**Course Focus:** Biological Science 2 is an academic requirement for Math-Science Mathayom 5 (Secondary Grade 11) students. Topics covered are more detailed than at M.4 level. Students are geared to acquire the basic understanding of concepts and details of topics through lectures from textbooks, extra readings materials and exercises, presentation, and interactive discussions during the class session. This course is focused on filling areas not covered previous academic year in depth.

|  |  |  |  |
| --- | --- | --- | --- |
| **Semester 2: (SCI 30102) 1.0 Credits, 60 hours**  **M.4/1-2 (Science-Math and Math-English Majors)**  **Grade 10 (M.4) Biological Science 2** | | | **Reading** |
| **Topics Covered** | | **Details** |  |
| 1 | Ecology | * Biomes * Ecosystem Diversity * Biotic and Abiotic Factors * Energy Transfer * Nutrient Cycling * Ecological Succession | Elective Biology 6:  Chapters 5  Extra Reading Materials |
| 2 | Conservation | * Conservation Biology and Restoration | Elective Biology 6:  Chapters 7 |
|  | **Midterm Exam** | **Cover up to topics 1-2** |  |
| 3 | Plant Stimulus and Response | * Plant Hormones * Plant Response to Stimulus * External Stimulus Inducing Plant Development | Extra Reading Material |
| 4 | Homeostasis | * Immune Response * Excretory System | Campbell Biology |
|  | **Final Exam** | **Cover up to topics 3-4** |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Score Assessment** | **Points** | **Total Points** |
| 1 | Class Attendance | 10 | 60 |
| 2 | Class Manners and Participation   * Attention/responsiveness * Inappropriate conduct such as playing on mobile phones, tablets, etc… will result in point(s) deduction.   **Note:** Mobile phones will be permitted for searches in accordance to specific assignment/class activities once announced at specific timepoint(s). |
| 3 | Presentation in groups (individual scores for each student)  Group Session – problem solving | 20 |
| 4 | Extra-curriculum Activities   * Lab with printed scientific report | 20 |
| 5 | Pop Quiz | 10 |
|  | | | |
| 6 | Midterm | 20 | 40 |
| 7 | Final | 20 |
| 8 | Extra Credit will be considered based on quality of work | 0-10 | |
|  | **Passing Score** | **50 %** | |

**Reading and Study Material:**

**(1) Campbell PowerPoint Lectures and uploads given in conjunction with textbooks**

**(2) Textbooks**

2.1. New Century Elective Biology: Secondary 4, 5, and 6.

Hodder Education Singapore, 2019 Edition.

Beverly Tay, Loo Kwok Wai, Ong Bee Hoo, and Janlin Chan

2.2. Biology: A Global Approach, Global Edition, 10/E

Neil A. Campbell, University of California, Riverside

Jane B. Reece, Palo Alto, California

Lisa Urry

Michael L Cain, Bowdoin College, Brunswick, Maine

Steven A Wasserman, University of California, San Diego

Peter V Minorsky, Mercy College, Dobbs Ferry, New York

Robert B Jackson, Duke University, Durham, North Carolina

**or equivalent version**.

2.3. Extra reading from sheets to be given.