



## Solar Energy Honors Syllabus

**Instructor:** Dr. Teresa Thornton

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**Office Hours:** By appointment ONLY. Monday-Friday (please make sure I am available and not in meetings), lunch, & after school  
Please come to my office during YOUR study hall if possible.

### Textbooks (subject to change)

There are no textbooks approved for this course. Information will come from a variety of accepted and approved sources, including college level and AICE texts.

#### *Potential List:*

Hassenzahl, D., Hager, M., & Berg, L. (2017) Visualizing Environmental Science

Weatherly, D. & Sheehan, N. (2017) Cambridge IGCSE and O Level Environmental Management: Student Book

Skinner, G., Crafer, K., Turner, M., Skinner, A. & Stacey, J (2017) Cambridge IGCSE and O Level Environmental Management: Coursebook

Skinner, G., Crafer, K., Turner, M., & Skinner, A (2017) Cambridge IGCSE and O Level Environmental Management: Workbook

Weatherly, D & Sheehan, N. (2017) Cambridge IGCSE Environmental Management

All supplements relating to text will also be electronic:

<https://sites.google.com/palmbeachschools.org/drthorntonjerfsa/home>

Assorted Journals, articles, videos, and activities

### **DAILY AGENDAS POSTED AT TOP OF EVERY UNIT**

### Course Description

This course takes a unique approach by combining different subjects and using science as a foundation for learning. It is an interdisciplinary study using the nature of science and its application as the delivery method for specific disciplines. As writing and math are approximately 29% of the PBCSD course standards, and the nature and application of Science are approximately 30% of the PBCSD course standards. Hence, a Research Project (Conducting independent research on a scientific topic), and Written Lab Analyses (Analyzing and interpreting data from science experiments and expressing findings in writing) are also required.

The **52 standards** are broken down in the following categories:

The Nature of Science	16
Mathematics	06
Writing	09
Specific Disciplines	21

- |                                     |                            |                           |
|-------------------------------------|----------------------------|---------------------------|
| • oceanography                      | • environmental policy     | • biogeochemical cycling  |
| • chemistry                         | • sustainability           | • pseudoscience           |
| • climate                           | • environmental protection | • production technologies |
| • space                             | • natural resources        | • physical sciences       |
| • mining                            | • population dynamics      | • chemistry               |
| • renewable and nonrenewable resour |                            |                           |

This course also explores how humans impact the planet and how we can manage our resources sustainably.

- **Focus:** Sustainable development, resource use, human impact on the environment.
- **Goal:** Understand how human behavior shapes the environment and learn patterns for sustainable management.
- **Approach:** Local and global perspectives, considering how cultural, social, and political factors influence environmental decisions.
- **Key idea:** Sustainable practices require changes in human thinking and decision-making.
- **Outcome:** Empowering learners to participate in creating a sustainable future.

## Outcomes

### Knowledge and Understanding (what you know)

*You'll be expected to show your grasp of scientific concepts and processes, relevant vocabulary, and their real-world implications. This includes both familiar and new topics.*

### Information Handling and Analysis (using what you know)

*You'll demonstrate your ability to find, organize, and present information from various sources. This could involve translating data from one format to another, working with numbers, and interpreting results (like trends and patterns) to draw conclusions.*

### Investigation Skills and Making Judgments (applying what you know)

*This section focuses on your ability to plan investigations, identify limitations in research methods, and suggest improvements. You'll also need to explain observed phenomena, relationships between concepts, and draw conclusions based on the evidence (both qualitative and quantitative data).*

#### *Breakdown of the Specific Skills (potential list):*

- *Phenomena, facts, definitions, etc. - This means understanding the core concepts and ideas in science.*
- *Vocabulary, terminology, and convention - Knowing and using the correct scientific terms and language.*
- *Technological applications and their impacts - Being aware of how science is used in technology and the effects on society, economy, and the environment.*
- *Locating, selecting, organizing, and presenting information - This involves finding relevant information from various sources, organizing it effectively, and presenting it clearly.*
- *Translating information - This means being able to express information in different forms (e.g., words to graphs, graphs to equations).*
- *Manipulating numerical data - Working with numbers related to scientific experiments and investigations.*
- *Interpreting and evaluating data - Making sense of data, identifying trends and patterns, drawing conclusions based on evidence.*
- *Planning investigations - Designing experiments and research projects.*
- *Identifying limitations of methods - Recognizing the potential weaknesses or biases in research methods.*
- *Presenting reasoned explanations - Providing clear explanations for observed phenomena and relationships based on evidence.*
- *Making judgments and reaching conclusions - Drawing well-supported conclusions based on both qualitative (descriptive) and quantitative (numerical) information.*

