INCORPORATING SUSTAINABILITY ACROSS THE CURRICULUM

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- UNIVERSITY OF CENTRAL FLORIDA

- COLLEGES OF UNDERGRADUATE STUDIES & SCIENCES

We would like to acknowledge the amazing folks at CDL that are helping to make the magic happen!

Wendy Howard and the entire iLab team.

Aaron House and the entire video team.

Joe Fauvel and the entire graphics team.

Our amazing instructional designers: Charlotte Jones-Roberts, Joe Lloyd, & Jim Paradisio.

Our course assistants; Brandlin Hubbard, Olivia Young, & Jessica Hoffman

And our amazing spokesknight, Taylor Rutledge!

MEET THE TEAM

DEFINING AND FRAMING SUSTAINABLE DEVELOPMENT

- **United Nations' Brundtland Commission Definition** "Meeting the needs of the present without compromising the ability of future generations to meet their own needs"

- (Brundtland et al, 1987).

Created in response to the Higher education Association Sustainability Taskforce as an analytic tool, the AASHE STARS definitions Association for the Advancement of Sustainability in Higher Education. (AASHE) STARS (Sustainability Tracking, Assessment, and Rating System).

REASONS FOR INCORPORATING SUSTAINABILITY INTO COLLEGE CURRICULUM

Better Citizens

Universities are engines of societal change

Creating future leaders

Emphasizing connections between course content and real-world challenges

Institutional Goals

- Sustainability included on strategic development plans

Improved Learning

- Fostering critical thinking
- Improving communication skills
- Emphasizing interdisciplinary connections
- Building cognitive empathy and perspective taking skills

THE CURRENT PROBLEM:

UCF CURRENTLY HAS A SILVER RATING WITH AASHE, AND THE GOAL OF EARNING A GOLD STARS RATING IN THE FUTURE. AS YOU CAN SEE IN OUR LAST STARS REPORT

UCF WAS RATED VERY LOW IN THE ACADEMIC AREAS, PRIMARILY IN BOTH CURRICULUM AND RESEARCH.

Academic Courses	Complete	3.02 / 14.00
Learning Outcomes	Complete	0.23 / 8.00
Sustainability Literacy Assessment	Not Pursuing	0.00 / 4.00
Incentives for Developing Courses	Not Pursuing	0.00 / 2.00

PROJECT GOAL: TO SPECIFICALLY ADDRESS SOME OF THE CURRICULUM SHORTCOMINGS.

