How are you feeling today?
TODAY
AGENDA

HOUR 1:

- Introductions: 20 minutes
- Course introduction, requirements and objectives: 25 minutes
- Introduction to the term project: 15 minutes

BREAK - 10 minutes

HOUR 2:

- Questions on reading: 15 minutes
- Circular Economy: 30 minutes
  - Context
  - Megatrends, imperatives and enablers
  - Overview of the key principles
What is your superpower?
COURSE INTRODUCTION
EXPECTATIONS

1. Show up and SHOW UP
   • Monday 6-8pm
   • Reading for the week should be done ahead of class

1. Write (good) stuff, on time
   • Individual assignments are due in advance of the next class
   • Utilize the discussion boards on Canvas to contribute to the question I post; I expect the writings to be well written with proper grammar

1. Team up, be nice and use your superpower!
   • Work together around class schedule
   • Final presentations in final class
1. Show up and SHOW UP
   • Complete readings and come to class ready for lively discussions

2. Write (good) stuff, on time
   • POV writing assignments x 7 (5 points each = 35 points)
   • Case Study assignments x 2 (10 points each = 20 points)

3. Team up, be nice, and use your superpower!
   • Term project = 45 points (in groups)
COURSE OBJECTIVES

- Identify critical aspects of circular economy terminology and vocabulary and learn to speak authoritatively about the merits and challenges of this approach
- Develop the skills to assess and evaluate opportunities for the use of circular economy thinking and approaches
- Apply systems thinking and circular design approaches to a range of real-world challenges
- Evaluate systems in a way that identifies their biological and technical materials/components
- Establish the key enablers and barriers for circular economy implementation in general, and as they relate to financing, policy, stakeholder management, business models and industry/application specifics
- Define ways to begin implementation and measure progress and success in circular economy
- Construct a response to a specific sustainability challenge that employs what you have learned about circular economy
<table>
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<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Guest Speaker</th>
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<td>9/13</td>
<td>Why?</td>
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<td>What?</td>
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<td>3</td>
<td>9/27</td>
<td>Business Models</td>
<td>Kristy Caylor, CEO of For Days</td>
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<td>4</td>
<td>10/4</td>
<td>Design</td>
<td>Bill McDonough, MBDC</td>
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<td>10/11</td>
<td>Policy</td>
<td>Dylan DeThomas, The Recycling Partnership</td>
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<td>6</td>
<td>10/18</td>
<td>Flows part 1</td>
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<td>10/25</td>
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<td>8</td>
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<td>Flows part 3</td>
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<td>11/15</td>
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<td>Lori Mankin, Floor Found</td>
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<td>11</td>
<td>11/22</td>
<td>Implementation &amp; Measurement</td>
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<td>12</td>
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<td>Fashion &amp; Textiles</td>
<td>Stacy Flanigan, Evernu</td>
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<td>12/6</td>
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<tr>
<td>14</td>
<td>12/13 &amp; 12/17</td>
<td>Presentations &amp; Term paper</td>
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TERM PROJECT
Think big: What changes would need to be made for XYZ consumer product to adhere to circular economy principles both in design, execution and end of life management?

Background research
• What consumer product are you choosing? (be specific)
• Materials mapping of your product (Packaging, raw materials, end of life, etc)
• What does the current system look like - what are the networks, enablers, active businesses, key stakeholders, communities & supply chains? (supply chain mapping for key raw material ingredients and packaging components: where do they come from? What are the challenges for sourcing?)
• Identify any human rights risks

Business case
• Why is this product suited for circular disruption?
• What is the market opportunity?
• What are the barriers you face?
• Gap analysis: what solutions are out there? Where are there gaps that you need to imagine/create?

Circular approach and implementation i.e. your proposed product, solution or process
• Present your chosen product, redesigned for circularity
• Draw on best practice/examples to demonstrate feasibility
• Identify key enablers and potential barriers to achieving this
• Work through the economic viability of your proposal vs current reality

Implementation, route to market and scalability
• Suggest a plan for implementation and an approach to measuring the success for your newly imagined application/solution in relation to it circular credentials; Include financial modeling
• What is your route to market?
• What are your options for scaling?
• What are your immediate next steps?
• How can you foster a more equal society with your solution?
The NYC Green Labs Venture Accelerator focuses on the experience of early-stage founders as they decide on (1) initial product market fit for a new product format or (2) go to market strategies to deliver novel and customized applications. The aim of the supplemental program is to create viable solutions for innovative companies who exemplify sustainability.