## Major Concept Schedule (Tentative)

UNIT	Topic
1	What is Science?
2	Space and Sun
3	The Atmosphere and human Activities
4	Rocks and Minerals & Their Exploration
5	Energy and the Environment
6	Water & Its Management
7	Oceans and Fisheries
8	Agriculture and the Environment
9	Human Population
10	Natural Ecosystems and Human Activity

## Teaching & Learning Strategy

In order to facilitate an evolving education system this primarily an electronic classroom. Using the latest technology students will be encouraged to manage, work, and submit assignments via the Google Classroom Suite

(<https://sites.google.com/palmbeachschools.org/drthorntonjerfsa/home>) or via email. In addition, collaborative groups will be formed to promote peer learning. An emphasis will be placed on active engagement in the processes of math and science. In doing math and science, each student will construct in a body of knowledge that will support learning in other courses. As part of the foundations curriculum, this course will emphasize the acquisition of specific skills that include writing and speaking effectively, critiquing, problem solving, and evaluating. Therefore, the demonstration of these skills will become part of the evaluation process of this course.

## Assessment

Grade %	Criteria
A 100-89.5	Consistently outstanding work that shows mastery of the material relevant to the assignment. Work displays evidence of well-developed high-order thinking and problem-solving skills, including the ability to define a problem, recognize, develop and evaluate different hypotheses or solutions, find patterns and meaning in complex data, evaluate the reliability of different sources of information, where warranted, generalize from specifics, and make reasoned judgments, even with incomplete information. <b>Turned in on-time.</b>
B 89.4-79.5	Consistently very good work that shows mastery of material relevant to the assignment. Work displays evidence of high-order thinking and problem solving skills as above, but with some difficulties.
C 79.4-69.5	Good quality work showing mastery of the material, but with some weakness. Work meets the requirements of assignment, but shows little, if any, evidence of high-order process such as those listed above.
D 69.4-59.5	Assignment complete but is of poor quality with major weaknesses. Master of material is in doubt, and higher-order processes are not evident
F 59.4-0	Assignment is not completed on time, does not meet minimum criteria, or is plagiarized or otherwise dishonest.

### Final grades will be determined as follows:

- Class work 75% each semester:
  - 60% Formal Laboratory Write-ups, Tests, Quizzes, Projects, Other as Determined
  - 40% Classwork, Homework, Field Work (unless otherwise noted)
- MidTerms and Final 25%
  - 25% Mid TERM = 50% Exam & 50% Research Paper
  - 25% Final = 50% Exam & 50% Research Paper

### Laboratory Write-ups

Labs are an integral component of this course. Every lab session will include a graded written exercise. Lab report procedures will be described/explained in detail by your instructor, but will all include the components listed in the sample write-up on class Google Site [Dr. Thornton JERFSA](#). The graphs will all be produced by a software program such as Excel or Sheets, and will utilize a format that will be explained by your instructor and located on the course web site. **ANY WORK FOUND TO BE ARTIFICIAL INTELLIGENCE OR PLAGIARIZED WILL RESULT IN A ZERO**

### Tests/Research Projects

MOST tests consist of written responses (not many multiple choice). You may not write in pencil on the tests. Only blue or black ink (except when creating graphs and completing mathematical problems) will be accepted. If you are absent on the day of a test, you are expected to take the test the next class period you attend (unless there are multiple absences). Any student caught cheating on a test or paper will receive a school referral and a zero (**which can NOT be made up**). **ANY WORK FOUND TO BE ARTIFICIAL INTELLIGENCE OR PLAGIARIZED WILL RESULT IN A ZERO**

### Assignments

This is primarily an electronic classroom. Using the latest technology students will be encouraged to manage, work, and submit assignments via the Google Classroom Suite (<https://sites.google.com/palmbeachschools.org/drthorntonjerfsa/home>) or via email ([teresa.thornton@palmbeachschools.org](mailto:teresa.thornton@palmbeachschools.org)). LATE WORK WILL ONLY BE ACCEPTED 1 DAY FOLLOWING THE DUE DATE AND WILL BE GRADED FOR REDUCED CREDIT (50% off grade)! Assignments turned in late due to an absence from class may receive full credit as long as it is received by the teacher in a timely manner (you are allotted one day per each day absent to turn in the work). Remember, it is YOUR responsibility to get the work from the teacher.

### Homework

Homework assignments will be posted on the web site (see link below) the week prior to the subject being covered in class, and due the week after the subject is covered in class. This gives students a full week and two weekends to manage their time properly and make sure homework is completed in a timely manner.

