## AEDE 6330: Cost Benefit Analysis Syllabus

Fall 2024

## **Course Information**

- Tuesdays and Thursdays 2:20-3:40 in Ramseyer Hall 009.
- □ Credit hours: 3
- Mode of delivery: In Person

#### Instructor

- Name: Daniela A. Miteva
- □ Email: miteva.2@osu.edu
- □ Phone Number: 614-292-5786
- ☐ Office location: 325 Ag Admin Bldg
- Office hours: By appointment. In person or on Zoom (permanent Zoom link for office hours: https://osu.zoom.us/j/99314533016?pwd=8asnqxdCdCaLjVfyDJSfkRkasiy3Ve.1)
- Preferred means of communication:
  - My preferred method of communication for questions is email.
  - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your <u>notification preferences</u> (go.osu.edu/canvasnotifications) to be sure you receive these messages.

## Course Prerequisites/Co-Requisites

Math 1131 or 1151.

It is expected that students have taken at least one course in microeconomic theory. We will briefly review economic principles as necessary, but I will assume that you are familiar with concepts of supply and demand, utility, and production functions.

## **Course Description**

The course covers calculus-based benefit-cost analysis theory and methods and their application to projects pertaining to public infrastructure, agriculture, the environment, natural resources, and human health. It aims to:

Foster familiarity with Cost-Benefit Analysis (CBA), its applications, advantages, and
disadvantages
Allow students to apply CBA theory and tools to real-life problems
Teach students to communicate findings clearly and provide recommendations to a variety of
audiences.

## Course Learning Goals and Outcomes

Upon the completion of the course, successful students will:

- 1. Explain differences in benefit-cost principles and approaches;
- 2. Understand the link between economic theory and implementation of benefit-cost analysis;
- 3. Conduct benefit-cost analysis to analyze a real-world policy issue;
- 4. Be competent in data manipulation and statistical analysis of data in support of benefitcost analysis.

#### **Topic/Week Outcomes**

- 1. Introduction to Benefit-Cost (LO 1,2)
- 2. Overview of Benefit-Cost (LO 1,2)
- 3. Welfare principles and metrics (LO 1,2,3)
- 4. Discounting (LO 1,2,3)
- 5. Types of values and overview of approaches for non-market valuation (LO 1,2,3)
- 6. Review and Exam 1 (LO 1,2,3,4)
- 7. Revealed Preference: Hedonics (LO 1,2,3)
- 8. Revealed Preference: Health (LO 1,2,3)
- 9. Revealed Preference: RUM Models (LO 1,2,3)
- 10. Stated Preference and Contingent Valuation (LO 1,2,3)
- 11. Benefit transfer methods
- 12. Energy and Renewable Resources (LO 1,2,3)
- 13. Case Study: Water Quality and Water Access (LO 1,2,3,4)
- 14. Case Study: Habitat Protection
- 15. Exam 2 Review (LO 1,2,3,4)
- 16. Review and ways forward (LO 2,3)



#### **How This Course Works**

**Mode of delivery:** <u>In person</u> unless circumstances change (e.g., weather). Please be sure to check Carmen for announcements. Students are expected to attend class each week during the scheduled meeting sessions. Exams will be administered via Carmen.

Credit hours and work expectations: This is a [3] credit-hour course. According to Ohio State bylaws on instruction (go.osu.edu/credithours), students should expect around [3] hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to [6] hours of homework (reading and assignment preparation, for example) to receive a grade of [C] average.

**Attendance and participation requirements:** Research shows regular participation is one of the highest predictors of success. With that in mind, I have the following expectations for everyone's participation:

- □ Attending class: Mandatory. In the case of emergency, illness, or planned travel, contact the instructor as soon as possible to discuss possible accommodations at the discretion of the instructor and with appropriate documentation.
- □ Logging into course Carmen website: Every week at least once. I will be using the website to post material related to lectures, homework assignments and solutions, and as a repository for some notes/handouts and readings. Major announcements will also appear on the website. We will also use Canvas to host class discussions on any topic. If you have any course-related or assignment related questions, please post them on the discussion forum. This will ensure that broad queries and responses reach all students with little delay. There are weekly online quizzes that count towards the participation grade.