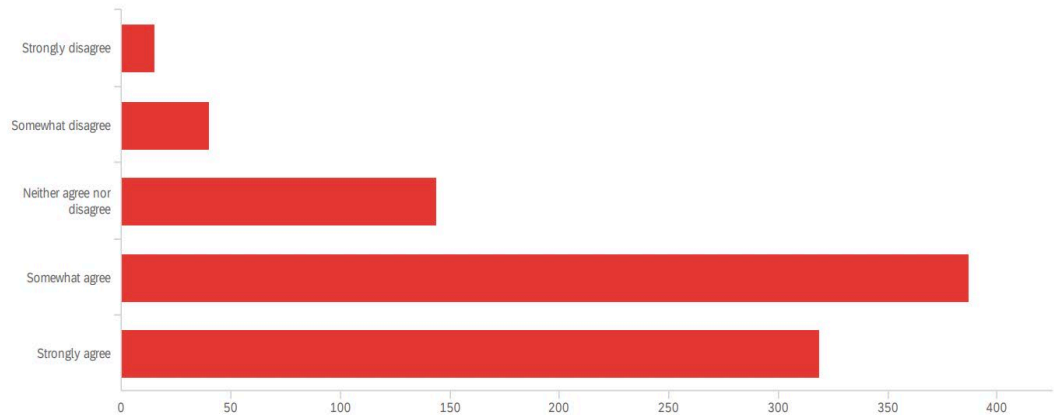# BARRIERS TO INCORPORATING SUSTAINABILITY INTO CURRICULUM

Misperceptions about what sustainability is

- Lack of knowledge about sustainability
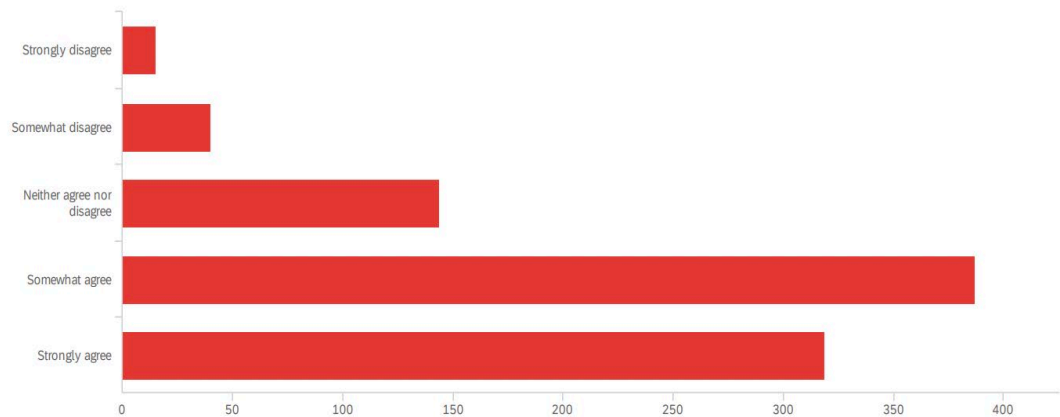
- Lack of time to find or develop materials

HE1 - Teaching sustainability has a place in higher education.

Response	
Strongly disagree	
Somewhat disagree	
Neither agree nor disagree	
Somewhat agree	
Strongly agree	

(Horizontal axis: 0, 50, 100, 150, 200, 250, 300, 350, 400)

#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Teaching sustainability has a place in higher education.	1.00	5.00	4.06	0.91	0.83	905

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- Based on the responses in the document, sustainability seems to broadly refer to practices, behaviors, and ways of living that allow for the long-term maintenance and preservation of environmental resources and ecological balance on Earth. Some key themes that emerge around the concept of sustainability include:

- Sustainability refers to practices that allow for the long-term preservation of environmental resources and ecological balance. Key aspects include reducing waste and emissions, conserving natural resources, developing sustainable technologies and solutions, encouraging sustainable mindsets and habits, ensuring current needs don't compromise future generations' needs, maintaining environmental health and biodiversity, taking a long-term view over short-term gains, and making individual and systemic shifts toward sustainability. Higher education plays a crucial role by increasing awareness, teaching sustainable practices, conducting research, and developing innovative solutions to promote environmental sustainability for present and future wellbeing.

CANVAS WEBCOURSE MODULES

As part of the CDL digital redesign, we are creating several modules on what sustainability looks like across disciplines including that also includes learning objectives that map to **AAC&U, NACE, and AASHE.**

1

To achieve this goal, we are creating a OER Pressbooks and a series of canvas modules to facilitate both faculty and students in understanding the interconnectedness and complexities of the SDGS. Each module has the ELO's mapped to module content, as well as incorporating relevant LinkedIn learning courses, Materia games, relevant Pressbooks content, videos, and other assets.

2

We are also creating a module on how to teach sustainability in different disciplines and examples of assignments with learning objectives. I'll work on getting faculty and student audio recordings and we can One Drive or GitHub to share. Same drill as above BUT faculty focused.

3

These modules will be shared to the digital commons to be used across campus. We hope this will not only introduce students how broad and complex the issue of sustainability is, but also assist faculty in incorporating sustainability into their online and blended courses.
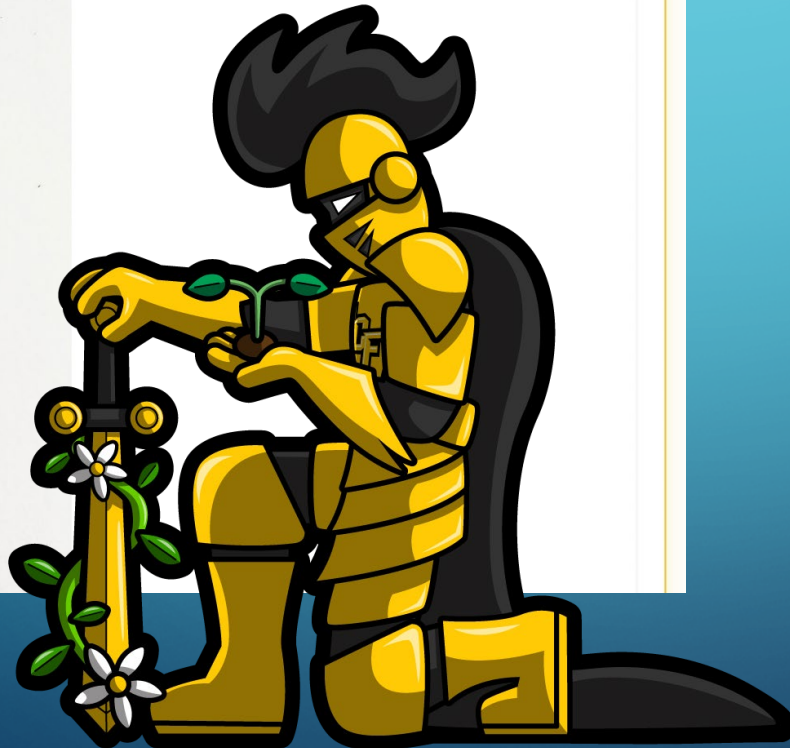
CROWDSOURCING INSPIRATION FOR SUSTAINABLE VISUALS

