

# Circular Economy

## for Sustainability Professionals

### Course Syllabus

**Mondays 4:10 - 6:00 PM, 3 credits**

#### **Instructor**

Diana Trushell, Adjunct Professor  
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#### **Teaching Assistant**

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#### **Office Hours & Response Policy**

Office hours will be held on Mondays 3:30-4pm and 6-6:30. To schedule an appointment, please contact me by email. Students can expect me to respond to emails within 48. For urgent questions students may text me and I will respond or call ASAP.

## **Course Overview**

Throughout history, societies have discovered resources, designed and developed them into textiles, tools and structures, and bartered and exchanged these goods based on their respective values. Economies emerged, driven by each society's needs and limited by the resources and technology available to them. Over the last two centuries, global development accelerated due in large part to the overextraction and use of finite resources, whether for energy or materials, and supported by vast technological advancements. However, this economic model did not account for the long-term impacts of the disposal or depletion of these finite resources and instead, carried on unreservedly in a "take-make'-waste" manner, otherwise known as a linear economy. Despite a more profound understanding of our planet's available resources, the environmental impact of disposal and depletion, and the technological advancements of the last several decades, the economic heritage of the last two centuries persists today; which begs the question: what alternatives are there to a linear economy?

The premise of this course is that through systems-thinking, interdisciplinary solutions for an alternative economic future are available to us. By looking at resources' potential, we can shape alternative methods of procurement, design, application, and create new market demands that aim to keep materials, products and components in rotation at their highest utility and value. This elective course will delve into both the theory of a circular economy - which would be a state of complete systemic regeneration and restoration as well as an optimized use of resources and zero waste - and the practical applications required in order to achieve this economic model. Achieving perfect circularity represents potentially transformative systemic change and requires a fundamental re-think of many of our current economic structures, systems and processes.

This is a full-semester elective course which is designed to create awareness among sustainability leaders that those structures, systems and processes which exist today are not those which will carry us (as rapidly as we need) into a more sustaining future. The class will be comprised of a series of lectures, supported by readings and case-studies on business models, design thinking and material development and use, that will familiarize students with the concepts and principles that a circular economy presents. In so doing, we will also explore the challenges that may arise in the adoption of a circular economy in different geographical, industrial and economic conditions. While the course is based on innovation and ideation around the potential of this economic future, students will also develop the knowledge to discuss the merits of a circular economy and its applications with potential employers or begin to develop ventures of their own. Students will learn to analyze systems, work to design solutions collaboratively, and receive and provide constructive feedback to and from their peers. This course will benefit anyone with an interest in a career in sustainability, particularly (but not exclusively) in material science, design, strategy or entrepreneurship.

## Learning Objectives

While elements of circular economy thinking have been around for some time, as an approach it has recently gained significant momentum. It is a rapidly evolving area, particularly when it comes to implementation. For that reason, the goal is not necessarily to learn about the circular economy as it applies to all industries or to understand every aspect of its successful application. Instead, the course aims to provide students with firm knowledge of the underlying principles and approaches, as well as allowing them to practice a systems-focused mindset applied to a number of potential applications.

During the course, students will:

- 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 and 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 they have learned about circular economy

## Course Assignments

### Attendance & Class Participation (15%)

Attendance is expected for each class. If you must miss class for any reason, please notify me by email before the start of the class session. Each unexcused absence can negatively impact your overall grade in the class. Participation in and contribution to topical class discussion is an important component of learning success in this course.

### Midterm: Circular Opportunities & Leverage (25%)

The Midterm assignment for this class will be an analysis of an existing product, system or business model which falls into one of the four Applications for a Circular Economy we will cover in the second half of the semester: 1) Products & Packaging, 2) Fashion & Textiles, 3) Architecture or 4) Cities. Students will be asked to conduct analysis of the existing linear product, system or business and identify potential points of leverage where an opportunity for circularity exists but has not yet been fulfilled. These opportunities should be based on the design, business model, materiality and/or potential for scale and impact. Each analysis should be written in the form of a proposal wherein you address the challenges in adopting circular solutions while also exploring how to communicate a rationale, supported by evidence, calculations, logic and assumptions.

