hall, 2005)

Course Description and Overview: The course of study followed in the course is based on a program of study developed by the State Education Department of New York. It is referred to as the Physical Setting/Chemistry Core Curriculum. This course covers the atom, the theory and mathematics of formulas and equations, physical behavior of matter, the Periodic Table, bonding, properties of solutions, kinetics and equilibrium, oxidation-reduction, properties of acids, bases and salts, organic chemistry, and nuclear chemistry. Through labs and coursework, students will deepen their understanding of the physical setting of the world around us.

Course Objectives: Upon completion of the course, students will complete the NYS Regents as the final examination for the course.

Requirements: Laboratories will be performed each week. Each lab exercise will require a lab report of some sort. Quizzes and exams are given during the four quarters. Students will be required to complete the NYS Regents as the final examination for the course.

Writing Requirements: Throughout the year, a focus will be placed on technical writing and the preparation of formal lab reports. Students will develop skills to pose and test hypotheses, develop scientific procedures, analyze data and present findings.

Evaluation/Grading Policy: The assignments, lessons, labs and discussions will prepare students for college and for the multiple choice, short answer and essay portions of the NYS Regents Exam.

- Laboratory reports are a significant part of the grade. Each lab exercise will require a report of some sort. The lab reports can be a simple worksheet or a formal lab report. All lab reports are to be handwritten or printed neatly, unless there are special circumstances. NYS requires that we maintain a file of all lab reports completed by each student.
- Homework assignments are a major part of each marking period. These include reviewing the material presented the previous day, preparing questions on topics that may need clarification, review and practice work. As in the case with lab reports, homework is to be handwritten or printed.

- Tests will be announced and quizzes will be given with or without announcement.
- Other assignments, presentations and reports will be given as the year progresses.

Course Outline:

Unit 1: Introduction to Chemistry

Unit 2: Energy and Matter

Unit 3: Atomic Structure

Unit 4: The Periodic Table

Unit 5: Chemical Formulas and Bonding

Unit 6: An Introduction to the Mathematics of Chemistry

Unit 7: Gases

Unit 8: Liquids and Solids

Unit 9: Solutions and Solubility

Unit 10: Kinetics and Equilibrium

Unit 11: Acids, Bases and Salts

Unit 12: Oxidation and Reduction

Unit 13: Organic Chemistry

Science

Course:	Advanced Placement Environmental Science
Level:	Grades 11-12
Prerequisite:	Completion of Regents Earth Science, Living Environment and Chemistry (co-requisite for Chemistry is acceptable) courses
Text:	Cunningham and Saigo, <i>Environmental Science</i> (8 th ed., McGraw Hill)

Course Overview and Description: The AP Environmental Science (APES) course is designed to be the equivalent of a one semester college introductory science course. This course encompasses disciplines as wide ranging as geology, biology, environmental science, chemistry, and geography. APES stresses scientific principles and analyses within these disciplines along and contains an important laboratory component.

Course Objectives: To provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of environmental science as well as to prepare students for the APES exam.

Requirements: There will be a summer assignment that must be completed by the first day of class. Each student is required to maintain a laboratory notebook. Power Point presentations on current environmental events will be given by each student approximately 2 times a quarter. In addition there will be unit tests, quizzes, lab reports, and other assessments. All students must sit for the APES exam in May.

Writing Requirements: Students will gain practice in answering free response questions for the AP exam. Laboratory reports using the AP format are required.

Evaluation/Grading Policy:

- Exams: The format of the exam will be similar to the AP exam, multiple choice and short answer or essay questions.
- There will be a midterm examination in January.
- Laboratory reports
- Assignments:(problem sets, essay practice, class presentations, quizzes)

Course Outline:

- Interdependence of Earth's Systems: Fundamental Principles and Concepts
- Human Population Dynamics
- Renewable and Nonrenewable Resources: Distribution, Ownership, Use, Degradation
- Environmental Quality
- Global Changes and Their Consequences
- Environment and Society: Trade-Offs and Decision Making

Science

Course:	Advanced Placement Biology
Level:	Grades 11-12
Text:	Campbell et al., <i>Biology Concepts and Connections; AP Biology Lab Manual</i> (Pearson, 4 th Edition)
Prerequisites:	Completion of Regents Living Environment or Chemistry (co-requisite for chemistry is acceptable) courses

Course Overview and Description: The AP Biology course is designed to be the equivalent of a two semester college introductory biology course taken by biology majors. This course differs from Living Environment with respect to the kind of textbook used, the range and depth of topics covered, the kind of laboratory work done by students and the time and effort required of students.