1. Every week a video and/or a blog comment will be due. Videos are posted on the web site (see link below). Students watch the video (2-30 minutes [long](#)) and submit an electronic evaluation that compares the video or article contents to what is being taught in class via Google Classroom. **Please turn in at least 5 full comprehensive sentences describing your reaction, thoughts and ideas on the topic as an assimilation to course concepts covered. DO NOT JUST SUMMARIZE THE VIDEO**
2. A second weekly assignment will be connected to either the semester project, or a topic covered in class. This second assignment should not take more than 30 minutes a night.

3. Approximately every two weeks a laboratory write-up will be due post data collection in class. This is an assignment that should be **broken down into pieces throughout the two weeks and managed properly by the student**. This is an exercise in **TIME MANAGEMENT**. The final product should be written in the laboratory write-up format. **ARTIFICIAL INTELLIGENCE WILL BE GIVEN A ZERO**

#### **POTENTIAL Extra Credit**

SCIENCE LECTURES & HALL PASS COUPONS – Throughout the year, we will have science lectures in the school auditorium. You will be able to earn UP to 1% (added to your quarter grade) by attending these lectures and completing the lecture assignment. If you do not follow all guidelines on the lecture assignment, you will not earn the full 1%. Assignments need to be turned in within one week of the lecture. Typically, there are two lectures per quarter. If there is a third lecture in a quarter, that assignment will count for the following quarter. If you are unable to attend the lecture for a GOOD reason (church youth group, school sporting event, etc.), an alternative assignment will be provided. To earn credit, follow all criteria of that assignment and make sure you have your youth pastor, coach, etc. sign the required paper work.

IT IS **YOUR** RESPONSIBILITY TO CHECK THE WEBSITE DAILY FOR UPDATES.

**DAILY AGENDA ON WEBSITE:**

<https://sites.google.com/palmbeachschools.org/drthorntonjerfsa/home>

**\*\*CHECK S.I.S. (GRADES) REGULARLY FOR YOUR UPDATED GRADES.\*\***

#### **Classroom Requirements for Success**

1. **GOOGLE: Download all following google apps to your phone:** google classroom, google drive, google doc, google slides, google sheets, and google calendar.
  - **Accessing google apps from a pc at home, go to [www.google.com](http://www.google.com) then click on the 3x3 grid on top right.** Occasionally, we will use the Chromebooks in class.
2. **GOOGLE CLASSROOM sign up on your personal pc and your phone.** Remember, you have to download the app on your phone first before signing up.
  - Use the following link to HELP you sign into **Google Classroom** step by step:
  - <https://support.google.com/edu/classroom/answer/6072456?co=GENIE.Platform%3DDesktop&hl=en>
  - Then use the following link to HELP you **sign up for the class:** Your class code is:
    - **Period 4 Class Code:**<https://classroom.google.com/c/NzkxMjc2MzcyMDMz?cjc=c4qfayg3>
    - **Period 5 Class Code**<https://classroom.google.com/c/NzAwNTU4Njk1MjYw?cjc=vdfsxvgw>
    - Use the following link for directions on how to submit an assignment. **All projects must be submitted via google classroom under the assignment.**  
<https://support.google.com/edu/classroom/answer/6020285?co=GENIE.Platform%3DDesktop&hl=en>

#### **Citizenship/Conduct Guidelines**

District policy states that teachers will assign a conduct grade to students on report cards and progress reports. Choices for the marks If a student receives a level one or two from any instructor in a given grading period, the student becomes ineligible for Bright Futures Scholarship and may be dismissed from an academy (if applicable).

The following criteria shall be used in determining a student's conduct code in his/her class:

1. Attends class regularly and arrives on time – remember, after 4 tardies, each additional tardy is marked as an absence.
2. Comes to class with necessary materials.
3. *Completes homework assignments & meets deadlines.*
4. Does his/her own work when independent work is required; does not cheat.
5. Exercises reasonable care of school property.
6. *Does not disrupt class.*
7. Does not eat in class.
8. Shows respect for others.
9. **ALL SCHOOL RULES APPLY**

**\*\*\* Remember, NO CELL PHONES out or on during class!**

AGAIN: IT IS **YOUR** RESPONSIBILITY TO CHECK THE WEBSITE AND GOOGLE CLASSROOM **DAILY** FOR UPDATES: <https://sites.google.com/palmbeachschools.org/drthorntonjerfsa/home>

*Daily agenda at top of unit*

***This Syllabus is subject to change at any point in the year***