



# Sustainable and Resilient Operations and Supply Chains Specialization

Sustainable Operations and Supply Chain Management. Learn the skills required for sustainable operations and supply chain management.



Instructor: [Christy Bozic, PhD, PMP](#)

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## 3 course series

Get in-depth knowledge of a subject

4.7 ★

(16 reviews)

## Beginner level

Recommended experience ⓘ

## 4 weeks to complete

at 10 hours a week

## Flexible schedule

Learn at your own pace

## What you'll learn

- ✓ Analyze the benefits and challenges of emerging technologies on sustainable production.
- ✓ Evaluate tools used to measure and communicate environmental performance and social impacts of a company's operations and supply chain.
- ✓ Explain the key concepts of sustainable supply chain management and its role in achieving ESG goals.
- ✓ Develop strategies to build and manage ethical partnerships with suppliers, emphasizing collaboration and alignment with sustainability objectives.

## Skills you'll gain

Sustainable Business   Environmental Engineering   Sustainability Standards   Logistics Management   Sustainable Design   Procurement   Corporate Sustainability

Sustainable Development   Sustainable Technologies   Supply Chain Management   Sustainability Reporting   Supplier Relationship Management   Supply Management

Manufacturing Operations   Operations Management   Labor Compliance   Business Ethics   Environmental Social And Corporate Governance (ESG)   Product Design

Supply Chain   [View less skills](#)

## Details to know



### Shareable certificate

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Taught in English

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## Advance your subject-matter expertise

- Learn in-demand skills from university and industry experts
- Master a subject or tool with hands-on projects
- Develop a deep understanding of key concepts
- Earn a career certificate from University of Colorado Boulder

## Specialization - 3 course series

In a world where environmental, social, and governance (ESG) considerations are increasingly central to business success, companies face growing pressure to innovate and adapt. The Sustainable and Resilient Operations and Supply Chains Specialization, developed in partnership with Siemens Digital Industries Software, equips professionals with the knowledge and tools to lead in a dynamic landscape.

This three-course specialization explores the principles and practices of sustainable operations and supply chain management. From implementing circular economy strategies to reducing carbon footprints, each course emphasizes real-world applications, emerging technologies like digital twins and the industrial metaverse, and frameworks such as the Global Reporting Initiative (GRI) and the United Nations Sustainable Development Goals (SDGs).

You will explore how to design circular products, develop sustainable supply chain strategies, and foster ethical labor practices. Additionally, the specialization highlights effective communication of sustainability initiatives, the use of lifecycle assessment tools, and strategies for sustainable procurement and supplier collaboration.

Whether you are an aspiring leader in operations or supply chain management or a seasoned professional seeking to enhance your expertise, this specialization provides actionable insights to drive sustainability and resilience in today's business environment.

### Applied Learning Project

Learners work on projects throughout the specialization to apply the concepts covered in each course. Through case studies, peer discussions, and practical exercises, you will develop the skills needed to advance corporate responsibility, reduce environmental impact, and build resilient global supply chains.

"Design for the Circular Economy" microcredential and graduate certificate are developed around the educational goals of providing technical, business, and leadership knowledge and skills that inspire the transformation towards a more circular economy. This includes gaining technical knowledge to apply circular economy principles in product design, minimizing waste and maximizing impact; developing business acumen to implement innovative circular economic models that prioritize sustainability and resilience; and acquiring leadership strategies to communicate effectively and inspire change within an organization.

[Read less](#)



### Sustainable and Resilient Operations Management

Course 1 • 14 hours

[Course details](#) ^

#### What you'll learn

- ✓ Identify the principles and concepts of sustainable operations management.
- ✓ Apply techniques to reduce the environmental impact of products.
- ✓ Apply tools used in designing circular facilities.
- ✓ Analyze the benefits and challenges of emerging technologies on sustainable production.

#### Skills you'll gain

Sustainable Design

Sustainable Technologies

Environmental Resource Management

Sustainable Business

Emerging Technologies

Environmental Engineering

Operations Management

Systems Thinking

Product Design

Climate Change Mitigation

Industrial Engineering



## Developing and Managing Sustainable Supply Chains

Course 2 • 21 hours

[Course details](#) ^

### What you'll learn

- ✓ Explain the key concepts of sustainable supply chain management and its role in achieving ESG goals.
- ✓ Identify and analyze different types of emissions and their sources in supply chain activities.
- ✓ Research and analyze a company's carbon reduction initiatives in its supply chain.
- ✓ Demonstrate understanding of circular supply chain models.