This assignment is designed to test students' understanding of some of the key concepts of Circular Economy, both in theory and in practice. A complete brief of this project will be available on Canvas. Work will be evaluated individually and is worth 25% of your final grade. Deliverables should be no more than 4-5 pages in length.

### Applications Workshops (20%)

During the second half of the semester, students will work in small groups to practice systems and design thinking, exploring the potential for circularity through each of four areas of Application: 1) Products & Packaging, 2) Fashion & Textiles, 3) Architecture or 4) Cities. At the end of each of these four lectures, each group will select a design brief which will provide the necessary constraints within which each group can work. While the idea is that these workshops be quick systems mapping and ideating sessions at the end of class, teams have the option to continue to develop their proposals over the course of the week. These workshops will capture many of the themes that have been covered throughout the semester and are intended to be quick charrettes to stimulate the creative potential surrounding circular economy applications at a variety of scales. These workshops are meant to facilitate collaboration, promote sharing of ideas, stimulate discussion and test students' understanding of some of the key concepts of Circular Economy, both in theory and in practice.

Each of these four Workshop outcomes will be weighted at 5% of your final grade, for a total of 20% for this category. Deliverables should be comprehensive and graphic-oriented decks of no more 5-10 slides which succinctly describe your proposal.

### Final: Circular Venture Proposal (40%)

Drawing from learnings over the course of the semester, students will work in pairs or small groups to design a complete and well-developed Circular Venture Proposal which will address many of the same areas of analysis that were covered in their Midterm. Students should see this final project as an

opportunity to design or re-design a product or service of their own choosing, defining the systemic impacts, how the business model will operate, as well as the scale and impact their proposal might reach. The presentation and paper should both have a section wherein students conduct a complete analysis of the material systems, exploring their upstream (biosphere, technosphere or a combination) and downstream (potential for circularity) impacts. It is also important to examine the political and geographical context of each proposal and address any issues which may either facilitate or hinder the proposal's potential for success, adoption and scale.

The deliverables for this final project will be a 10-minute presentation to the class, with time for 2-3 minutes of Q&A afterwards, and a final paper (15-20 pages) written in the form of a business plan, complete with any graphics or drawings that may be necessary to properly illustrate the proposal. Work will be evaluated as a group of 2-3 individuals and is worth 40% of your final grade. A complete brief of this project will be available on Canvas.

## Grading

Assignment/Assessment	% Weight	Individual / Team
Attendance & Class Participation	15%	Individual
Midterm: Circular Opportunities & Leverage	25%	Individual
Applications Workshop Outcomes	20%	2-3 Person Groups
Final Project: Circular Venture Proposal	40%	2-3 Person Groups

## Schedule

Week	Activity	Assignments & Resources
<b>Week 1</b> Jan 23	<p><b>Circular Economy</b></p> <ul style="list-style-type: none"> <li>• Course Introduction, requirements &amp; objectives</li> <li>• Key Principles of Circular Economy</li> <li>• Rethinking Existing Economic Systems</li> </ul>	<p>Video: Explaining the Circular Economy and How Society Can Re-Think Progress. Ellen MacArthur Foundation. <a href="#">Available here.</a></p> <p>Podcast: Science Rules! with Bill Nye and William McDonough. Architecture vs. Waste episode. <a href="#">Available here.</a></p> <p>Ellen MacArthur Foundation, "Towards the Circular Economy Vol. 1: Economic and Business Rationale for an Accelerated Transition" Element MacArthur Foundation. 2013. Web: p.6-34 (28 pages). <a href="#">Available here.</a></p> <p>Webster, Ken. <i>The Circular Economy: A Wealth of Flows</i>. Ellen MacArthur Foundation Publishing, 2017. Print Introduction @ Chapter 1-3, p7-61 (54 pages). <a href="#">Available here.</a></p>