Office hours: Optional

All live, scheduled events for the course, including my office hours, are optional.

## Course Materials, Fees and Technologies

#### Required Materials and/or Technologies

□ None. Assignments and exams will <u>not</u> include problems, questions, or case studies drawn directly from the recommended books.

#### Recommended/Optional Materials and/or Technologies

- Anthony Boardman, David Greenberg, Aidan Vining and David Weimer, Cost-Benefit Analysis: Concepts and Practice, 5th edition, Prentice Hall, 2017. ISBN-13: 978-1108401296
- □ Roger Perman, Yue Ma, James McGilvray, Michael Common, Natural Resource and Environmental Economics, 4th Edition, Pearson, 2012. ISBN-13: 978-0321417534
- Champ, Boyle, and Brown (2017). A Primer on Non-Market Valuation. Available online through OSU libraries
- □ Freeman, Herriges & Kling (2014). The measurement of environmental and resource values theory and methods. 3rd Edition. Available here: http://econdse.org/wp-content/uploads/2016/07/Freeman- Herriges-Kling-2014.pdf

These optional books are recommended to complement material covered in class and will provide additional context and explanation for concepts we will cover in this course.

## Required Equipment

- □ **Computer:** current Mac (MacOS) or PC (Windows 10) with high-speed internet connection.
- □ **Webcam:** built-in or external webcam, fully installed and tested
- ☐ **Microphone:** built-in laptop or tablet mic or external microphone
- □ **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

If you do not have access to the technology you need to succeed in this class, review options for <u>technology and internet access</u> (go.osu.edu/student-tech-access).

#### Required Software

**Microsoft Office 365:** All Ohio State students are now eligible for free Microsoft Office 365. Visit the <u>installing Office 365</u> (go.osu.edu/office365help) help article for full instructions.

Stata BE 16 or higher: 6-month licenses can be purchased through <a>Stata</a> (~48USD)

#### CarmenCanvas Access

You will need to use <u>BuckeyePass</u> (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:

- □ Register multiple devices in case something happens to your primary device. Information can be found at <u>BuckeyePass</u> (buckeyepass.osu.edu).
- Users will only receive one SMS passcode at a time. Using the "Trust Browser" feature on a user's first authentication log in of the day will allow the user to bypass the need for another passcode for 24 hours.
- □ Install the Duo Mobile application (https://it.osu.edu/learner-technology-handbook/ch3/duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at <u>614-688-4357 (HELP)</u> and IT support staff will work out a solution with you.

## Technology Skills Needed for This Course

- □ Basic computer and web-browsing skills
- Navigating CarmenCanvas (go.osu.edu/canvasstudent)
- ☐ CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration and recording, editing and uploading video (go.osu.edu/video-assignment-guide)

#### **Technology Support**

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

7	Self	Service	and	Chat.	an	OSII	edu	/it

□ **Phone**: <u>614-688-4357 (HELP)</u>

☐ Email: <u>servicedesk@osu.edu</u>

## **Grading and Faculty Response**

#### How Your Grade is Calculated

Assignment Category	Points
Homework assignments	20 each, 60 total
Examinations	20 each, 40 total
Total	100

See Course Schedule for due dates.

#### **Descriptions of Major Course Assignments**

#### **Homework Assignments**

**Description:** There will be three homework assignments that will be due at the beginning of class on the date assigned posted on Carmen. The assignments will allow you to apply the concepts covered during class. Each assignment counts equally towards your grade. Partial credit will be given proportional to the amount of correct work provided to answer the question.

**Academic integrity and collaboration:** Students can work in groups and consult with each other when working on the problem sets but are expected to turn in own work in own words: You cannot simply copy someone else's work. The use of AI (ChatGPT, Co-Pilot etc) depends on the assignment, with no AI allowed for HW1.

