

 OTTAWA CATHOLIC SCHOOL BOARD	Grade 12 Earth and Space Science SES4U	Inspired Education. Inspiring Students.
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Teacher: **Teacher Name**

Prerequisite Course: Science, Grade 10, Academic

Description and Overall Expectations: This course develops students' understanding of Earth and its place in the universe. Students will investigate the properties of and forces in the universe and solar system and analyse techniques scientists use to generate knowledge about them. The course draws on all science disciplines including math, in its study of geological and astronomical processes.

Scientific Investigation (inquiry & research) and Career Exploration: demonstrate scientific investigation skills in the four areas (initiating and planning, performing and recording, analysing and interpreting, and communicating); identify and describe careers and Canadian contributions related to this field of science.

Astronomy (Science of the Universe): analyse the technologies that have contributed to our understanding of the universe, and evaluate the impact of milestones in astronomical theory or on the scientific community; investigate and analyse the properties of the universe, particularly stars; demonstrate an understanding of the origin and evolution of the universe, the principal characteristics, and techniques used to study its components.

Planetary Science (Science of the Solar System): analyse political, economic, and environmental issues related to the exploration and study of the solar system, and how technology used in space exploration can be used in other areas of endeavour; investigate features of and interactions between bodies in the solar system, and the impact of these features and interactions on the existence of life; demonstrate an understanding of the internal (geological) processes and external (cosmic) influences operating on bodies in the solar system.

Recording Earth's Geological History: analyse the relationship between climate, geology, and life on Earth, and evaluate contributions to our understanding of changes in Earth systems over geological time; investigate geological evidence of major changes and the processes that have contributed to them that have occurred during Earth's history; demonstrate an understanding of how changes to Earth's surface have been recorded and preserved throughout geological time and how they contribute to our knowledge of Earth's history.

Earth Materials: analyse technologies used to explore for and extract Earth materials, and assess the economic and environmental impact of the exploitation of such materials; investigate the properties of minerals and characteristics of rocks; demonstrate an understanding of the fore mentioned.

Geological Processes: analyse technological developments that have increased our knowledge of geological processes and structures, and how this assists in monitoring and managing them; investigate the nature of internal and surficial Earth processes, and the ways in which they can be quantified; demonstrate an understanding of the processes at work on and within Earth, and their role in shaping Earth's surface.

Course Resources: [Key resource\(s\) along with supplementary resources / digital tools and sites / passwords; include replacement cost for resources if lost/damaged.](#)

Catholic Graduate Expectations: Our goal for all students is to experience an education based on our Catholic Graduate Expectations. (<http://www.iceont.ca>) We work in community to develop graduates that are:

- Discerning Believers Formed in the Catholic Faith Community
- Effective Communicators
- Reflective and Creative Thinkers
- Self-Directed, Responsible, Life-Long Learners
- Collaborative Contributors
- Caring Family Members
- Responsible Citizens

Assessment, Evaluation and Reporting: The primary purpose of assessment and evaluation is to improve student learning. Students will understand what is expected of them, using learning goals, and success criteria, based on the overall expectations. Feedback (self, peer, teacher) supports learning, and plays a critical role in academic achievement and success.

The development of learning skills and work habits is a key indicator of future success. The following learning skills and work habits will be developed, assessed, and reported during this course:

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| 1. Responsibility | fulfills responsibilities and commitments (<i>e.g. accepts and acts on feedback</i>) |
| 2. Organization | manages time to complete tasks and achieve goals (<i>e.g. meets goals, on time</i>) |
| 3. Independent work | uses class time appropriately to complete tasks (<i>e.g. monitors own learning</i>) |
| 4. Collaboration | works with others, promotes critical thinking (<i>e.g. provides feedback to peers</i>) |
| 5. Initiative | demonstrates curiosity and an interest in learning (<i>e.g. sets high goals</i>) |
| 6. Self-Regulation | sets goals, monitors progress towards achieving goals (<i>e.g. sets, reflects goals</i>) |

Group work supports collaboration, an important 21st century skill. This will be assessed only as a learning skill. Homework may also be assessed as a learning skill. Evaluation completed in class will be based only on individual student work. Regular attendance is important to support group work, various forms of feedback, and to allow students to demonstrate evidence of their learning. Students are responsible for providing evidence of their own learning (with references where required), in class, within given timelines. Next steps in response to academic integrity issues, such as lack of work completion, plagiarism, or other forms of cheating, range from providing alternate opportunities, to a deduction of marks.

The achievement chart identifies four levels, based on achievement of the overall expectations:

Level 1	achievement falls below the provincial standard	(50-59%)
Level 2	achievement approaches the provincial standard	(60-69%)
Level 3	achievement is at the provincial standard	(70-79%)
Level 4	achievement surpasses the provincial standard	(80-100%)

The report card grade will be based on evidence of student performance, including observations, conversations and student products. Consideration will be given to more recent evidence (skill development) and the most consistent level of achievement.

Mark Breakdown:

Term Work (70%) will include a variety of assessment tasks designed to demonstrate students' development in their knowledge and understanding, thinking and inquiry, communication and application, of all overall expectations.

Summative evaluation (30%) takes place towards the end of the semester, is completed in class, and provides the final opportunity for students to demonstrate what they know, and the skills they have learned, based on the overall expectations. In Earth and Space Science SES4U, the summative evaluation will consist of a rich summative assessment task (10%) and a final exam (20%).

Awarding of Course Credit: Students who demonstrate evidence of achievement of overall expectations, **and** earn a mark of 50% or greater, will earn one credit for the course with the following exception:

Students who do not complete their summative evaluation (exam and/or end of year summative task) will not earn their credit regardless of their mark.

Student and Parent/Guardian Acknowledgement

We have read the above course outline and are aware of the student responsibilities to attend class on a regular basis and to provide evidence of learning within the established timelines.

Student's Name (print): _____ Student's Signature: _____

Parent/Guardian Name (print): _____ Parent/Guardian Signature: _____