<p><b>Week 2</b> Jan 30</p>	<p><b>Circular Design &amp; Systems Thinking</b></p> <ul style="list-style-type: none"> <li>• Design Thinking &amp; Opportunities</li> <li>• Systems Mapping Tools</li> <li>• Intro to Biosphere &amp; Technosphere</li> </ul>	<p>Meadows, Donella. <i>Thinking in Systems: A Primer</i>. Chelsea Green Publishing, 2008. Print. Chapter 1, Chapter 7 and Appendix up until Model Equations (53 pages in total) <a href="#">Available here.</a></p> <p>Video: "Why It's Time for Donut Economics," Kate Raworth, 2014. <a href="#">Available here.</a></p> <p>"Capitalism's Greatest Weakness? It Confuses Price with Value," Mariana Mazzucato, 2018. Web. <a href="#">Available here.</a></p> <p>Webster, Ken. <i>The Circular Economy: A Wealth of Flows</i>. Ellen MacArthur Foundation Publishing, 2015. Print. Chapter 4, Through the Macroscope, p63-87 (24 pages) and Chapter 10, p175-189 (14 pages). <a href="#">Available here.</a></p> <p>McDonough, William, and Michael Braungart. <i>Cradle to Cradle: Remaking the Way We Make Things</i>. (North Point, 2022). Print. Chapter 3, p68-91 (23 pages). <b>Available on Canvas.</b></p> <p>Video: Tim Brown: Design and the Circular Economy. Circular Design Guide. <a href="#">Available here.</a></p>
<p><b>Week 3</b> Feb 6</p>	<p><b>Circular Business Models</b></p> <ul style="list-style-type: none"> <li>• Economic Concepts of Circularity</li> <li>• Entrepreneurial Opportunities</li> <li>• Business Case Studies</li> </ul>	<p>Peter Lacy &amp; Jessica Long. <i>The Circular Economy handbook: Realizing the Circular Advantage</i>. Print. Introduction/Section 1, pages 1-17 (17 pages) <a href="#">Available here.</a></p> <p>ING Economics Department. "Rethinking Finance in Circular Economy," May 2015. Web. Section 4: p. 34-52 (18 pages). <a href="#">Available here.</a></p> <p>Webster, Ken. <i>The Circular Economy: A Wealth of Flows</i>. Ellen MacArthur Foundation Publishing, 2015. Print. Chapter 5, p 89-105 (16 pages) <b>Available on Canvas.</b></p> <p>Video: Beinhocker, Eric. "The Economy as a Complex and Evolving System" Lecture from UCL Institute for Innovation and Public Purpose. <a href="#">Available here.</a></p> <p>Article: "The Innovative Business Models That Can Transform Cotton Supply Chains." World Resources Institute. 2022. <a href="#">Available here.</a></p>
<p><b>Week 4</b> Feb 13</p>	<p><b>Material Flows: Regenerative (Biosphere)</b></p> <ul style="list-style-type: none"> <li>• Material and Energy Stocks &amp; Flows</li> <li>• Market Transitions</li> <li>• Systems &amp; Flows</li> </ul> <p><b>Guest Speaker:</b> Rebecca Burgess, Fibershed</p>	<p>Report: 2021 Carbon Farm Fund Report. Fibershed: Local Fiber, Local Dye, Local Labor. <a href="#">Available here.</a></p> <p>Video: "In a World of Systems." Donella Meadows Institute, 2016. <a href="#">Available here.</a></p> <p>Video: "New Systems Thinking: A Little Film About a Big Idea." Cabrera Research Lab, 2015. (12 min) <a href="#">Available here.</a></p> <p>Webster, Ken. <i>The Circular Economy: A Wealth of Flows</i>. Ellen MacArthur Foundation, "Intelligent Assets: Unlocking the Circular Economy Potential" Ellen MacArthur Foundation. 2016. Web. P28-63 (35 pages). <b>Available on Canvas.</b></p>