Sumaia Naga
01/23/2024 EST

I had a quick idea that I jotted down, It includes knightro holing a little plant and vines going up his sword with the Florida state flower. I am no artist nor digital artist at that so if you wanted to create a mascot, you would have to go to someone who is.

As an educator passionate about sustainability, I sought inspiration from the very people who inspire me daily – my students. I crowdsourced ideas across my classes, inviting them to contribute visuals that could effectively convey the importance of sustainable practices.

The response was overwhelming, with students embracing the challenge wholeheartedly. However, one particular submission on YellowDig caught our attention, sparking excitement among classmates and myself alike.

Recognizing the potential of this idea, I reached out to our talented graphic artist, Joe, who was equally captivated by this vision. Through a collaborative process, Joe skillfully translated this concept into a polished and engaging graphic.

What you see before you is the result of this collaboration – a visual masterpiece that seamlessly blends creativity, sustainability, and the power of student inspiration.

ASSETS INCLUDED IN EACH MODULE:

- Videos

- Materia Games – at least 3 per module

- AI generated images

- Themed graphics

- ThingLinks

- Interactive Maps

- LinkedIn Learning Courses and Videos

- Genially interactive inforgraphs
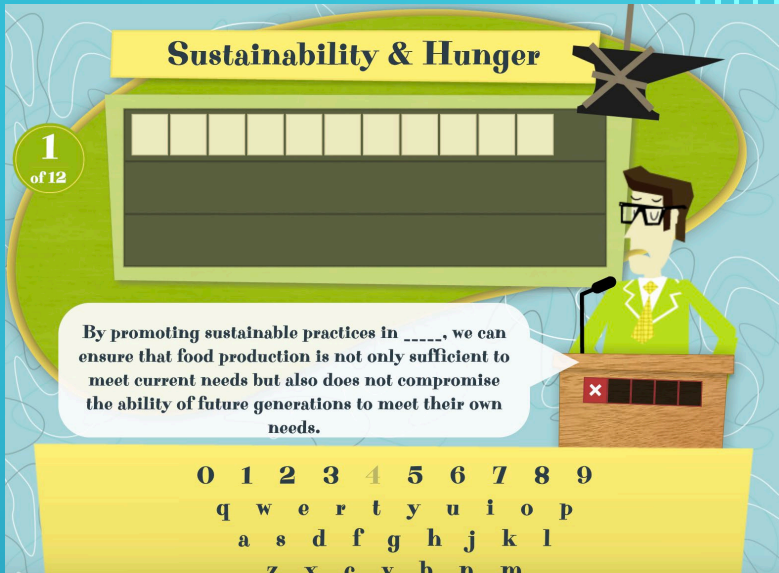
EACH OF THE 9 MODULES CONTAINS:

- Learning objectives mapped to ASHE, AAC&U, and NACE

- Module Description

- Module Assignments

- Corresponding Pressbooks Chapters

- Instructor Resources

- Directions on how to use modules

- Directions on how to embed Materia widgets

- Directions on how insert PressBooks in module

- Weblinks that scaffold material

Sustainability & Hunger

By promoting sustainable practices in _____, we can ensure that food production is not only sufficient to meet current needs but also does not compromise the ability of future generations to meet their own needs.

**Sustainable Development and Well-Being**

LinkedIn Course

Participate in the LinkedIn course below to gain a better understanding of how sustainability relates to our mental health.

Interactive Infographic

Select the pulsing icons in the interactive infographic below to learn more about some of UCF's campus resources that relate specifically to reducing Poverty, Hunger, and Health insecurities.

