Master of Science in Sustainability Management

Sustainability Value Creation in Private Markets
Monday 4.10-6pm
3 credits
Elective

Instructor: Angela Jhanji (aj2647@columbia.edu)
Office Hours: By Appointment
Response Policy: I usually respond within 24 hours to email inquiries.

Facilitator/Teaching Assistant Vaishnavi Kulkarni (vvk2116@columbia.edu)
Office Hours: By Appointment
TA Office Hours: By email - Mark both TAs during request, one of us will get back to you within 6-12 hrs
Response Policy: I usually respond within 24 hours to email inquiries.

Course Overview
This course provides an overview of the way sustainability (environmental, social and governance) factors are analyzed in private markets. It focuses on preparing students to implement their understanding of the financial and societal risks and opportunities within the investment making process. In private markets, limited partners (pension funds, endowments, high net-worth individuals) have pushed the sustainability imperative and social consciousness of private equity funds and asset managers by seeking greater clarity around how their money is invested in both a responsible and financially meaningful way. Alongside this trend, an evolving regulatory environment globally has propelled the need to systemize evaluation frameworks for stakeholders within investment functions and advisors who support them. Unlike public markets, sustainability information is harder to glean in private markets and requires a skilled extraction and evaluation process. During this course, we examine a traditional ESG due diligence process embedded within the wider investment lifecycle (sourcing, diligence, hold and exit) through the lens of changing geographic regulatory landscape in financial investing and the market leading frameworks that quantify ESG factors for evaluation. The course culminates with a deal due diligence process that mimics an investment committee (IC) comprised of private equity leaders that understand the commercial and purpose-driven viability of an investment.

The course has the following related goals:

- **Understanding of ESG frameworks and global standards:** Driving a comprehensive understanding of frameworks, disclosures and standards when evaluating investments
- **Practical knowledge around investment decision making:** Awareness of issues and investment implications when evaluating size, public/private nature of company, geography, and industrial sector
- **Driving strategy from risk and value creation learnings:** Understanding of ESG business case/strategy creation and the steps required to create value via ESG channels in a public or private company, and the implications of the competing nature of business
- **Due diligence skills:** Ability to conduct high-quality ESG risk and material topic diligence in public disclosures and through primary and secondary sources

Who should take this course?
This is an elective course for those who are looking to apply environmental, social and governance factors through the investment lens. Although there are no prerequisites for the course, it is recommended that students have a background in economics and finance. It is also recommended to have taken at least one of the following courses: sustainable investing and economic growth, accounting, finance, and modeling of sustainable investments and impact finance for sustainability.

This is a full semester course that will be open for cross-registration for other professional schools at Columbia and will be conducted in-person.

Learning Objectives
By the end of the course, students should to be able to:

L1 Master key concepts at the intersection of ESG investing principles across diverse markets (public, private, venture and debt markets) and asset classes (e.g. leverage buy-out, growth, venture, real estate, infrastructure, and credit)

L2 Define the concepts of limited partners, general partners, portfolio companies and the investment lifecycle

L3 Develop familiarity with concepts around downside risk protection, upside value creation, with particular focus on the equity governance tactics applied in private markets

L4 Critically and commercially evaluate the best method of measuring risk and value creation from globally available frameworks, regulations (including SFDR and Article 9), vendor solutions and theories of change

L5 Demonstrate the differences of value creation roadmaps between sector driven approaches in CapEx heavy and light industries (e.g. software vs real estate)

L6 Conduct a full end-to-end due diligence process on a prospective target by designing commercially aligned (both value creation driven and risk adjusted) thesis, and simulate the investment committee process as a member of the deal team

Readings
Readings per lecture are listed in the table below

Background topics

- Private Equity and private markets:


- ESG and Private Equity:


- ROSI, impact weighted accounts


- **Podcasts:**


**Assignments and Assessments**

Your final course grade will be computed using a weighted index of numeric grades that combine performance under written assignments (discussion boards and weekly assignments), attendance and participation, the midterm exam, and the final term project. The weighted index will be scaled into a letter grade scale from F to A+ based on an expectation that a class representative of the population of Columbia masters students will receive a median grade of B+ or A-.

*Specific rubrics for each assignment will be provided on the Canvas course site. General evaluation criteria is provided in each description.*

**Attendance and Participation (Aligned to L1-L6) - 15% of final grade**

Regular attendance in lectures is required. Students are expected to have done the readings for each session prior to the lecture. Participation in all lectures and project activities is required. We expect your contributions to enhance the quality of the class experience for yourself and others.

