

Sustainability Science Classes & Career Opportunities

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Our local Estes Park High School (EPHS) sponsored a Sustainability Workshop which I attended last Sunday. (<https://www.eptail.com/2021/12/06/156034/>) They were specifically highlighting the “closed loop cycles” being implemented by the high school. “Sustainability is a science class here at Estes Park High School. We explore sustainable practices through action and real world change. Our class is made up of four projects all centered around closing the waste loop at our schools. These four projects include PET plastic, HDPE plastic, plastic film, and compost. Through these processes we’ve been able to create products out of what would have been waste therefore closing our loop here at the high school.”

It is heartening to know the education of high school students, our future teachers, scientists, engineers, and leaders, includes scientific problem solving to deal with the plastics and waste that for decades the world has been producing but neglecting the reasonable next step, the responsible disposal, recycle or reuse of said waste.

The question of educational pathways for sustainability led us to a search for programs, classes, and degrees. Is there a difference between Environmental Science and Sustainability Science? We found the following take on the differences from Peterson’s. (<https://www.petersons.com/blog/sustainability-degree-vs-environmental-science-degree-whats-the-difference/> (Peterson’s characterizes themselves as based in “Denver, CO, we are a group of inquisitive, passionate, connoisseurs of education”))

In a nutshell, Environmental Science studies emerged in the 1960’s, around the time of Cuyahoga River fire infamy. Sustainability programs are a more recent response dating back to the 1980s and 1990s. Programs offering Environmental Science and Sustainability degrees tend to have similar tracks of core science, physical sciences and math including biology, chemistry, physics, and calculus. The Sustainability program will have more economics and business courses. Ken Lindeman of the Florida Institute of Technology is quoted by Peterson’s saying, “The idea [in sustainability degrees] is that we’re training people who are not only STEM fluent, but that also we’re producing a new level of scholar that not only is strong in science, but strong in application in the outside world, including business and politics.” The Peterson’s article goes on to say “Both environmental scientists and sustainability scientists are needed to tackle the contemporary environmental issues we face. While environmental scientists are needed to possess a deep, science-based understanding of these environmental needs, sustainability scientists are trained to communicate this between fields and thus, implement solutions.” Faculty from two institutions interviewed in the 2019 Peterson’s article were from Colorado Mountain College, <https://coloradomtn.edu/programs/sustainability-studies/>, and Florida Institute of Technology, <https://www.fit.edu/programs/sustainability-studies-bs/>. The Colorado Mountain College site even includes job posting sites on its careers tab. (<https://coloradomtn.edu/programs/sustainability-studies/careers/>)

In the course of researching the educational opportunities of sustainability we came across courses being offered in Permaculture as part of the curriculum at Colorado Mountain College. The architectural magazine Arch Daily offers this overview of the 12 principles of Permaculture (as explained in detail in the book Permaculture: Principles and Pathways Beyond Sustainability, by Davis Holmgren), culminating in Principle 12, Creatively Use and Respond to Change: “the vision is not seeing things as they are but as they will be” (<https://www.archdaily.com/793446/how-to-integrate-the-12-principles-of-permaculture-to-design-a-truly-sustainable-project>)

As architects we focus on sustainability as one of the key elements of our design goals. When we see our local students creating means for “closing the waste loop” we are inspired by their creativity. Indeed, “the vision is not seeing things as they are but as they will be.” Thank you EPHS Sustainability Science class for helping illuminate the way.

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