Campus Resources

VIDEO ASSETS

https://vimeo.com/cdlvideo/review/938268879/de12cd20c0
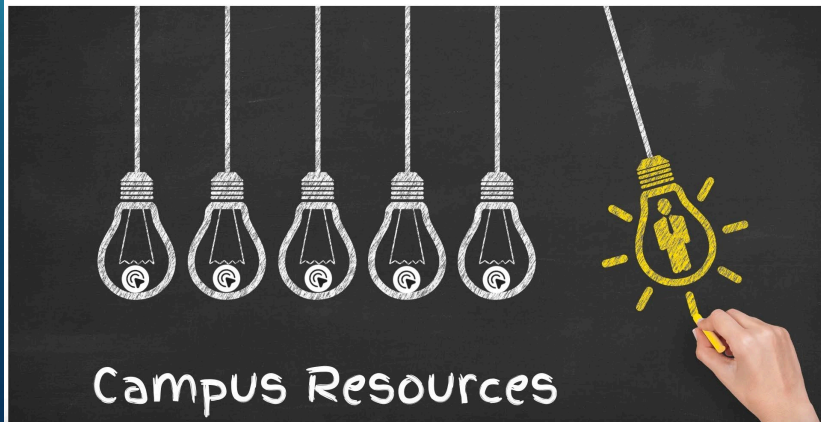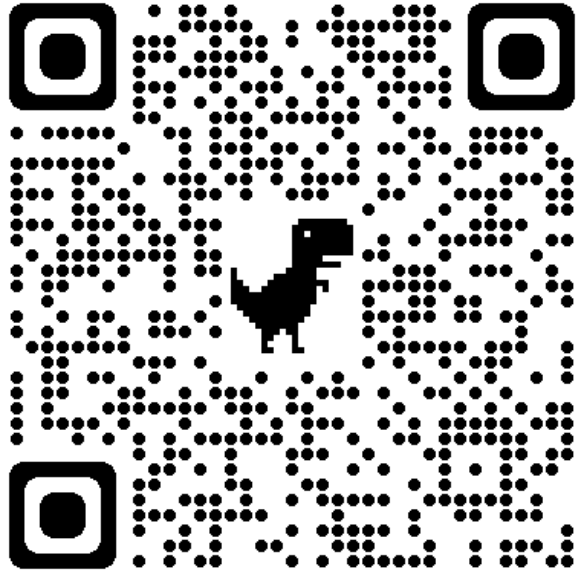
- Each module also includes multiple videos.

- Many of these were created specifically for this project by the incredible, and award winning, video team at CDL!

- We also have incorporated assets filmed in the past by UCF. Example via QR code.

- And incorporated videos from YouTube and other sites as well.

- We keep all videos well under the 5-minute mark for students.

LinkedIn Learning Assets

UCF CAREER SERVICES / EXPERIENTIAL LEARNING PAYS FOR LINKEDIN LEARNING COURSES AND CERTIFICATES FOR ALL KNIGHTS.

WITH HUNDREDS OF VIDEOS AND COURSES RELATING TO SUSTAINABILITY ACROSS ALL DISCIPLINES, WE ARE EMBEDDING COURSES THAT COULD BE USED AS ASSIGNMENTS OR EXTRA CREDIT AND EMBEDDING THEM IN CANVAS.

LinkedIn Learning

POPULAR
COURSE
Architectural Materials: Designing for Excellence and Sustainability
LinkedIn · By: Branka Knezevic · 2 months ago
44m 4.8 ★★★★★ (28) · Intermediate

COURSE
How Tech Drives Sustainability
LinkedIn · By: Talal Gedeon · Nov 2022
38m Certificate Eligible · 4.7 ★★★★½ (289) · 11,516 learners

VIDEO
A day in the life of a sustainability professional
LinkedIn · Updated 2 months ago · From the course: Green Jobs for Sustainable Careers
3m 7s 7,124 learners · Skills: Green Jobs, Career Path Planning

POPULAR
COURSE
Principles of Sustainable Development
LinkedIn · By: SDG Academy · Jul 2023
1h 4m Certificate Eligible · 4.8 ★★★★★ (190) · 4,811 learners

MATERIA WIDGETS, LINKEDIN LEARNING, AND OTHER INTERACTIVE FEATURES

- Each module also includes several "games" created on Materia

- ThingLinks and Interactive Maps

- LinkedIn Learning Classes and Videos
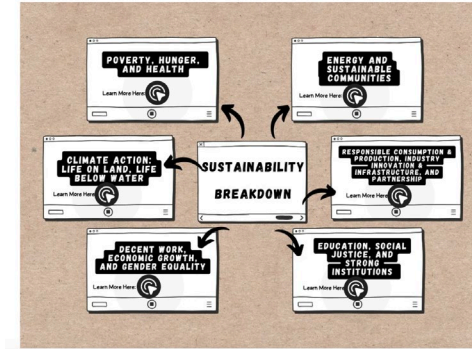
An Adventure Awaits

Navigate a series of interactions by responding to the questions or prompts provided.