		Ellen MacArthur Foundation, "Intelligent Assets: Unlocking the Circular Economy Potential" Ellen MacArthur Foundation. 2016. Web. P.28-63 (35 pages) <a href="#">Available here.</a>
<b>Week 5</b> Feb 20	<p><b>Material Flows: Biomaterials (Bio enabled by Tech)</b></p> <ul style="list-style-type: none"> <li>• Biological Cycle &amp; Nutrients</li> <li>• Biomimetic Materials &amp; Design</li> <li>• Systems &amp; Flows</li> </ul> <p><b>Guest Speaker:</b> TBD</p>	<p>Article: "The World's Best Creative Director: Nature" Helen Walters. TED.com 2014. <a href="#">Available here.</a></p> <p>Article: "Biomimicry Architects Turn to Biology for Solutions." Katharine Logan, Architectural Record. 2019. <a href="#">Available here.</a></p> <p>Ilieva L, Ursano I, Traista L, Hoffmann B, Dahy H. Biomimicry as a Sustainable Design Methodology-Introducing the 'Biomimicry for Sustainability' Framework. Biomimetics (Basel). 2022. <a href="#">Available here.</a></p> <p>Speck O, Speck T. An Overview of Bioinspired and Biomimetic Self-Repairing Materials. Biomimetics (Basel). 2019. <a href="#">Available here.</a></p>
<b>Week 6</b> Feb 27	<p><b>Material Flows: Finite &amp; Non-Renewables (Technosphere)</b></p> <ul style="list-style-type: none"> <li>• A New Plastics Economy</li> <li>• Impacts &amp; Governance</li> <li>• Systems &amp; Flows</li> </ul> <p><b>Guest Speaker:</b> Kara Napolitano, SIMS Recycling</p>	<p>Video: "A Radical Plan to End Plastic Waste" Andrew Forrest. 2019. <a href="#">Available Here.</a></p> <p>Video: "Solving Plastic Pollution." Narrated by Sir David Attenborough &amp; Dame Ellen MacArthur Ellen MacArthur Foundation. <a href="#">Available here.</a></p> <p>"The New Plastics Economy: Rethinking the future of plastics." Ellen MacArthur Foundation. January 2016. <a href="#">Available here.</a></p> <p>Three Ways Companies Can Reduce Use of Finite Resources. U.S. Chamber of Commerce Foundation. 2016. <a href="#">Available here.</a></p>
<b>Week 7</b> Mar 6	<p><b>Technology &amp; Innovation</b></p> <ul style="list-style-type: none"> <li>• Digital Fabrication</li> <li>• SaaS Technologies</li> <li>• Internet-of-Things</li> </ul>	<p>Video: "Design at the Intersection of Technology and Biology." Neri Oxman, 2015. <a href="#">Available here.</a></p> <p>Video: "Why "Biofabrication" is the Next Industrial Revolution." Suzanne Lee, 2019. <a href="#">Available here.</a></p> <p>Despeisse, M., Baemers, M et al. "Unlocking Value for a Circular Economy through 3D Printing: A Research Agenda." February 2017. Elsevier. Technological Forecasting and Social Change Volume 115. (10 pages) <a href="#">Available here.</a></p>
<b>Week 8</b> Mar 13	<b>Spring Break</b>	
<b>Week 9</b> Mar 20	<p><b>Applications: Products &amp; Packaging</b></p> <ul style="list-style-type: none"> <li>• Industry Basics</li> <li>• Material &amp; Supply Chain Alternatives</li> <li>• Business Models &amp; Opportunities</li> </ul> <p><b>Applications Workshop</b></p>	<p>Ellen MacArthur Foundation. "Plastics and the Circular Economy." <a href="#">Available here.</a></p> <p>Szaky, Tom, et al. The Future of Packaging, From Linear to Circular. (Berret-Koehler, 2019). Print. Chapter 1, p9-23 (14 pages) <b>Available on Canvas.</b></p> <p>Koeijer, B. et al. "Realizing Product-Packaging Combinations in Circular Systems: Shaping the Research Agenda." 2017. <a href="#">Available here.</a></p> <p>Podcast: "How to Use Products and Packaging to Advance the Circular Economy." EY 2013.</p>

