Course Description: This course is the final part of three courses in preparation for the AP exam and university studies in Biology. In part, the course is seminar based where the students will prepare material to help their peers review the entire three courses. The main topics covered will be cellular respiration and photosynthesis, plant form and function, and ecological principles. In addition to writing the AP exam, students will write the University of Toronto Biology Competition.

General Learning Outcomes:
- Students will develop an understanding of energy systems as they relate to living creatures.
- Students will develop an understanding of the chemistry of cellular respiration and photosynthesis, and will develop an understanding of the unifying role in the living world of these two processes.
- Students will develop an understanding of the form and function of plants.
- Students will develop an understanding of the complexity of plants and their importance to humans with current applications in biotechnology.
- Through the study of ecological principles, students will gain an awareness of the interconnectedness of all organisms on the earth.
- Students will examine the current state of global ecosystems with particular emphasis on current issues such as climate change.
- Students will gain awareness that Biology is a dynamic area of study that is constantly changing as a result of new discoveries.

Course Evaluation Structure:
- 70% Course work (assignments, tests, projects)
- 30% Final Exam

Course Final Standing:
- All marks in the course will be cumulative.
- The course mark will stand alone separate from the mark the students achieve in the AP exam.

Resource:
Campbell and Reece: Biology; Kaplan AP Biology Study Guide
Unit Descriptions

Unit 1 Title: Bioenergetics (Cellular Respiration and Photosynthesis)
Reece and Campbell. Chapters 9 + 10

Approximate Instructional Time for Unit of Study: 2 weeks
Learning Outcomes:
- Students will examine the Principles of Energy Harvesting by Life Forms
- Students will examine the Process of Cellular Respiration
- Students will examine Related Metabolic Processes such as Fermentation
- Students will examine the role of Photosynthesis in Nature.
- Students will examine the Pathways of Photosynthesis.

Unit 2 Title: Plant Form and Function
Reece and Campbell. Chapters 35-39

Approximate Instructional Time for Unit of Study: 4 weeks
Learning Outcomes:
- Students will examine Plant Structures and Growth Patterns.
- Students will examine Transport in Plants.
- Students will examine Plant Nutrition.
- Students will examine Plant Reproduction and Biotechnology.
- Students will examine Plant responses to Internal and External Signals

Unit 3 Title: Ecology
Reece and Campbell. Chapters 50-55

Approximate Instructional Time for Unit of Study: 2 weeks
Learning Outcomes:
- Students will examine the scope of Ecology.
- Students will examine factors affecting the distribution of organisms.
- Students will examine Animal Behaviour.
- Students will examine Population Ecology.
- Students will examine Community Ecology.
- Students will examine Ecosystems.
- Students will examine Conservation Biology.

MAJOR PROJECT
- Students will prepare a semester-end project to be determined. Projects will be decided upon during the course of the semester.
Students actively engaged in their learning are the essence of the Brandon School Division’s mission of educating the whole child. The assessment, evaluation and reporting of student learning and achievement involves students, teachers, principals, parents, superintendents and the Board of Trustees. It is the responsibility of professional educators to assess, evaluate, and report on each student’s degree of engagement and resulting learning outcomes. Such assessment, evaluation and reporting is a continuous and fundamental part of the student’s learning process. Students are responsible for:

- their own learning with the expertise, assistance and motivation of their teachers;
- engaging individually and collectively in school/community learning opportunities;
- improving their learning involvement;
- playing an active role in assessing their own learning;
- providing evidence of their learning within established timelines.

The purpose of this document is to identify student responsibilities in assessment and evaluation practices, provide clear guidelines and consequences so students can make informed decisions, and to provide structures that improve the relationship between student learning and assessment.

All assessments and/or evaluations will be assigned a reasonable completion date by the classroom teacher.

When a student demonstrates negligence and/or disregard towards the assessment and/or evaluation due date, the teacher can assign a “0” grade for the incomplete assessment and/or evaluation. For a “0” grade to remain permanent on the student’s record for that unit of study, a teacher’s records will demonstrate that he/she had advised the student and the parent/guardian that there was an opportunity to complete the original assessment or an alternate assessment, but that it would have been penalized in accordance to divisional guidelines.

Penalization for late assessments is as follows:
- Grade 9 – 10%
- Grade 10 – 15%
- Grade 11 – 20%
- Grade 12 – 25%

Example: Grade 10 student receives 80% for a late assessment. The penalty for the late assessment would be (80) (0.15) = 12. The adjusted mark would be 80 - 12 = 68%.

Once the late assessment is marked, the penalized assessment mark will replace the “0” grade that was originally assigned to the student by the teacher. If the original or alternate assessment is not submitted by the new completion date or if the student refuses to submit a required assessment, the “0” grade assigned to it will remain on the student’s evaluation records. The “0” grade(s) will be calculated into the student’s final mark for the unit of study and will be used in the calculation of the final grade of the course.