Sustainability Curriculum in the Science and Business Schools

Lauren Sato
Chapman University, sato112@mail.chapman.edu

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Chapman University 2017 Environmental Audit: Sustainability Curriculum in the Science and Business Schools

Sato, L.
ENV 498, Senior Capstone
School of Earth & Environmental Sciences, Chapman University, Orange, CA

Introduction

The integration of environmental best practices is becoming an increasingly important imperative for organizations. Therefore, including sustainability in curriculum is critical, especially in higher education institutions, which strive to prepare students for the work force. Historically, the primary goal of corporations was to maximize profits for shareholders. Yet, the study of environmental science is such an interdisciplinary subject that it can be applied to several other disciplines. To prepare students for a successful future, educational institutions should better incorporate subject matter relating to the importance of sustainable practices. Through analysis of the Chapman University 2017 Environmental Sustainability Audit (Audit) data and course catalogs and syllabi from Chapman’s Schmid College of Science and Technology and Argyros School of Business and Economics, the main goals of this chapter are as follows:

- Determine the prevalence of sustainability concepts in the curriculum and if it has increased since 2013
- Compare and contrast curriculum in the Argyros and Schmid programs to determine where sustainability curriculum can improve
- Provide insight on how to better incorporate sustainability into curriculum across multiple programs

History at Chapman

In 2013, students in the Environmental Science and Policy (ESP) program at Chapman conducted the first Environmental Sustainability Audit, in which the curriculum was first examined.

Overview

- Sustainability Policy implemented in Fall 2014
- 2013 Audit results:
  - Less than 35% of students learned about sustainability in their classes
  - 65% of faculty thought teaching sustainability in higher education was very important
- Frequency of environmentally- or sustainability-related courses increased since 2007

Argyros School of Business and Economics (Argyros)

- Less than 35% of students learned about sustainability (2013)
- Three undergraduate programs: Accounting, Business Administration, Economics

Schmid College of Science and Technology (Schmid)

- About 35% of students learned about sustainability (2013)
- Ten undergraduate programs: Biochemistry and Molecular Biology, Biological Sciences, Chemistry, Environmental Science and Policy, Computer Information Systems (replaced by Data Analytics in Fall 2016), Mathematics, Mathematics and Civil Engineering (Dual degree), Physics, and Software Engineering

Current Status

Comparison of Sustainability in Schmid and Argyros Curriculum

More than 90% of Argyros and Schmid students responded that they believe teaching sustainability in higher education is at least somewhat important (Figure 8).

Recommendations

- Educate trustees and external community on the importance of environmental sustainability
- Solicit their support for sustainable development initiatives/projects
- Establish sustainability standards and goals
- Enforce limitations and implementation guidelines on resources use
- Develop a living database to document progress, areas in need of improvement, and what Chapman is doing well in
- Collaborate with the community, other institutions, and organizations

Concluding Assessment

Areas Where Chapman is Doing Well

- Implementation of Chapman's Sustainability Policy
- Creation of interdisciplinary Grand Challenge Initiative
- Solar Decathlon participation
- Completion of Environmental Audits
- Internship opportunities
- Green Panther
- Green Department Certification

Areas in which to Improve

- Update Sustainability page
- Increase experimental/cross-listed courses
- Complete Sustainability Management
- Encourage participation in Green Department Certification
- Enhance Chapman mission statement by adding sustainability/environmental responsibility component
- Communication among the different schools is lacking
- Various schools within Chapman are segregated and have little interaction, even among relevant programs
- Chapman’s STARS participation needs to be updated

Future Research

- Look at all programs at Chapman
- Further analysis of faculty/staff engagement and willingness
- Compare efforts to leaders in sustainability curriculum
- More extensive course and syllabi analysis
- Include Chapman graduate programs in curriculum analysis
- Assess the barriers preventing better cross-campus communication and collaboration

Contacts

Cheryl Stack, Administrative Assistant, Hashinger Science Center, Chapman University (cstack@chapman.edu), 714-683-2805
Mackenzie Crigger, Sustainability Manager, Chapman University (mcrigger@chapman.edu)

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References


Note: For a complete list of references, please refer to the original document.