Interactions may include **multiple choice** responses, selecting a **hotspot** on an image, or **entering text**.

Your score is determined by your final destination.

Let's Go

Sustainability Foundations: Core Concepts
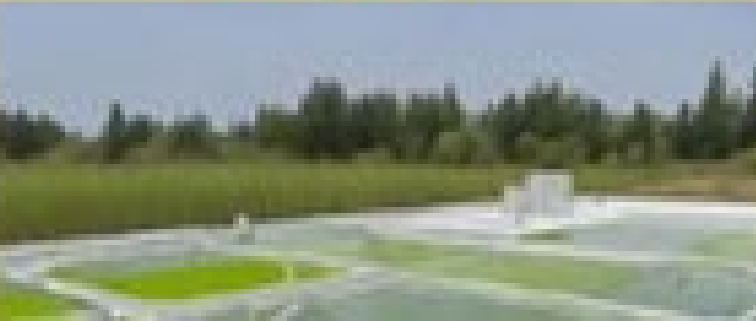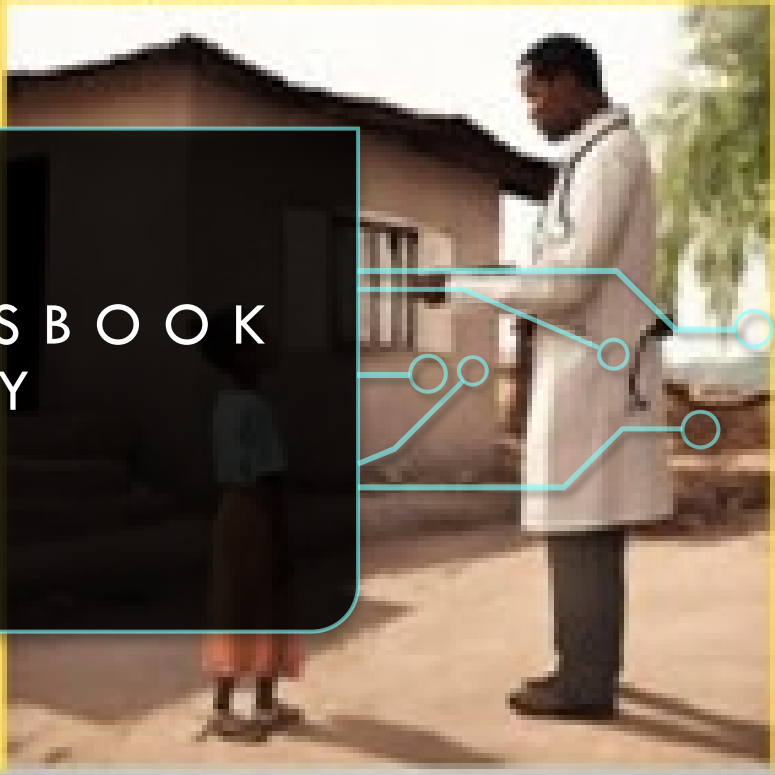
LinkedIn Course

Participate in the LinkedIn course below by viewing the videos provided in all five Chapters within the Contents.

CASE STUDY VIDEOS – INCLUDED IN BOTH PRESSBOOKS AND MODULES

CREATING AN OER PRESSBOOK
ON SUSTAINABILITY

PRESSBOOKS: OPEN-ACCESS RESOURCE

- Purpose
  - Introduce sustainable development goals to faculty and students
  - Facilitate adoption of sustainability-related content into courses
- Uses
  - Introductory chapters with video content
  - Resource Guides
  - Discussion Guides
  - Integration into Canvas
  - Case Study Videos
  - Assessments

Incorporating Sustainability Across the Curriculum

Richard Plate, Devon Cadwell Bazata, Sharon Woodill, Martha Hubertz

GOAL OVERVIEW CHAPTER

VIDEO INTRODUCTION

GOAL OVERVIEW CHAPTER

- Video Introduction
- Learning Objectives

Key Takeaways and Learning Objectives

Poverty exists all around us, including on college campuses. The *key takeaways* are that poverty is an individual and societal concern, it is happening around you, and there are steps you can take to help those experiencing it.

Knowledge-based objectives

- Understand how poverty is measured.
- Demonstrate knowledge about causes of poverty and trends in poverty.

Interpersonal-based objectives

- Show sensitivity to the issues of poverty as well as empathy and solidarity with those experiencing poverty and those in vulnerable situations.
- Identify your personal experiences and biases with respect to poverty.