### Skills you'll gain

Supply Chain Management

Corporate Sustainability

Environmental Social And Corporate Governance (ESG)

Sustainable Business

Supply Chain

Logistics Management

Waste Minimization

Business Technologies

Innovation

Case Studies

Transportation Operations

Climate Change Mitigation

Sustainable Development



## Impacts of Sustainable Operations and Supply Chains

Course 3 • 22 hours

[Course details](#) ^

### What you'll learn

- ✓ Analyze Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) frameworks to develop sustainable business strategies.
- ✓ Evaluate tools used to measure and communicate environmental performance and impacts.
- ✓ Develop actionable strategies to ensure compliance with international labor standards, uphold human rights and promote ethical labor practices.
- ✓ Develop strategies to foster supplier partnerships that prioritize ethical sourcing, transparency, and shared sustainability goals.

### Skills you'll gain

Corporate Sustainability

Ethical Standards And Conduct

Environmental Social And Corporate Governance (ESG)

Supplier Relationship Management

Labor Compliance

Sustainability Reporting

Sustainable Business

Procurement

Sustainability Standards

Business Ethics

Compliance Management

Product Lifecycle Management

Stakeholder Engagement

Sustainable Development

Leadership

Waste Minimization

Supply Management



### Earn a career certificate

Add this credential to your LinkedIn profile, resume, or CV. Share it on social media and in your performance review.



### Build toward a degree

This Specialization is part of the following degree program(s) offered by University of Colorado Boulder. If you are admitted and enroll, your completed coursework may count toward your degree learning and your progress can transfer with you.<sup>1</sup>

[View eligible degrees](#)

### Instructor



**Christy Bozic, PhD, PMP**

University of Colorado Boulder

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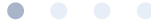
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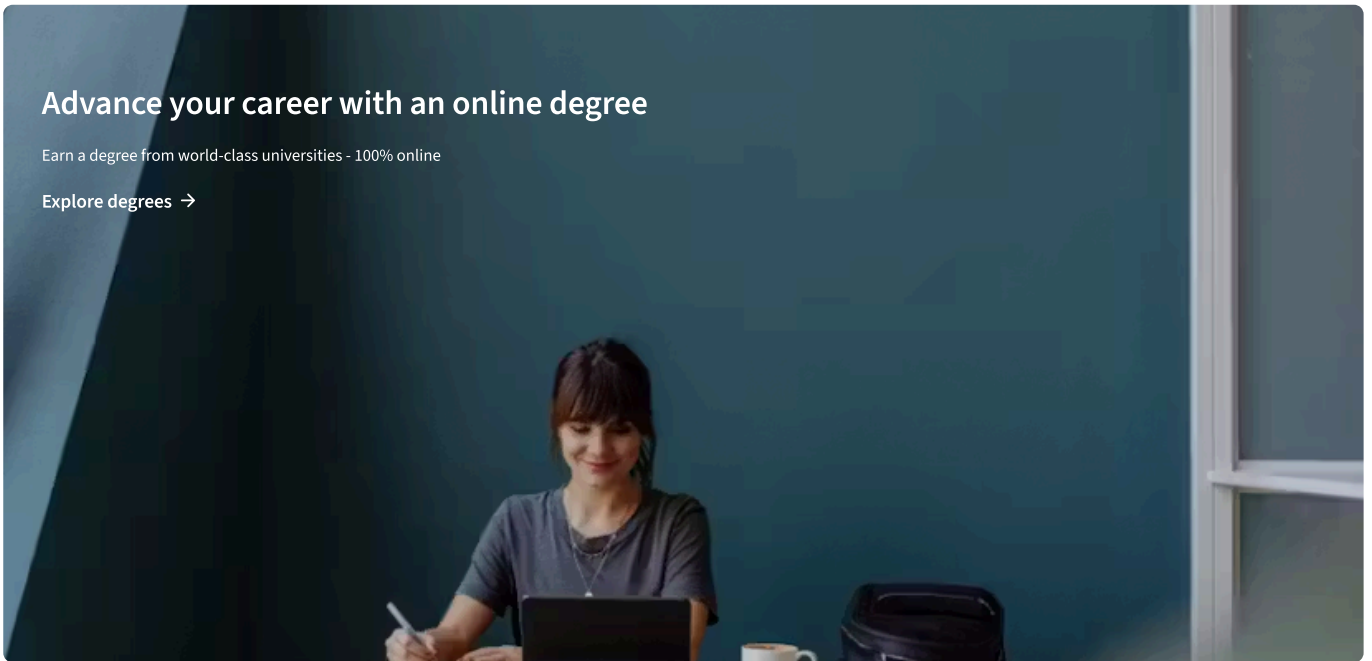
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