

Course Syllabus Spring 2020

Around the world, climate change is an existential threat - but if we harness the opportunities inherent in addressing climate change, we can reap enormous economic benefits.

Ban Ki-Moon

In reality, climate change is actually the biggest thing that's going on every single day.

Bill McKibben

There is no debate about whether or not climate change is happening. We will deal with it as a challenge. But we also take it as an opportunity to invest.

Justin Trudeau

I think there are more politicians in favor of electric cars than against. There are still some that are against, and I think the reasoning for that varies depending on the person, but in some cases, they just don't believe in climate change - they think oil will last forever.

Elon Musk

I am not deeply involved in Australian politics but I know there are prime ministers, governments around the world who are not acting responsibly in relation to climate change.

Jane Goodall

"The violence that exists in the human heart is also manifest in the symptoms of illness that we see in the Earth, the water, the air and in living things."

Pope Francis on climate change

Department Name: Environmental Program
College/School/Division Name: School of Natural Sciences and Mathematics
Course Credits: 3
Term: Spring 2020
Class Meeting Days: MWF
Class Meeting Hours: 1:30-2:20
Class Location: Ching 253

Instructor: Dr. Gail Grabowsky
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Phone: 735-4834 (ext. 834 if calling from on campus); cell 808-387-9319 (please don't call after 9:00 pm, but you may text anytime!)
Office Location: Wesselkamper Science Center, room 105
Office hours: MTThF: 2:30-6:00; Or by appointment
Course Website: <https://drive.google.com/drive/folders/1T2pizCPY04nUzhjqrIfThniGrCKZg9OS>

University Course Catalog Description

ENV 490 courses are designed to address current topics in the environment and are offered only once.

Course Overview

This year's Current Topics course addresses what many consider to be the most pressing threat to humanity and the planet – climate change – only we are not going to focus heavily on its causes and consequences, ENV students are already well aware of these, we are going to focus instead on solutions! We will survey, discuss, compare and evaluate all types of solutions: material, behavioral, economic and political on personal, local, national and global scales. We will also consider what is doable now versus what will take some time versus what does not exist yet that should! I.e. our solutions encompass different types, scales and time-lines. We are also going to take action and participate in climate change solutions! So there are experiential and service learning components of this course as well!

I am very excited about leading this timely course. Notice I didn't say "teaching" this course – this is a senior-level course and we are a learning community teaching each other. I am learning as much from each of you as you from me. Also, I want you to help us define just what this course will be about. So on the first day we will be finishing up this syllabus. It is a work-in-progress that I want you each to have a hand in designing.

Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith
2. Provide an integral, quality education
3. Educate in family spirit
4. Educate for service, justice and peace
5. Educate for adaptation and change

Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the 'Olelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua ('Ōlelo No'eau 364) May I live by God
2. Provide an Integral, Quality Education (Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Ōlelo No'eau 1957) Acquire skill and make it deep
3. Educate in Family Spirit ('Ohana) 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Ōlelo No'eau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship
4. Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka no'eau ('Ōlelo No'eau 1430) Education is the standing torch of wisdom
5. Educate for Adaptation and Change (Aina) 'A'ohē pau ka 'ike i ka hālau ho'okahi ('Ōlelo No'eau 203) All knowledge is not taught in the same school

Learning Outcomes:

By the end of our course, students will:

Students will:

-  Identify the material, political, economic and ethical **causes** of climate change
-  Identify the current and projected physical, economic and social **consequences** of climate change
-  Examine the degree of **certainty** and **probability** of climate change projections/predictions
-  Describe the **behavioral blocks** and **barriers** to climate change action at personal and societal levels
-  Inventory the material and ethical **SOLUTIONS** to climate change
-  Review and compare policy-strategies that can **MITIGATE** climate change
-  Participate in personal climate change action **COMMITMENTS**
-  Participate in a Chaminade or wider-community climate change **ACTIONS**
-  Reflect upon the possibility of any positive outcomes of climate change
-  Summarize existing and propose future **careers** linked to climate change solutions
-  _____ ???

Course Prerequisites:

You must be a junior or senior to take this class, or have demonstrated a strong interest in climate change. Students who are particularly concerned about climate change or seeking a career related to climate change mitigation but who are not juniors or seniors may seek a pre-requisite waiver for this course from Dr. Gail.