Action-based objectives

- Identify ways in which the student can join efforts to reduce poverty on campus and in their community.

1 NO POVERTY

GOAL OVERVIEW CHAPTER

- Video Introduction

- Learning Objectives

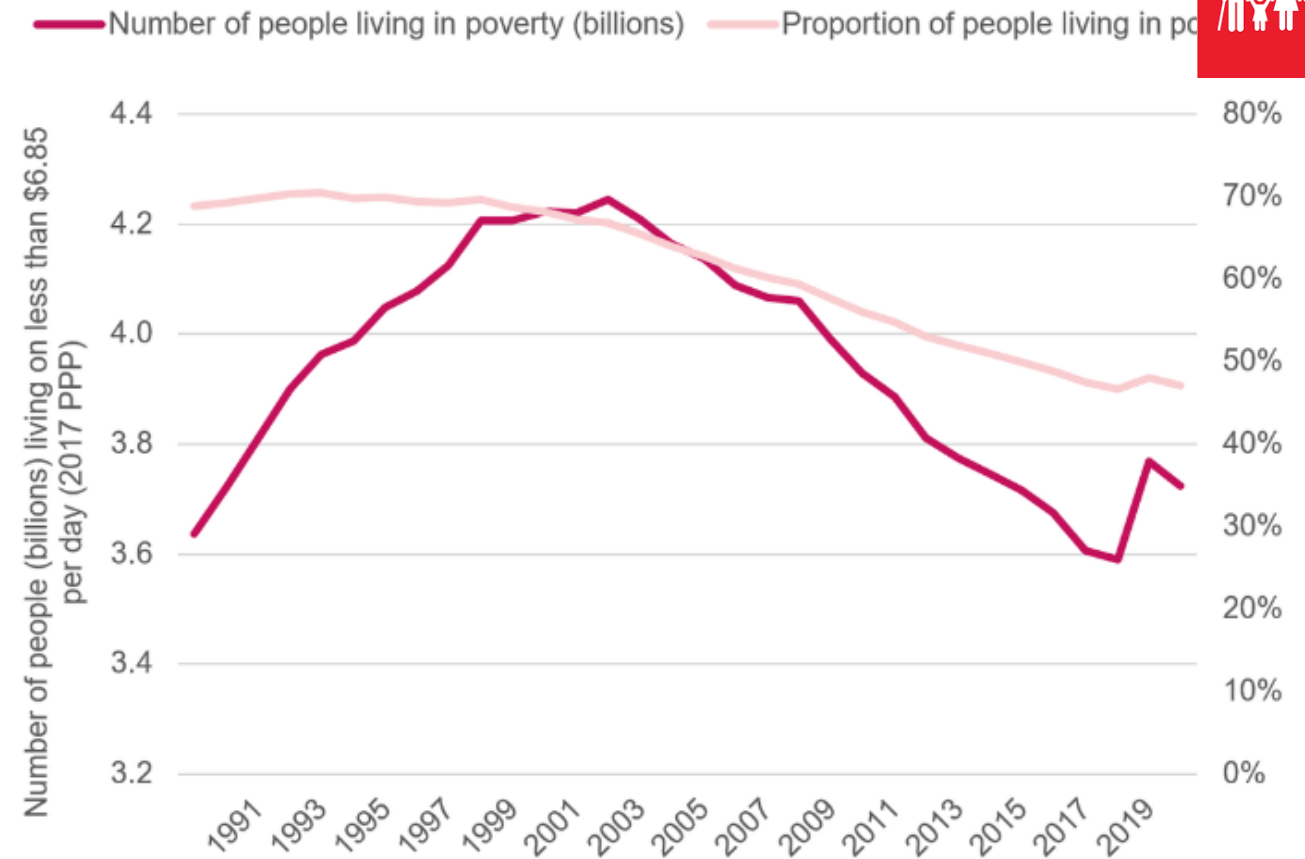- Description of the goal and relevant concepts

Figure 1. Number and Proportion of People Living in Poverty Globally. Source: Development Initiatives based on World Bank PIP, Mahler et al. 2022, UN World Population Prospects and IMF World Economic Outlook. Forecasts begin in 2020. [Note: Image is used with permission from Development Initiatives and licensed under a Creative Commons Attribution BY-NC-ND 4.0 International license.]

GOAL OVERVIEW CHAPTER

- Video Introduction

- Learning Objectives

- Description of the goal and relevant concepts

- Self-check exercises

1 NO POVERTY

Can you match the following statements often expressed about how to reduce poverty corresponding cause?