		<p><a href="#">Available here.</a></p> <p>Article: “How Packing Plays in the Circular Economy” Katherine O’Dea. 2015. <a href="#">Available here.</a></p>
<p><b>Week 10</b> <b>Mar 27</b></p>	<p><b>Applications: Fashion &amp; Textiles</b></p> <ul style="list-style-type: none"> <li>• Industry Basics</li> <li>• Material &amp; Supply Chain Alternatives</li> <li>• Business Models &amp; Opportunities</li> </ul> <p><b>Applications Workshop</b></p>	<p>Article: Ezreen Benissan. “Eileen Fisher wants to tackle fashion waste with open-access report on circular supply chains.” Vogue, 2022. <a href="#">Available here.</a></p> <p>Article: Elizabeth Segran, “Renting Clothes is Worse for the Planet Than Just Throwing It Away, Study Shows.” Fast Company. <a href="#">Available here.</a></p> <p>Documentary: Ross, M. (Producer) &amp; Morgan, A. (Director). 2015. The True Cost. (1 hour, 32 min) <a href="#">Available here.</a></p> <p>Ellen MacArthur Foundation, “A New Textiles Economy: Redesigning Fashion’s Future” 2017. Web. P36-117 (81) <a href="#">Available here.</a></p> <p>The Social Impacts of Circular Strategies in the Apparel Value Chain; a Comparative Study Between Three Countries. <a href="#">Available here.</a></p> <p>Article: Dr. Ashley Holding. “Seven Key Challenges in The Creation of Compostable Clothes.” <a href="#">Available here.</a></p> <p>Jarkko Levänen et al, Environ. Res., “Innovative Recycling or Extended Use? Comparing the Global Warming Potential of Different Ownership and End-of-Life Scenarios for Textiles.” 2021. <a href="#">Available here.</a></p>
<p><b>Week 11</b> <b>April 3</b></p>	<p><b>Applications: Architecture</b></p> <ul style="list-style-type: none"> <li>• Industry Basics</li> <li>• Material &amp; Supply Chain Alternatives</li> <li>• Roadmaps for the Future of Architecture</li> </ul> <p><b>Applications Workshop</b></p>	<p>Article: “Call for Action: Seizing the Decarbonization Opportunity in Construction. McKinsey &amp; Company Engineering, Construction &amp; Building Materials Practice.” July 2021. McKinsey and Company. <a href="#">Available here.</a></p> <p>Article: “Wood-Veneer-Reinforced Mycelium Composites for Sustainable Building Components.” Biomimetics 2022. <a href="#">Available here.</a></p> <p>Jeske, Stefan. L’Orangerie – A New Generation of Earth Building in Lyon. Clement Vergely Architectes. LEHM 2020. <a href="#">Available here.</a></p> <p>Dongy Y, Ng ST, Liu P. A Comprehensive Analysis Towards Benchmarking of Life Cycle Assessment of Buildings Based on Systematic Review. Building and Environment 204 (2021) <a href="#">Available here.</a></p> <p>Kamali M, Hewage K, Sadiq R. Conventional Versus Modular Construction Methods: A Comparative Cradle-to-Gate LCA for Residential Buildings. Building and Environment 204 (2021) <a href="#">Available here.</a></p> <p>Article: “Kenyan Startup Founder Nzambi Matee Recycles Plastic to Make Bricks Stronger Than Concrete”. <a href="#">Available here.</a></p> <p>Wolff, B. Ofori-Nyako, E. Earth LEGO at Lake Agege Farm – A Ghanaian Innovation for Sustainable Building. LEHM 2020. <a href="#">Available here.</a></p>

