

# **Sustainability Approaches Across the Disciplines**



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# Outcomes

1. Recognize importance of interdisciplinary thinking
2. Discuss what sustainability is
3. Consider ways higher education can support sustainability



Appleby, 2019



# What Is Sustainability

- Sustainability: the process(es) by which something is kept at a certain level.
- Although very complex, can be narrowed down to three pillars:
  - Economic (profit),
  - Social (people), and
  - Environment (planet)
- Encourages people, politics, and businesses to make long-term decisions.

# UN's 2030 Sustainable Development Goals

- 1: No Poverty
- 2: Zero Hunger
- 3: Good Health and Well-being
- 4: Quality Education
- 5: Gender Equality
- 6: Clean Water and Sanitation
- 7: Affordable and Clean Energy
- 8: Decent Work and Economic Growth
- 9: Industry, Innovation and Infrastructure
- 10: Reduced Inequality
- 11: Sustainable Cities and Communities
- 12: Responsible Consumption & Production
- 13: Climate Action
- 14: Life Below Water
- 15: Life on Land
- 16: Peace & Justice Strong Institutions
- 17: Partnerships to Achieve the Goal



**SUSTAINABLE  
DEVELOPMENT** GOALS

# Importance Of Interdisciplinary Approach

- Allows students to synthesize ideas from multiple disciplines
- Numerous benefits (Appleby, 2019):
  - Transferable skills developed (critical thinking, synthesis and research).
  - Content often rooted in life experiences. Stays with student for a lifetime.
  - Topics covered more in-depth - many varied perspectives of topic are explored.
  - Other viewpoints considered - concepts across subject areas are compared and contrasted.
  - Ideas synthesized from many perspectives - alternative ways of acquiring knowledge are considered.
  - Topics across range of subjects - students pursue knowledge in new subject areas.
  - Interdisciplinary knowledge and application can lead to greater creativity.

# **Sciences Perspective: Environmental Sustainability**

Celine Hall, Chair  
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# Environmental Perspective: Waste

Waste causes pollution (air, water, land) and has health impact on communities

## Types of waste:

- Regulated Medical Waste
- Hazardous Waste
- Pharmaceutical Waste
- Recyclable Waste
- Construction and Demolition Waste
- Food Waste
- Electronic Waste

## Single-use plastic waste

- 300 million tons plastic trash/yr
- Great Pacific Garbage Patch



# Applying Sustainability

**Incorporate topics & discussions into course DBs, assignments & seminars:**

Less Polluting Packaging Alternatives

Landscaping Techniques & Facility Upgrades

Reduce, Reuse, Recycle

Supply Chains

Transportation

Water & Energy Conservation

Food Production





# Humanities & Social Sciences Perspective: Fashion and Sustainability

Michele Riley, Chair  
Humanities & Social Sciences Dept.



Image: Ro, BBC  
News

# Historical Perspective



Image: Disney,  
(OhmyDisney.com)



# Fashion Impacts

## FAST FASHION

Cheap and disposable clothes allow us to always wear the latest trends. Textile production has grown by 400% in the last decades and it continues...

## TOXIC CLOTHING

We care more and more about the impact of food on our health, but we rarely think about the toxicity of our clothes.

## ENVIRONMENTAL IMPACT

River pollution, desertification, soil erosion, water consumption, CO2 emissions, forest destruction... Fashion is a real nightmare for our planet.

## WORKING CONDITIONS

Most fashion brands produce in developing countries where extreme poverty forces people to accept inhumane working conditions.

Image/graphic: Sustain your Style  
(sustainyourstyle.org)



Image/graphic:  
Sustain your Style  
(sustainyourstyle.org)



Image: Marcus,  
(Rawstory.com)