Participation includes the pre-reading required for the class and participation in the online discussion boards, and pre-work through memo or slide form for the class.

**Individual weekly deliverables (Aligned to L3-L6) (listed in grid below) - 15% of final grade**

These weekly deliverables will provide exposure to the concepts, processes and topics that will build to the knowledge needed for the midterm exam and final term project. Feedback will be provided for each assignment.
Completion of individual homework activities that include document submissions, posts and participation to the discussion boards as well as interviews as highlighted in the weekly modules below.

Students will be assigned a letter grade on the completeness, quality and interaction to their peers when discussing analysis for the topics listed.

**Midterm Exam (Aligned to L4) - 30% of final grade**

At the end of week 9, students are given 48 hours to complete a written midterm exam.

Students will use the slide templates to evaluate 4-6 target companies within a sector defined by the instructor. Students will then use the 1-pager target template to evaluate and present 3 targets for IC consideration of their choice.

Students will be assigned a letter grade on the completeness of analysis topics within the template and quality of investment insights. The targets will need to be based on benchmarks provided by the instructor but will include quantitative market sizing modeling and justification through valuation analysis (including carbon pricing). The factors included in this assessment will be shared at the time of briefing and will demonstrate the synthesis and transfer of concepts and techniques covered in previous modules. Students will need to submit completed slides of the template provided by the instructor.

**Final Term Project (Groups of 2-3 people) (Aligned to L6) - 40% of final grade**

The final project will require students to work in teams to execute a full due diligence of a target that is named and shared by the instructor.

**Conducting the due diligence (70%):** Students will work together to analyze, evaluate 2-3 targets that will be shared by the instructor. They will pick a target through interacting with a data room¹ (through document request submission), conducting interviews with the management team, doing a comparative peer analysis and designing an IC-ready slide and supporting deck. The template will include specific components that have been covered during the course and will focus on 35% commercial analysis (incl. market sizing and carbon pricing), 30% ESG red flags and opportunities (including benchmarking) and 35% final IC recommendations. They will summarize the team's position on the upside case, with any additional information (or recommendations) they feel appropriate. They will submit the investment deck to the IC 12 hours prior to the final for evaluation.

**Presenting at IC (30%):** Students will join a conversation at the ie IC with industry professionals discussing their chosen targets. Students will need to interject with appropriate information during the role-play to communicate the risks and opportunities of their target. The aim is to convince the IC of the verdict they reached during their prepared diligence. Participation will be judged on interaction, useful insights and market understanding broadly. Guest IC members will be asked to provide feedback.

**Grading**
The final grade will be calculated as described below:

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¹ A data room is a virtual cloud storage folder that contains documents pertinent to the deal. These are usually provided by the target and used by the investor to conduct in-depth analysis, diligence and underwriting

# FINAL GRADING SCALE

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>98–100 %</td>
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<tr>
<td>A</td>
<td>93–97.9 %</td>
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<tr>
<td>A-</td>
<td>90–92.9 %</td>
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<tr>
<td>B+</td>
<td>87–89.9 %</td>
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<tr>
<td>B</td>
<td>83–86.9 %</td>
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<tr>
<td>B-</td>
<td>80–82.9 %</td>
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<tr>
<td>C+</td>
<td>77–79.9 %</td>
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<tr>
<td>C</td>
<td>73–76.9 %</td>
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<tr>
<td>C-</td>
<td>70–72.9 %</td>
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<tr>
<td>D</td>
<td>60–69.9 %</td>
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<tr>
<td>F</td>
<td>59.9% and below</td>
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## Assignment/Assessment

<table>
<thead>
<tr>
<th>Assignment/Assessment</th>
<th>% Weight</th>
<th>Individual or Group/Team Grade</th>
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</thead>
<tbody>
<tr>
<td>Attendance and Participation - incl. discussion boards and posts</td>
<td>15%</td>
<td>Individual</td>
</tr>
<tr>
<td>Individual weekly deliverables - incl. market sizing and carbon pricing</td>
<td>15%</td>
<td>Individual</td>
</tr>
<tr>
<td>Midterm Exam: Identify 3 targets for acquisition - LP alignment, downside risk, upside value creation and market assessment</td>
<td>35%</td>
<td>Individual</td>
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<tr>
<td>Final Term Project: Conducting full due diligence (Overview, Peer Benchmarking, Risks and Opportunities, Value Creation) and role-play participation with industry executives</td>
<td>35%</td>
<td>Group</td>
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## Course Schedule/Course Calendar