Course Objectives: To provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology as well as to prepare students for the AP Biology exam.

Requirements: There will be a lengthy summer assignment that must be completed by the first day of class. Each quarter there will be unit tests, quizzes, presentations lab reports and other assessments. All students must sit for the AP Biology exam in May.

Writing Requirements: Students will gain practice in answering free response questions for the AP exam.

Evaluation/Grading Policy: Exams: 55%. The format of the exam will be similar to the AP exam, multiple choice and short answer or essay questions. There will be a midterm in January and a final in April. Labs: 20 %. Assignments (will include problem sets, essay practice, class presentations, quizzes): 15%. Participation: 10%.

Course Outline:

Molecules and Cells

- Chemistry of Life
- Cells
- Cellular Energetics

Heredity and Evolution

- Heredity
- Molecular Genetics
- Evolutionary Biology

Organisms and Populations

- Diversity of Organisms
- Structure and Function of Plants and Animals
- Ecology

Science

Course:	High School Physics
Level:	Grade 12
Prerequisite:	Completion of Regents Chemistry course or approval of the instructor
Text:	Paul Hewitt, <i>Conceptual Physics</i> (7 th ed., Addison Wesley); <i>A Brief Review of Physics-the Physical Setting</i> (Prentice-Hall)

Course Description and Overview: This course is designed to introduce students to the fundamental physical principles that govern the natural world. Through a study of mechanics, electricity and magnetism, waves, optics and some of the newer and more exciting discoveries of modern physics, students will discover the richness, beauty and complexity of every-day phenomena and find answers to hundreds of nagging questions, like “why is the sky blue?”

Course Objectives: Through lectures, laboratory investigations and internet/video resources, students will learn more about the world in which they live. At the same time, students will be pushed to develop their problem-solving and estimation skills, laboratory technique and reporting skills, as well as an appreciation for science and the field of physics.

Requirements: Students are expected to participate in all classroom and lab activities, including quizzes, tests, lab experiments and quarterly research projects.

Writing requirements: Students will be asked to develop their written skills in a variety of forms, including technical writing (lab reports), writing for communicative purposes (presentations and posters that present research findings), as well as written responses on homework, quizzes and tests.

Evaluation/Grading Policy: Quarterly grades are determined from all quiz, exam, lab report and presentation grades as well as class participation, homework and group work.

Course Outline:

Unit 1: Introduction to Measurement and Estimation

Unit 2: Motion in 1-D

Unit 3: Forces in 1-D

Unit 4: Motion and Forces in 2-D

Unit 5: Momentum

Unit 6: Energy

Unit 7: Circular Motion

Unit 8: Electrostatics

Unit 9: Electric Currents and Circuits

Unit 10: Magnetism and Induction

Unit 11: Optics

Unit 12: Waves

Unit 13: Modern Physics

Science

Course:	Science Seminar
Level:	Grade 12
Prerequisite:	Must be a senior in high school
Text:	<i>The Union of Concerned Scientists</i> web site.

Course Description and Overview: This course is designed to introduce students to important scientific issues with profound societal implications.

Course Objectives: Through lectures, internet/video resources and classroom discussion, students will learn about the moral and ethical issues facing today's scientists, and will develop a framework for analyzing these issues. They will also develop an appreciation for how science affects their lives – both and now and into the future.

Requirements: Students are expected to participate in all classroom discussions and activities, complete all assigned nightly homework and several papers each term.

Writing requirements: Students will be asked to develop their written skills primarily for the purpose of crafting arguments and presenting their opinions in logically structured essays. Nightly homework and short written assignments (often personal reactions to readings, video clips or discussions in class) will also be submitted on a regular basis.

Evaluation/Grading Policy: Quarterly grades are determined based on the student's achievement on written papers, nightly homework, class participation and group work (including presentations).

Course Outline:

Unit 1: Moral Dilemmas

Unit 2: Fairy Tales, Pseudoscience, Myths and Hoaxes

Unit 3: The Scientific Perspective

Unit 4: Scientific Research and Informed Consent

Unit 5: The Human Genome

Unit 6: Manipulating Genes: Cloning and Genetic Engineering

Unit 7: Science and Discrimination

Unit 8: AIDS and Infectious Disease

Unit 9: Technology and Society

Unit 10: Whistle-blowers

Unit 11: The Environment