Learning Materials:

Required:

- Bennett, Jeffrey. 2016. *A Global Warming Primer*. Big Kid Science, Boulder, CO. [ISBN: 9781937548780]
- Harvey, Hal, Robbie Orvis and Jeffrey Rissman. 2018. *Designing Climate Solutions: A Policy Guide for Low-Carbon Energy*. Island Press. [ISBN: 9781610919562]
- Hawken, Paul. 2017. *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. Penguin Books. [ISBN: 9780143130444]

Supplemental readings and websites we may frequent (that students are not required to purchase):

- Friedman, Thomas L. 2016. *Thank You for Being Late*. Farrer, Straus and Giroux. New York. [ISBN: 978-0-374-273538]
- International panel on Climate Change website: <https://www.ipcc.ch/>
- Klein, Naomi. 2014. *This Changes Everything: Capitalism vs Climate Change*. Simon & Schuster Paperbacks. New York. [ISBN: 9781451697384]

Romm, Joseph. 2016. Climate Change: What Everyone Needs to Know. Oxford University Press. ISBN: 978-0-19-025017-1

Solve Climate by 2030 website: <http://www.solveclimateby2030.org/>

Other: Throughout the course there may be readings, handouts, links and videos to view/read that we find ourselves in our search for ideas, knowledge and answers! We will share e-copies of all of the additional materials that are mandatory for the course with each other via our class Google Drive folder.

Course Website: <https://drive.google.com/drive/folders/1T2pizCPY04nUzhjqlfThniGrCKZg9OS>

Course Requirements:

Your grade in this course will be based on the following. Each of the items/activities listed below will be described to you below and in writing or orally in class.

- | | |
|---|-----|
| • Quizzes on readings & other assignments | 20% |
| • Material Fixes Info Share | 20% |
| • Policy Fixes Info Share | 20% |
| • Future Fixes – Real or Imagined | 20% |
| • Climate Change Mitigation Actions! | 20% |

Course Grading:

The proportion that each of the above contributes to your grade in this course is as follows:

- | | |
|---|-------------|
| • Quizzes on readings & other assignments | 200 |
| • Material Fixes Info Share | 200 |
| • Policy Fixes Info Share | 200 |
| • Future Fixes - Real or Imagined | 200 |
| • Climate Change Mitigation Actions! | 200 |
| | 1000 |

Assignments:

The details for each of the assignments will be explained orally and with handouts in class prior to the initiation of each. In general for each:

Quizzes on readings and other assignments: There is the *possibility* that after every reading there will be quiz on the reading. I say *possibility* because there may be a quiz on every reading or a quiz on just a few of them. These are therefore true “pop” quizzes because you guys will not be told ahead of time which readings will be accompanied by a quiz on the day you are supposed to have the reading done. This is because I want you to read *all* the papers/handouts! I will read them all myself...but I may not make a quiz on every one.... If you miss a quiz and do not have an excused absence you will receive a zero for that quiz. If you miss quiz on an excused absence (see below for what absences are excused) then that quiz will not be included in your grade calculation. There may also be a number of other smaller assignments you and I invent along the way because we want to do them! These will count in this category.

Material Fixes Info Share: You will each do one of these by yourself (or two with the same partner). The way you share your info is **TOTALLY UP TO YOU!** You may make a power point, show a video, have the class participate, bring in an example, bring in an expert, have a discussion, ETC! The grading rubric (= requirements to earn an “A”) are that you need to make sure the class understands your material fix by the end of your presentation. That means they need to understand what it is/does, how it helps mitigate/stop climate change, and what its weaknesses are if it has any. You also must have the class do an activity for one of your info shares! You may spend up to \$50 for one of your Info Shares. For activity ideas check out the “247

Active Learning Strategies” handout I have uploaded in Drive for you☺

<https://drive.google.com/drive/folders/1T2pizCPY04nUzhjqlfThniGrCKZg9OS>.

Policy or Behavior Fixes Info Share: You each will do one of these by yourself (or two with the same partner). The way you share your info is TOTALLY UP TO YOU! The grading rubric (= requirements to earn an “A”) are that you need to make sure the class understands your policy fix by the end of your presentation. That means they need to understand what it results in, how it works, how it helps mitigate/stop climate change, and what its weaknesses are if it has any. You also need to have the class do an activity for one of your info shares! You may spend up to \$50 for one of your Info Shares. For activity ideas check out the “247 Active Learning Strategies” handout I have uploaded in Drive for you☺

<https://drive.google.com/drive/folders/1T2pizCPY04nUzhjqlfThniGrCKZg9OS>.