Cause of Poverty

Behavior of the Individual: Decisions and habits of people in poverty

Human and Social Capital: Resources that are (or are not) available to individuals and communities. This could include something as basic as clean water and electricity, available jobs, transportation, or childcare, just to name a few.

Exploitation: People in poverty being exploited by others. This includes things like sweatshops, payday lenders, as well as the drug and sex trades.

Political/Economic Structures: Economic downturns, social policies that act as barriers to getting out of poverty. This can include aspects of globalization, taxation patterns, immigration patterns, and systemic racism.

Proposed Solution

Our economic and government systems are set up in a way that keeps people in poverty.

People are kept in poverty by people who exploit them for cheap labor.

If there are enough jobs available, there would be no poverty.

If those in poverty only made better decisions, they could get out of it.

GOAL OVERVIEW CHAPTER

Implementation Targets

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $.25 a day

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programs and policies to end poverty in all its dimensions

1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

- Video Introduction

- Learning Objectives

- Description of the goal and relevant concepts

- Self-check exercises

- Targets

1 NO POVERTY

DIGGING DEEPER AND DISCUSSION TOPICS-OBJECTIVES

- Provide a rich array of ideas and sources to encourage further explanation

- To provide faculty with discussion and prompt ideas to promote engagement

- To showcase UCF's contributions to sustainability

- To provide actionable ideas for fostering sustainability locally and globally

Goal 1: Digging Deeper and Discussion Topics

DEVON CADWELL BAZATA; RICHARD PLATE; AND SHARON WOODILL

End poverty in all its forms everywhere

DIGGING DEEPER AND DISCUSSION TOPICS-OBJECTIVES

- Background

- Illustration of Worldwide Problem

- Florida-Specific Information

- Orlando-Specific Information

- UCF Initiatives

- UCF Research

- Ways to Get Involved

- Discussion Topics

- Additional Sources

Decorative Image (only) created in Dall-E

DIGGING DEEPER AND DISCUSSION TOPICS-OBJECTIVES

- Example: UCF Research Initiatives

  - These chapters shine a light on the ways in which UCF is addressing the challenges related to each goal.

COLLEGES & CAMPUS

Navigating Through a Life of Poverty: An Interactive Simulation

Student Care Services Raises Awareness on Poverty

By Judy Pardo | March 1, 2016

MORE HEADLINES

UCF Medical Student Presents Research at National Cochlear Conference
March 4, 2024

UCF Class Spotlight: Healthcare Delivery for Hispanic Populations
March 1, 2024

UCF Alum, Author on New Spaceman Movie Based on His Book
February 29, 2024

UCF Ranks 21st in U.S. Public Universities for Patents with 57 New Inventions in 2023
February 29, 2024

MORE ABOUT KNIGHTS PANTRY

UCF NEWS | STORIES OF IMPACT + INNOVATION | ORLANDO, FL

& CAMPUS

ociate Professor Challenging
ough Which We Interpret Po

nley is tackling hardships, including the current CO
mpoverished communities.

usseau | May 18, 2020

ts Helping Knights Pantry began from a cl
Scholars course in 2009. UCF students wa
ere fellow students would have access to f
d times. This grass roots initiative strived t
vould not have to choose between buying
Since its inception, the Knights Helping Ki
from a closet at the Student Union to its d
nmons attached to the All Knight Study fa

Knight's Pantry

PRIVACY.FLOWCODE.COM

SCAN FOR DECK

PHASE 1 ACCOMPLISHMENTS:

Module Development: Completed 3 out of 8 planned modules focused on teaching sustainability concepts to undergraduate students.