<table>
<thead>
<tr>
<th>Module/Week &amp; Topic with specific dates</th>
<th>Topic</th>
<th>Readings</th>
<th>Activities/Assignments for this module</th>
</tr>
</thead>
</table>
| Module 2  | Investment Lifecycle: Sourcing | Learning how to evaluate a target  
Understanding what makes a good investment - criteria and benchmarks  
[Recommended] Dora, Dan. (2023). *Acquisition Criteria*: Students will submit a 1 pager that covers the market size, best in class leaders and financial factors of consideration for investments in a sector of your choice. Students will be assigned a letter grade on the methodology of market size, rationale of top players and additional factors.  
*Contributes to 20% grading for individual weekly assignment* | Students will be required to upload 3 personal objectives for review by the instructor.  
*This will not be evaluated.* |
| Module 3  
[February 05 ] | Unpacking how to evaluate the investment at hand  
| **Investment lifecycle:**  
Diligence - Risk & Opportunity Based, and Inside-Out, Outside-In | Designing risk based evaluation frameworks including regulatory considerations and supply chain and climate risk  
Learning the process and tools to use during sourcing and diligence  
Leveraging rep-risk and other data platforms  
Conducting interviews  
*Risk-Based Due Diligence, Climate Change, Human Rights, and the Just Transition.*  
Retrieved from https://www.mdpi.com/2071-1050/13/18/10454 (18 pages) | Students must submit a 1-2 pager (or 1-2 slides) on downside risk protection, regulatory considerations on one of the companies shared in class. The template for the slides will be provided.  
Students will be assigned a letter grade that will evaluate the comprehensive review and analysis of the company on listed factors  
Students are required to submit one summary post, and comment on at least 2 other submissions. Their interaction will be evaluated based on quality of insights.  
Word Limit: 250-350 words, students are required to highlight word count at the bottom of the discussion post on courseworks.  
*Contributes to 20% grading for individual weekly assignment* |
| Module 4  
[February 12] | How do you design a value creation strategy?  
Evaluating peer benchmarks  
Evaluating growth and efficiency levers  
*Private Equity Should Take the Lead in Sustainability.*  
Harvard Business Review. https://hbr.org/2022/07/private-equity-should-take-the-lead-in-sustainability?autoComplete=true (15 pages) | Students will submit 1-2 slides that evaluate growth and efficiency levers that could result in value creation for a company in one following sectors: healthcare, services (any sub-segment) or software.  
The template for the evaluation framework will be provided. |
<table>
<thead>
<tr>
<th>Module 5</th>
<th>Investment lifecycle: Exit</th>
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</table>

**How do we tell the exit story?**

Considerations to the exit pathway including IPO readiness and M&A (strategic or GPs), secondary and continuation funds


Students are required to research a private company and propose sustainability exit strategies (Strategic Partnership, SBO, IPO - pick any one) in 1-2 slides.

The 1-2 slides should be aimed at convincing/pitching the management team (CEO, CFO, GC and CSO) of their company to invest resources into creating a sustainability equity exit story.

**Contributes to 20% grading for individual weekly assignment**

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<table>
<thead>
<tr>
<th>Module 6</th>
<th>Asset Classes:</th>
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The ESG opportunities and challenges with early stage companies


Students will participate in the discussions boards opining on the difference in investment considerations for

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<table>
<thead>
<tr>
<th>Ventures and Growth</th>
<th>Evolution of Sustainable Investments and Finance: Theoretical Perspectives and New Challenges (Chapter 5) Palgrave Macmillan. Retrieved from <a href="https://clio.columbia.edu/catalog/16954213">https://clio.columbia.edu/catalog/16954213</a></th>
<th>ventures and growth vs later stage/maturity companies. Students are required to submit one summary post, and comment on at least 2 other submissions. Their interaction will be evaluated based on quality of insights. Word Limit: 250-350 words, students are required to highlight word count at the bottom of the discussion post on courseworks.</th>
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<tr>
<td>MIDTERM Due on March 25</td>
<td>Assignment: Sourcing 2-3 ESG targets backed with analysis for IC consideration</td>
<td>See Midterm.</td>
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</tbody>
</table>
|                      | Students will use provided slide templates to evaluate 4-6 target companies within a sector, as defined by the instructor. Students will then use the 1-pager target template to evaluate and present 3 targets for IC consideration of their choice. Students will be assigned a letter grade on the completeness of analysis on topics within the template and quality of investment insights (nuances from company data and disclosures, expert interviews and forecasting industry trends).  
*Midterm contributes to 30% grading for final grade.* |
|                      |                                                        | n.a |