<p><b>Week 12</b> April 10</p>	<p><b>Applications: Cities</b></p> <ul style="list-style-type: none"> <li>• Cities as Environments</li> <li>• Urban Metabolism &amp; Ecosystem</li> <li>• Roadmaps for the Future of Cities</li> </ul> <p><b>Applications Workshop</b></p>	<p>Article: "Moving Beyond 'Take, Make, Waste': Developing Cities Show the Possibilities of the Circular Economy" Juan-Carlos Altamirano and Anne Maassen. World Resources Institute. 2017. <a href="#">Available here.</a></p> <p>Cities as Flows in a Circular Economy, Chapter 10, p 177-193 (16 pages). <b>Available on Canvas.</b></p> <p>Circular Economy in Cities: Project Guide. Ellen MacArthur Foundation and Arup. 2019. <a href="#">Available here.</a></p> <p>NYC: Zero Waste Design Guidelines, 2017. (Authored and supported by multiple participants). P 18-37 (20 pages) Web. <a href="#">Available here.</a></p> <p>Video: Ellen MacArthur Foundation: "Circular Cities: Thriving, Livable, Resilient." <a href="#">Available here.</a></p> <p>"Eight Ways Cities Can Access Sustainable Wood? Whitney Light, Scott Francisco and Sadof Alexander. World Resources Institute. 2022. <a href="#">Available here.</a></p>
<p><b>Week 13</b> April 17</p>	<p><b>Implementation &amp; Measurement</b></p> <ul style="list-style-type: none"> <li>• Approaches &amp; Tools</li> <li>• Opportunities &amp; Loopholes</li> <li>• Life Cycle Assessment</li> </ul> <p><b>Guest Speaker:</b> Luba Shabal, Closed Loop Partners</p>	<p>Article: Lise Laurin, "Life-cycle Assessments Must Better Align with Circularity" <a href="#">Available here.</a></p> <p>Article: Elizabeth Clime, "Will the Circular Economy Save the Planet?" <a href="#">Available here.</a></p> <p>Ellen MacArthur Foundation, "Achieving Growth Within" Ellen MacArthur Foundation. 2017. Web. P16-52 (36 pages). <a href="#">Available here.</a></p> <p>Francoli, Ellen. Brett Bridgeland et al. A New Dynamic 2: Effective Systems in a Circular Economy. Ellen MacArthur Foundation Publishing, 2016. Print. Chapter 11: Circularity Indicators, p195-210 (15 pages). <b>Available on Canvas.</b></p> <p>Ellen MacArthur Foundation (in cooperation with Granta and LIFE.) "Circularity Indicators. An Approach to Measuring Circularity: Project Overview," May 2015. (12 pages). <a href="#">Available here.</a></p>
<p><b>Week 14</b> April 24</p>	<p><b>Final Presentations</b></p>	
<p><b>Week 15</b> May 1</p>	<p><b>Final Presentations</b></p>	

## Course & School Policies

### Attendance & Participation

I expect you to come to class on time and prepared, having read each week's readings and given some thought to the topics that will be covered in class each day. Attendance will be recorded, and I look forward to each class following more of guided conversation than a lecture model. If you miss an experience in class,



whether a discussion, guest lecture, workshop or something else, you will miss an important learning moment and the class in turn will miss your contribution. Attendance is essential for all classes but especially for the four Applications classes in the second half of the semester, because you will be assigned a design challenge in session which must be completed in a group.

As bell hooks writes, expect that there is an *“ongoing recognition that everyone influences the classroom dynamic, that everyone contributes. These contributions are resources. Used constructively they enhance the capacity of any class to create an open leaning community. Excitement for the content is created through collective effort.”*

## **Late Work**

There are a total of six deliverables, each due Monday via Canvas. There will be a standard two-point deduction for late submissions unless there are extenuating circumstances that prevented you from submitting your work in a timely manner.

## **Copyright Policy**

Please note—Due to copyright restrictions, online access to this material is limited to instructors and students currently registered for this course. Please be advised that by clicking the link to the electronic materials in this course, you have read and accept the following: The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

## **Academic Integrity**

Columbia University expects its students to act with honesty and propriety at all times and to respect the rights of others. It is fundamental University policy that academic dishonesty in any guise or personal conduct of any sort that disrupts the life of the University or denigrates or endangers members of the University community is unacceptable and will be dealt with severely. It is essential to the academic integrity and vitality of this community that individuals do their own work and properly acknowledge the circumstances, ideas, sources, and assistance upon which that work is based. Academic honesty in class assignments and exams is expected of all students at all times.

SPS holds each member of its community responsible for understanding and abiding by the SPS Academic Integrity and Community Standards posted [at http://sps.columbia.edu/student-life-and-alumni-relations/academic-integrity-and-community-standards](http://sps.columbia.edu/student-life-and-alumni-relations/academic-integrity-and-community-standards). You are required to read these standards within the first few days of class. Ignorance of the School's policy concerning academic dishonesty shall not be a defense in any disciplinary proceedings.

## **Accessibility**

Columbia is committed to providing equal access to qualified students with documented disabilities. A student's disability status and reasonable accommodations are individually determined based upon disability documentation and related information gathered through the intake process. For more information regarding this service, please visit the University's Health Services website: <http://health.columbia.edu/services/ods/support>.