Open Educational Resource (OER) Development: Authored the first half of a pressbook OER titled "Incorporating Sustainability Across the Curriculum." The OER provides guidelines, strategies, and best practices for integrating sustainability concepts into various academic disciplines.
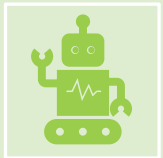
Innovative Technologies: Incorporated AI technologies, such as chatbots and intelligent tutoring systems, to enhance the learning experience. Implemented gamification elements, including points, badges, and leaderboards, to increase student engagement and motivation. Developed assessment tools to monitor student progress and provide feedback on learning outcomes. Integrated multimedia elements, including videos and graphics, to cater to different learning styles.
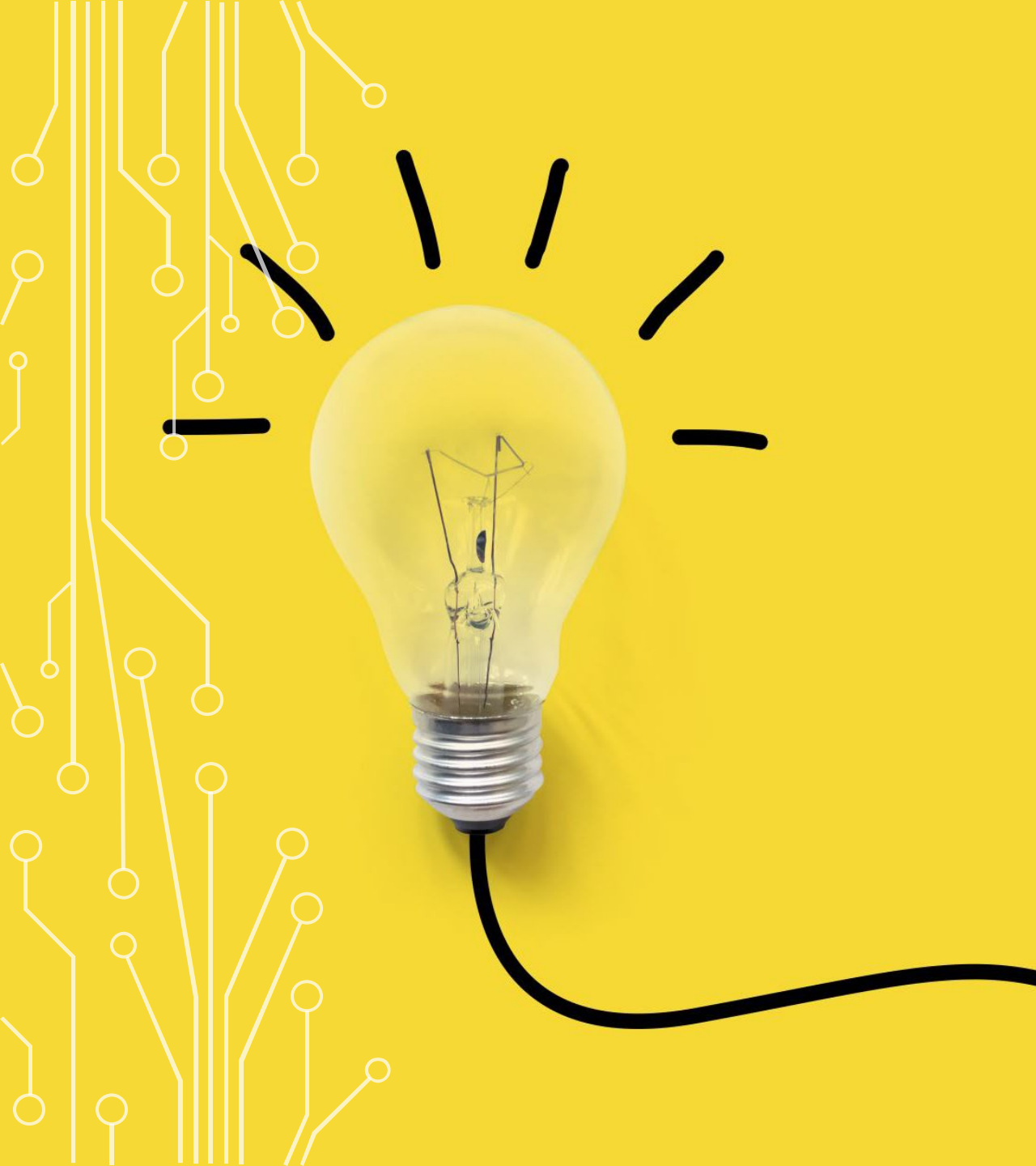
PHASE 2 OBJECTIVES:

1. Complete the remaining 5 modules, incorporating feedback and best practices from Phase 1.

2. Finalize the "Incorporating Sustainability Across the Curriculum" OER pressbook.

3. Develop additional video and graphics assets to enhance the learning resources.

4. Conduct user testing and gather feedback from students and faculty members.

5. Refine and optimize the modules and OER based on user feedback.

6. Explore opportunities for campus-wide implementation and integration into curricula across various disciplines.

This Initiative remains committed to providing high-quality, engaging, and innovative educational resources that empower students and faculty to understand and contribute to sustainable practices, aligning with the UN SDGs and promoting a more sustainable future.

RESOURCES

ASHE - *TEN WAYS TO INTEGRATE SUSTAINABILITY INTO THE CURRICULUM*