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<tr>
<th>Rise of risk-based evaluation in the East, and decarbonization in the West.</th>
<th>Europe’s lead on decarbonization and the <strong>impact of GHG underwriting</strong></th>
<th><em>interventionist research project with accountability and political implications</em> (pp. 1122-1133). Wiley. Retrieved from <a href="https://doi.org/10.1002/csr.2258">https://doi.org/10.1002/csr.2258</a> (11 pages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Required] Financial Conduct Authority. (2021). <em>FCA Financial Disclosure Requirements and Labeling</em> (Chapter 4). Retrieved from <a href="https://www.fca.org.uk/publication/discussion/dp21-4.pdf">https://www.fca.org.uk/publication/discussion/dp21-4.pdf</a> (35 pages)</td>
<td>Students will participate in the discussions boards opining on article 9 implication for funds through the use of examples during the investment cycle, relevant compliance and the opportunities and challenges. Students are required to submit one summary post, and comment on at least 2 other submissions. Their interaction will be evaluated based on quality of insights. Word Limit: 250-350 words, students are required to highlight wordcount at the bottom of the discussion post on courseworks. <em>Contributes to 25% grading for class participation</em></td>
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| Module 12 [April 15] | Value Creation: Implementing ESG Strategies: Supporting the management team  
Majority vs minority ownership and ESG | Critically evaluate maturity pathway for investments while navigating measurable and material changes in operations, strategy and reporting  
Exploring MACC models  
Students will submit an interview summary that has been done with an executive - preferably senior leadership of a company from their network. They will cover the following topics:  
- alignment to business purpose  
- benchmarks in industry  
- drivers of action (investors, clients, suppliers, etc)  
- regulatory and reporting requirements  
- progress tracking and disclosure  
Students will be assigned a letter grade that will evaluate the interview and quality of insights. | Students will submit an interview summary that has been done with an executive - preferably senior leadership of a company from their network. They will cover the following topics:  
- alignment to business purpose  
- benchmarks in industry  
- drivers of action (investors, clients, suppliers, etc)  
- regulatory and reporting requirements  
- progress tracking and disclosure  
Students will be assigned a letter grade that will evaluate the interview and quality of insights. |

| Designing evaluation frameworks and theories of change | - SASB/GRI  
- TCFD  
Contributes to 20% grading for individual weekly assignment | The work samples will be evaluated on methodology, numerical accuracy and completeness based on public data.  
Contributes to 20% grading for individual weekly assignment |

| Module 13  
[April 22]  
**Fund Dynamics:**  

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**Final Assessment:** [GUEST IC OF INDUSTRY EXECS] Completing a diligence and presenting to IC  
[April 29]

**Submitting Diligence (70%):** Students will work together to analyze and evaluate 2-3 targets that will be shared by the instructor. They will pick a target through interacting with a data room² (through document request submission), conducting interviews with the management team, doing a comparative peer analysis and designing an IC-ready slide and supporting deck. The template will include specific components that have been covered during the course and will focus on 35% commercial analysis (incl. market sizing and carbon pricing), 30% ESG red flags and opportunities (including benchmarking) and 35% final IC recommendations. They will summarize the team's position on the upside case, with any additional information (or recommendations) they feel appropriate. They will submit the investment deck to the IC 12 hours prior to the final for evaluation. Letter based grading will be given on the completeness and quality of insights within the template provided.

**Presenting to IC (30%):** Students will join the IC as a deal team panel and spend 15 minutes presenting the upfront case (including any considerations or endorsements). The IC will then have 30 minutes to have a conversation to extract further information, test, challenge and conclude their decision.  
*The IC presentation contributes to 30% of this assignment. Grading will be assigned by team and will be based on feedback from the guest IC members for tactical and data-driven insights, debate-style and persuasion techniques and investment conscious decision making.*

IC questions will be shared 24 hrs prior to presentation. Students are expected to perform additional diligence to address IC questions verbally during presentation (i.e. no expectation of additional slides)

*The final contributes 40% of the final grade. The final will be graded by group.*

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**Course Policies**

*Participation and Attendance*

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² A data room is a virtual cloud storage folder that contains documents pertinent to the deal. These are usually provided by the target and used by the investor to conduct in-depth analysis, diligence and underwriting.
I expect you to come to class on time and thoroughly prepared. I will keep track of attendance and look forward to an interesting, lively and confidential discussion. If you miss an experience in class, you miss an important learning moment and the class misses your contribution. More than one absence will affect your grade.