Future Fixes - Real or Imagined: This is an assignment that is meant to have us bring in or think up solutions that may be in a research and development stage at this point and perhaps there is a prototype out there that someone is trying out. They may also be something that YOU have invented. They can be any kind of climate change fixing thing, policy, behavior, ETC! You do NOT have to do an activity for this assignment and again you may share your info however you like. Presentations must be at least 20 minutes long.

Climate Change Mitigation Actions: Carbon Footprint Calculation, Behavioral Commitments, Community/CUH action! This requirements and grading rubric for this assignment will be developed by YOU the class in class!

Assessment:

Beginning on the first day and throughout class, there will be a Climate Change Background Knowledge Probe!. This is non-graded. I just want to know how much you know at the start of the class about climate change causes and consequences especially as well as solutions to a lesser extent b/c that is what this class is all about!

Attendance:

Excused absences include: being ill with a doctor’s note, missing for an *emergency* work-related, or family-related event/obligation and/or missing for an athletic event, religious retreat, friend’s wedding or research paper presentation at a symposium. You’ll need to provide some kind of documentation in order to verify the reason for your absence no matter the reason. I am a scientist; I require hard evidence if an absence is to be excused. A doctor’s note, wedding invitation, airline ticket stub, etc. will do. If your car breaks down on the way to class take a picture of your smoking engine or flat tire and make SURE I can verify the date and time of the breakdown and it will be an excused absence, ☺. No evidence; no excused absence. Otherwise you are all allowed TWO, and only two, unexcused absences, after the second absence you will lose 20 points from your overall grade for each unexcused absence....

Extra Credit Options: These are other-than the climate action assignments that are a part of this class!

Throughout the course Dr. Gail will be making numerous environmental service-learning outings available to you. You may also find environmental service opportunities on your own. For every service-learning activity that you participate in, that entails 4-5 hours of work, you will receive +5 extra credit points. If you testify for or against any piece of legislation that relates to the topic of this class you will receive +3 points as long as you write/speak at least ten original sentences of testimony explaining the rationale for your support/lack of support. Finally, periodically throughout the course there will be talks and presentations you may attend that pertain to the course material. You can earn +2 extra credit points towards a lecture exam for each talk you attend with content related to the course content. In order for all talks and service activities to count for extra credit you MUST have them approved by Dr. Gail PRIOR TO the event and you MUST document your presence (if Dr. Gail is not also in attendance) with a photograph of yourself participating or some other kind of evidence. You may earn up to 40 extra credit points from service activities, testimonies and/or attending talks/presentations.

Course Atmosphere:

Guys – These 490 classes are meant to be academic “candyland” for you and me; in this particular 490 we will be learning about, evaluating and imagining how we might fix what many feel is THE most pressing issue facing the PLANET (= all of humanity and all other living forms!) AND it just so happens that it is a topic covered by you Environmental Studies and Environmental Science majors! So let’s get down to it: have fun, learn a lot, participate in solutions, design solutions and discover careers you might want to have or invent one we need that you might love! As usual in my classes, be respectful of one another – you will learn so much from one another – and participate! Please don’t second guess your thoughts before you share them. I.e. don’t ask yourself whether your question or idea or point of disagreement should be shared, SHARE IT!

ADA Policy:

Statement from the [New Student Handbook](#):

Pursuant to federal and state laws, including the Americans with Disabilities Act of 1990 as amended by the ADA Amendments Act of 2008 and Section 504 of the Rehabilitation Act of 1973, all qualified students with disabilities are protected from discrimination on the basis of disability and are eligible for reasonable accommodations or modifications in the academic environment to enable them to equal access to academic programs, services, or activities. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center in the Student Support Services Building, Room 101, by phone at (808) 735-4845 or email: counselingcenter@chamianade.edu for further information. Web: studentaffairs.chamianade.edu/counseling-center/counseling-services

Title IX Compliance:

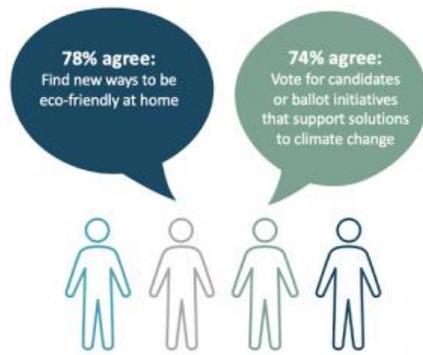
Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

Nothing is Certain but Change Itself Clause...