# Agenda for Fashion Sustainability

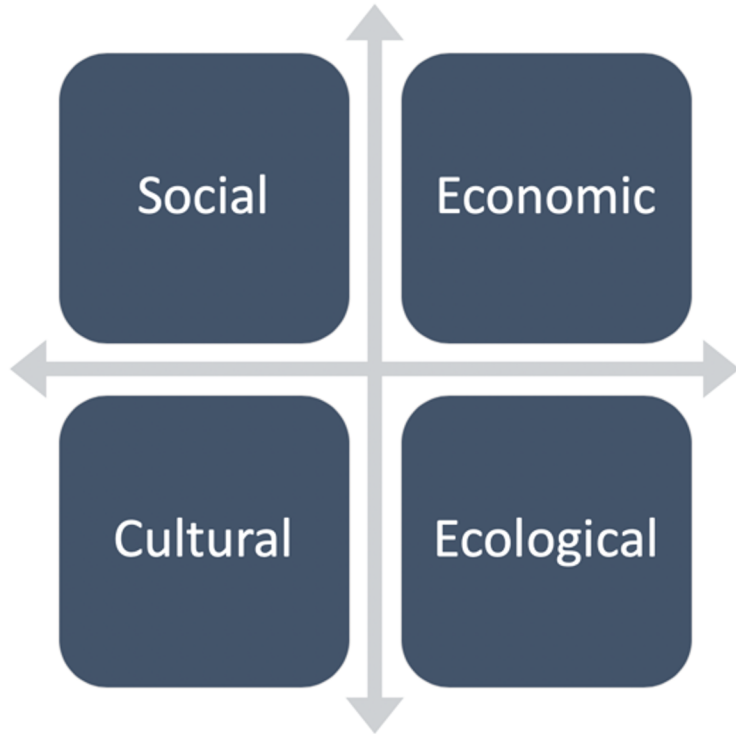


Image: Ackeret,  
(robreport.com)

# Focus - Eight Issues

- \*Consumption & Waste
- \*Wellbeing
- \*Modern Day Slavery
- \*Water Source
- \*Diminishing Resources
- \*Climate Change
- \*Land Use and Biodiversity Loss
- \*Hazardous Chemicals & Pollution



# What Can You Do?

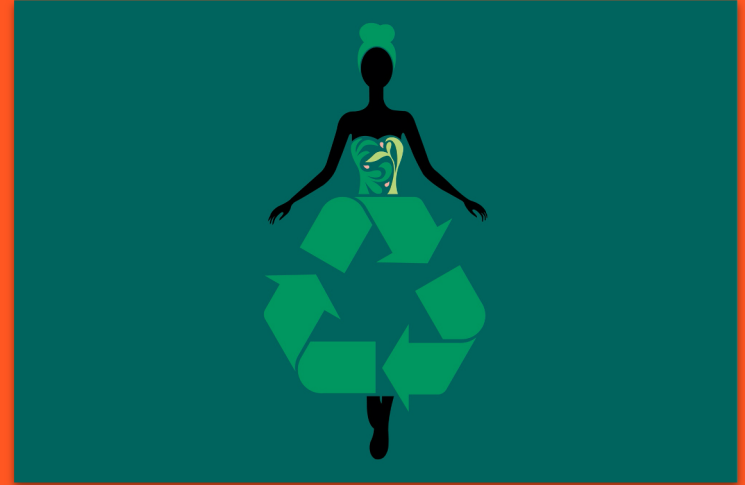


Image: Draper Online,  
[draperonline.com](http://draperonline.com)

# Math Perspective: Financial Impact

Peggy Hohensee, Chair  
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Image courtesy of Pixabay.com

# Math - Financial Impact

## Conscious Capitalism Considerations

- Company
- Community
- Stakeholders



Image courtesy of CreativeCommons.org



# Math - Helping Students Discover

Consumerism - Vote with Dollars



Image courtesy of Pixabay.com

# **Composition Perspective: Community Involvement & Communication**

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# Connect with Audience & Values (ecoAmerica, 2013)



# Sequence, Sequence, Sequence (ecoAmerica, 2013)

What might we infer from rising waters in the Great Lakes to the rest of the world?

Why might focusing on one small island first help gain audience buy-in?

How might a focus on fact before science resonate better with an audience?





# Inspire & Empower (ecoAmerica, 2013)



# Mind the Message & the Messenger

(ecoAmerica, 2013)

- “Offer a path to a better life, not a lesser life” (ecoAmerica, 2013, p.5).
- Use engaging, action-oriented diction: ‘Opportunity’ rather than ‘adaptation.’
- Focus on the larger activity rather than the details; energizing a community rather than arguing with individuals.



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# SUBMITTED ABSTRACT (for reference)

The School of General Education's Academic Chairs will host an interdisciplinary panel to explore sustainability from their respective fields of study including Science, Humanities and Social Sciences, Mathematics, and Composition. Interdisciplinary study allows students to synthesize ideas from multiple disciplines, thus promoting a deeper learning experience. Starting with science, sustainability will be discussed from an environmental perspective. Moving on to humanities and social sciences, we will then discuss the social ramifications and/or solutions from several globally diverse communities. Using mathematical concepts, we will examine the financial impact of sustainability. Finally, we will integrate aspects of composition into the discussion and convey the importance of communication and getting involved at the community level. This presentation will help demonstrate how faculty can easily weave topics into their discussions using an interdisciplinary approach to enrich their classroom discussion boards and seminars