**Late work**
Work that is not submitted on the due date noted in the course syllabus without advance notice and permission from the instructor will be graded down 1/3 of a grade for every day it is late (e.g., from a B+ to a B).

**Citation & Submission**
All written assignments must use standard citation format (APA), cite sources, and be submitted to the course website (not via email): https://courseworks2.columbia.edu/courses/187732

**School and University Policies and Resources**

**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 https://spscolumbia.edu/students/student-support/academic-integrity-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.

**Attendance Policy**
Students are expected to be present in-class each week. In cases of absence, prior notice and reasons for absence is expected a minimum of 12 hours before class, barring exception based cases. The class lectures will be multi-modal, both in-person and recorded sessions available online. In the event that classes are to be held virtually, on account of the professor’s work schedule and travel, students are expected to attend in-person in the designated classroom at all times. Exception based approvals may be granted for students to attend classes virtually. If so, the expectation is
that students remain on-camera at all times during the lecture. An attendance penalty may be imposed for off-camera presence during virtual classes.

Diversity Statement
It is our intent that students from all diverse backgrounds and perspectives be well-served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture.

Accessibility
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. 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. For any additional accommodations on class assignments for this particular course, please reach out to the course instructor Angela Jhanji.

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: https://health.columbia.edu/content/disability-services.

Class Recordings
All or portions of the class may be recorded at the discretion of the Instructor to support your learning. At any point, the Instructor has the right to discontinue the recording if it is deemed to be obstructive to the learning process.

If the recording is posted, it is confidential and it is prohibited to share the recording outside of the class.

SPS Academic Resources
The Division of Student Affairs provides students with academic counseling and support services such as online tutoring and career coaching: https://sps.columbia.edu/students/student-support/student-support-resources.

Columbia University Information Technology
Columbia University Information Technology (CUIT) provides Columbia University students, faculty and staff with central computing and communications services. Students, faculty and staff may access University-provided and discounted software downloads.

Columbia University Library
Columbia's extensive library system ranks in the top five academic libraries in the nation, with many of its services and resources available online.

The Writing Center
The Writing Center provides writing support to undergraduate and graduate students through one-on-one consultations and workshops. They provide support at every stage of your writing, from brainstorming to final drafts. If you would like writing support, please visit the following site to learn about services offered and steps for scheduling an appointment. This resource is open to Columbia graduate students at no additional charge. Visit http://www.college.columbia.edu/core/uwp/writing-center.

Career Design Lab
The Career Design Lab supports current students and alumni with individualized career coaching including career assessment, resume & cover letter writing, agile internship job search strategy, personal branding, interview skills, career transitions, salary negotiations, and much more. Wherever you are in your career journey, the Career Design Lab team is here to support you. Link to https://careerdesignlab.sps.columbia.edu/

Netiquette
[Only applies to courses using online platforms]
Online sessions in this course will be offered through Zoom, accessible through Canvas. A reliable Internet connection and functioning webcam and microphone are required. It is your responsibility to resolve any known technical issues prior to class. Your webcam should remain turned on for the duration of each class, and you should expect to be present the entire time. Avoid distractions and maintain professional etiquette.

Please note: Instructors may use Canvas or Zoom analytics in evaluating your online participation.

More guidance can be found at: https://jolt.merlot.org/vol6no1/minuto-wimsatt_0310.htm

Netiquette is a way of defining professionalism for collaborations and communication that take place in online environments. Here are some Student Guidelines for this class:

● Avoid using offensive language or language that is not appropriate for a professional setting.
● Do not criticize or mock someone’s abilities or skills.
● Communicate in a way that is clear, accurate and easy for others to understand.
● Balance collegiality with academic honesty.
● Keep an open-mind and be willing to express your opinion.
● Reflect on your statements and how they might impact others.
● Do not hesitate to ask for feedback.
● When in doubt, always check with your instructor for clarification