#### **Exams**

The two exams would be administered online via Honorlock, with dates posted on Carmen. Exams must be completed on your own without use of any external sources (including but not limited to notes, AI, textbooks, websites, or other persons).

#### **Ungraded guizzes**

Where appropriate, there will be weekly ungraded quizzes to help you apply the material covered in class.

## Late Assignments

Late work will be marked down 10% for every day (or part of a day) that they are late. In the event of emergency or illness, please notify me as soon as possible to discuss accommodations.

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments.

## Instructor Feedback and Response Time

I am providing the following list to give you an idea of my intended availability throughout the course. Remember that you can call <u>614-688-4357 (HELP)</u> at any time if you have a technical problem.

- □ Preferred contact method: If you have a question, please contact me through my Ohio State email address. I will reply to emails within 48 hours on days when class is in session at the university.
- □ Class announcements: I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check <u>your notification preferences</u> (go.osu.edu/canvas-notifications) to ensure you receive these messages.
- □ **Discussion board:** I will check and reply to messages in the discussion boards once mid-week and once at the end of the week.
- ☐ **Grading and feedback**: For assignments submitted before the due date, I will try to provide feedback and grades within **ten days**. Assignments submitted after the due date may have reduced feedback and grades may take longer to be posted.

## **Grading Scale**

93-100: A

90-92.9: A-

87-89.9: B+

83-86.9: B

80-82.9: B-

77-79.9: C+

73-76.9: C

70-72.9: C-

67-69.9: D+

60–66.9: D

Below 60: E



#### Other Course Policies

#### Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- □ Writing style: While we will not be penalizing grammar, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.
- Tone and civility: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online. I will provide specific guidance for discussions on controversial or personal topics.
- □ **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.
- □ **Backing up your work**: Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.
- Synchronous sessions: During our Zoom sessions I ask you to use your real name and a clear photo of your face in your Carmen profile. During our full-group lecture time, you may turn your camera off if you choose. When in breakout rooms or other small-group discussions, having cameras and mics on as often as possible will help you get the most out of activities. You are always welcome to use the <a href="free">free</a>, Ohio State themed virtual backgrounds (www.osu.edu/downloads/zoom-backgrounds.html). Remember that Zoom and the Zoom chat are our classroom space where respectful interactions are expected.

#### Academic Integrity Policy

See <u>Descriptions of Major Course Assignments</u> for specific guidelines about collaboration and academic integrity in the context of this class.

#### **Ohio State's Academic Integrity Policy**

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact the instructor for this course.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- ☐ Committee on Academic Misconduct (go.osu.edu/coam)
- ☐ Ten Suggestions for Preserving Academic Integrity (go.osu.edu/ten-suggestions)
- ☐ Eight Cardinal Rules of Academic Integrity (go.osu.edu/cardinal-rules)

#### **Artificial Intelligence and academic integrity**

There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (AI) tools, including ChatGPT, Sudowrite, Co-Pilot, and others. These tools will help shape the future of work, research and technology but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.

All students have important obligations under the Code of Student Conduct to complete all academic and scholarly activities with fairness and honesty. Our professional students also have the responsibility to uphold the professional and ethical standards found in their respective academic honor codes. Specifically, students are not to use unauthorized assistance in the laboratory, on field work, in scholarship or on a course assignment unless such assistance has



been authorized specifically by the course instructor. In addition, students are not to submit their work without acknowledging any word-for-word use and/or paraphrasing of writing, ideas or other work that is not your own. These requirements apply to all students undergraduate, graduate, and professional.

To maintain a culture of integrity and respect, these generative AI tools should not be used in the completion of course assignments unless an instructor for a given course specifically authorizes their use. Some instructors may approve of using generative AI tools in the academic setting for specific goals. However, these tools should be used only with the explicit and clear permission of each individual instructor, and then only in the ways allowed by the instructor.