- Students will develop their own product formats / delivery systems and go-to-market strategy over the course of the supplemental accelerator program.
- Explore methods and approaches early-stage founders adopt in their attempt to find the right product market fit and gain early customer traction.

The course will cover five foundational sections (see below). Additional information will be provided as appropriate to add to the learning experience.

- Product development
- Go-to-market strategies
- Market research techniques
- Target customer analysis
- ESG assessment and sustainable measures

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<tr>
<th>Date</th>
<th>Topics and Activities</th>
<th>Readings (due on this day)</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>TBD</td>
<td>Venture Capital Accelerator: How does it work? Topics</td>
<td>Required:</td>
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|       | • Introduction, Objectives, and Process Overview for the supplemental accelerator portion | • ARTICLE: “Accelerators Vs Incubators: How to Choose the Right One”. 2021.  
https://masschallenge.org/article/accelerators-vs-incubators  
|       | • Introduction                                                      | Required:                                                                                                    |             |
|       | • Objectives                                                       | • ARTICLE: “Accelerators Vs Incubators: How to Choose the Right One”. 2021.  
https://masschallenge.org/article/accelerators-vs-incubators  
|       | • Process Overview                                                 | Required:                                                                                                    |             |
|       | • Virtual Discussion                                               | Recommended (Optional):                                                                                      |             |
|       |                                                                  | • ARTICLE: “Accelerators Vs Incubators: How to Choose the Right One”. 2021.  
https://masschallenge.org/article/accelerators-vs-incubators                                             |             |
Nicolas De Alejo is an investor, operator, and entrepreneur with significant experience in financial services across portfolio management and corporate finance. He has spent the last 15+ years championing sustainability and ESG as an investable asset class and have both public and private market investment experience.

His experience includes providing corporate finance advice to healthcare and technology companies in the US and China, managing “green” investment risk and ESG integration strategies globally, advising startups on CSR and ESG value strategies, and identifying emerging founders and business models for an impact-focused VC fund.
<table>
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<th>COMPANY COLLABORATORS</th>
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<td>RYP LABS</td>
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<td>FOR DAYS</td>
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<td>MOOSE KNUCKLES</td>
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NEXT STEPS

1. Survey Monkey- Complete by end of week

2. Group Assignments Based on Common Interests

3. Group Meeting

4. Hand in proposal by 9/30
BREAK
A CIRCULAR ECONOMY: WHY?
QUESTIONS ON THE READING
What are some of the key challenges facing the planet and humans, today?
What are some possible solutions?
“The idea of being less bad is to be encouraged while realizing the real power and hope will come from companies that execute on being more good – to make the world better faster, not just worse more slowly”

[extract from William McDonough’s foreword to “Waste to Wealth”, by Peter Lacy]
LINEAR MODEL
What’s the problem with this approach?
• Economic losses (and structural waste)
• Price risks, imbalance in economic growth
  • Resource constraints, commodity prices
  • Population growth
  • Economic growth
• Natural systems degradation
• Regulatory trends
https://www.youtube.com/watch?v=A5wn_iinbxw
MEGATRENDS & ENABLERS
A “favorable alignment of factors”:
• Socio-demographic trends incl. urbanization
• Advances in technology
• Demand for/acceptance of new business models
• Rapidly growing amount of capital
ENABLERS

• Education
• Financing
• Collaborative platforms
• A new economic framework
• Smart policy
KEY PRINCIPLES
CONTRIBUTING IDEAS

- Blue economy: Using resources in cascading systems
- Performance economy: Sell performance rather than products
- Regenerative design: Systems renew or regenerate energy and materials they consume
- Cradle to cradle: Materials are technical nutrients cycling continuously or biological nutrients returned to the biosphere
- Industrial ecology and symbiosis: An organization’s waste and by-products are raw materials for another
- Natural capitalism: Recognizes the critical dependency of business and economies on natural capital
- Blomimicry: Innovation inspired by nature

Source: British Standards Institution

COLUMBIA UNIVERSITY SPS: Circular Economy for Sustainability Professionals
BUTTERFLY DIAGRAM

Biological cycles
- Farming/collection
- Regeneration
- Biochemical feedstock
- Biogas
- Extraction of biochemical feedstock
- Cascades
- Collection

Technical cycles
- Parts manufacturer
- Product manufacturer
- Service provider
- Users
- Collection

Minimise systematic leakage and negative externalities

- Renewables
- Finite materials
- Recycle
- Refurbish/renovate
- Maintain/redistribute
- Share

COLUMBIA UNIVERSITY SPS: Circular Economy for Sustainability Professionals
NEXT WEEK