
CIRCULAR ECONOMY PROFESSIONAL CERTIFICATE DEVELOPMENT

Spring, 2023

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Our current economic paradigm, the linear economy, is built on a take-make-waste model. This strategy relies on continual extraction of resources and short material lifecycles, normalizing intense waste generation. The linear economy critically lacks coordination between supply chain sectors and is increasingly susceptible to economic, environmental, and social risk disruption. Oppositely, a “circular economy” is a framework for addressing the current disconnect between economic and environmental health, sustainability and policy.

Circular practices represent a systemic shift towards long-term environmental, social, and economic resilience by embracing ecological truths, working to keep materials in use longer, and embracing collaboration throughout a material’s life-cycle. Circularity and Extended Producer Responsibility (EPR) are important practices, informing policies, that address some of the most complex and pressing issues of the 21st century. This paradigm shift has the

potential to combat economic and social instability and will be fundamental to confronting environmental health concerns, including climate change.

To that end, the Center for Community & Economic Development (CCED) is working to develop a Circular Economy training professional certificate program designed to offer professionals learning modules with practical tools they can immediately use within their small and medium-sized businesses. This may include sourcing support, product end-of-life analysis, planning and adaptation. It will develop new collaboration across the University as well as public and private partnerships.

Circular Economy Institute at MSU

In March of 2021, the CCED began work to establish a Circular Economy Institute (CEI) charged with advancing research, technical assistance, outreach and education in addressing

solid waste reduction, greenhouse gas emissions, reuse, recycling and recovery while measuring positive impacts on creating jobs, growing local businesses, and developing the networking and stakeholder capacity to build new economic opportunities while reducing waste and ensuring that Michigan communities diverted reliable, high quality and sustainable materials from reaching the landfill stream. From Fall 2021 to Spring 2022, the CEI team collaborated with MSU faculty members from over 12 different schools and colleges to host a forum series. Presenters focused on how the Circular Economy has influenced their research, outreach, and instruction. Presentations ranged from topics such as PFAS to hospitality management and the ability to reuse certain hotel amenities like old carpets and furniture. Video recordings from the series can be found on the CCED website at ced.msu.edu/media/videos.

“Getting the Science Right”

Building on this, a workgroup composed of CCED faculty as well as MSU School of Packaging, College of Agriculture and Natural Resources, the College of Natural Sciences as well as the Entrepreneurship Libraries has formed to determine:

- What curriculum structures appear to have the greatest impact in the adoption of industry circular practices?
- What translational research is most effective in transferring cutting-edge research to small and medium-sized businesses for short-term application?
- What requires additional consideration/refinement for “industry” application?

Additionally, analysis of successful certification programs and lessons learned; employer needs’ assessments; portfolio optimization; labor market demand trends; student surveys; marketing; training; examination, and; evaluation will be conducted. Partnering units will also be engaged and invited to collaborate on module-specific development including School of Supply Chain Management, School of Hospitality, College of Veterinary Medicine and Extension.

Anticipated Outcomes of a Circular Economy Training Certificate Program

This proposed Circular Economy professional certificate program will help speed cross-discipline and

industry partnership by also nurturing junior faculty partnerships for systems-level change as dynamic as the field of circularity. Certificate programs function as a unique bridge by helping align higher education with emerging business needs. Program participants and their associated organizations will benefit from several outcomes. This includes: reductions in carbon, increased EPR, recycling practices, zero waste management, and increased participant earning power. It is expected a community of practice, starting within the state of Michigan, will begin to form with regular interaction and structured communication.

Conclusion

The CCED and partners’ investigation into circular economy and EPR policy and practice suggests that the success of circular systems in Michigan will rely on the robust and comprehensive collaboration of a broad set of stakeholders including consumers, industry, policy makers, community leaders, and researchers. Perhaps most importantly, professionals across a spectrum of organizations both public and private, should be empowered to strategically think through their operations’ impacts – from start to finish – with tools available for strategic interventions to assess and

improve the carbon footprint of their product or organizational performance.

According to the US Small Business Association, small businesses account for 99.9% of total business in the US and nearly half of all US jobs. While large companies may be able to staff positions such as “Sustainability Officer”, this workgroup sees it as a critical need to target small, medium and regional footprints as these compose the vast majority of enterprise. Here, an interdisciplinary curriculum will be most impactful for Michigan to cultivate community-engaged learning while solving cross-sector environmental challenges.