This syllabus and course schedule are living documents: they are free to change. I try to adhere as closely as possible to each, but there will be times in which we will take longer on a particular topic or add or delete a topic to enhance the course. I like to be able to react to you as the course proceeds and go with the flow a bit in order to make the course experience sort of custom fit to you!

You are responsible for all of the information in this document: losing it or not reading it are not excuses for not knowing what’s in it!

Presenters will be determined on 1/16!



First day of class version!



Climate Change Solutions
Course Schedule: Spring 2020

Quick Review of Causes and Consequences of Climate Change

WEEK	TOPIC	PRESENTERS	ACTIVITIES
1/13 – 1/17	Course Intro, Mechanics & Discussion Discuss readings, assign Info Shares	Dr. Gail Dr. Gail	Introductions; Course Decisions; READ! Earthbeat article & “Climate tipping points...”
1/21 – 1/24	Causes of Climate Change: Material Causes Causes of Climate Change & Policy Intro	Dr. Gail Dr. Gail	READ: pp.3-25 in <u>A Global Warming Primer</u> READ: pp.1-21 in <u>Designing Climate Solutions</u> Calculate YOUR Carbon footprint!
1/27 – 1/31	Policy Intro; Climate Consequences Climate Change Consequences	Dr. Gail Dr. Gail	READ: pp.25-33 in <u>Designing Climate...</u> READ: pp.53-75 in <u>A Global Warming Primer</u> Carbon Footprints DUE!
2/3 – 2/7	Climate Change Consequences - Hawaii Cause, Consequence & Policy Intro Wrap up!	Dr. Gail Dr. Gail	READ: pp.ii-iii in Climate Impacts in Hawaii The big picture and general policy opportunities Share OUR Climate Commitments!!!

Deep Dive into Climate Mitigations and Solutions!

WEEK	TOPIC	PRESENTERS	ACTIVITIES
2/10 – 2/14	Energy: Material Fixes Info Shares Energy: Material Fixes Info Shares One Future Fix!	_____ _____ _____	YOU GUYS DECIDE! YOU DECIDE! YOU DECIDE!
2/18 – 2/21	Energy: Material Fixes Info Shares Energy: Policy Fixes Info Shares Check out the Energy Policy Simulator: https://us.energypolicy.solutions/docs/ One Future Fix!	_____ _____ _____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
2/24 – 2/28	Energy: Policy Fixes Info Shares Energy: Policy Fixes Info Shares One Future Fix!	_____ _____ _____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
3/2 – 3/6	Transportation: Material Fixes... Transportation: Material Fixes... One Future Fix!	_____ _____ _____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
3/9 – 3/13	Transportation: Policy Fixes...	_____	YOU DECIDE!

	Transportation: Policy Fixes... One Future Fix!	_____	YOU DECIDE! YOU DECIDE!
3/16 – 3/20	Food: Material Fixes Info Shares Food: Material Fixes Info Shares One Future Fix!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
3/23 – 3/27	SPRING BREAK!	(Read on the beach!)	
3/30 – 4/3	Food: Policy Fixes Info Shares Land Use: Material Fixes Info... Two Future Fixes!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
4/6 – 4/9	Land Use: Material Fixes Info... Land Use: Policy Fixes Info Shares Two Future Fixes!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
	4/7: Solve Climate by 2030 event! 5:00-7:00 PM! http://www.solveclimateby2030.org/		
4/13 – 4/17	Buildings/Cities: Material Fixes ... Buildings/Cities: Material Fixes ... Two Future Fixes!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
4/20 – 4/24	Buildings/Cities: Policy Fixes ... Buildings/Cities: Policy Fixes ... Two Future Fixes!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!
4/27 – 5/1	Other Material Fixes Info Shares Other Policy Fixes Info Shares One Future Fix!	_____	YOU DECIDE! YOU DECIDE! YOU DECIDE!

Synthesis of an Integrated Climate Solution Scenario

WEEK	TOPIC	PRESENTERS	ACTIVITIES
5/1 – 5/5	Best Material Fixes Best Policy Fixes	Dr. Gail & All Dr. Gail & All	Putting it all together Putting them all together

Important Dates You Should Know:

Final Exam Day: **Tuesday, May 5th**, from 1:15-3:15 PM in Ching 253.

ON THIS DAY:

1. How did it go with [your Climate Change Mitigation Actions & Commitments?](#), and
2. **MOST IMPORTANTLY** what were the “blocks and barriers” to achieving your personal climate change actions **OR** what made them easy to achieve?. These “presentations” will last 10 minutes each.