## Copyright for Instructional Materials

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

#### Zoom video/audio recording

This course may use video and audio recordings of class lectures, student presentations, and related materials. These recordings are available to all students presently enrolled in the course. Please note that you are not allowed to share these recordings. This is to protect your FERPA rights and those of your fellow students.

# Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at <a href="equity.osu.edu">equity.osu.edu</a>,



- 2. Call 614-247-5838 or TTY 614-688-8605,
- 3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

#### **Diversity**

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

https://odi.osu.edu/
https://odi.osu.edu/racial-justice-resources
https://odi.osu.edu/focus-on-racial-justice
https://cbsc.osu.edu/

In addition, this course adheres to **The Principles of Community** adopted by the College of Food, Agricultural, and Environmental Sciences. These principles can be found at <a href="https://cfaesdei.osu.edu/about-us/cfaes-principles-community">https://cfaesdei.osu.edu/about-us/cfaes-principles-community</a>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<a href="https://cfaesdei.osu.edu/">https://cfaesdei.osu.edu/</a>). If you have been a victim of or a witness to harassment or discrimination or a bias incident, you can report it online and anonymously (if you choose) at <a href="https://equity.osu.edu/">https://equity.osu.edu/</a>.

#### Your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th floor of the Younkin Success Center and 10th floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor on the Columbus campus. To contact David, please call 614-292-5766. Students should mention their affiliation with CFAES if interested in speaking directly with David.

#### Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course

begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity.

Policy: Religious Holidays, Holy Days and Observances

#### Weather or other short-term closing

Although Ohio State strives to remain open to ensure continuity of services to students and the public, extreme conditions can warrant the usage of the university's **Weather or Other Short-Term Closing Policy**. Please **visit this webpage** to learn more about preparing for potential closings and planning ahead for winter weather.

# ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu. Disability Services Contact Information

□ Phone: <u>614-292-3307</u>

☐ Website: <u>slds.osu.edu</u>

☐ Email: slds@osu.edu

☐ In person: Baker Hall 098, 113 W. 12th Avenue

## Accessibility of Course Technology

This course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible.

- □ CarmenCanvas accessibility (go.osu.edu/canvas-accessibility)
- □ Streaming audio and video
- □ <u>CarmenZoom accessibility</u> (go.osu.edu/zoom-accessibility)

The exams will be administered via Honorlock, an online proctoring tool, will be used during this course. Honorlock offers you flexibility to take your exams at the time and in the location of your choosing during the exam's availability window.

- Technology requirements: Students are required to have a webcam (USB or internal) with a microphone, allow for screen recording, and have a strong and stable internet connection. In addition, the full Chrome browser version 120+ is required to install the Honorlock Chrome Browser extension. Honorlock is incompatible with tablets or mobile devices.
- Testing environment: During the course of an exam, Honorlock will record the testing environment. Therefore, students should select private spaces for the exam session where disruptions are unlikely and where recording devices can be enabled. Instructions for Honorlock use will be provided.

Limitations: To use Honorlock you must be over 18 years of age or have the Online
Course Recording Waiver on file. Additionally, the tool has limitations in its accessibility for
students reliant upon screen readers and keyboard navigation. Additional information on
academic integrity at Ohio State and recommended proctoring options are available.

- Academic integrity and academic misconduct: Please note that while Honorlock settings may flag suspected cheating during exams, these automatic measures do not constitute a determination of academic misconduct. Any suspicion of misconduct will be referred to the Committee on Academic Misconduct and evaluated through a fair and transparent process.
- Students may request an in-person proctoring alternative to Honorlock or other online proctoring tools. The student is expected to contact the instructor as soon as possible to coordinate the accommodation.
- Students will not be permitted to take remotely proctored exams in their homes or residence halls unless they are willing to conduct a room scan. By choosing to take the exam in their home or residence hall, the student is consenting to the room scan of the area in which they take the exam.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page or within the exam itself. Or you can also reach out to carmen@osu.edu or call 614-688-HELP and talk to the Carmen eLearning team.

If you have concerns about using an online proctoring tool for the reasons listed above or in general, please work with your instructor to find an equivalent alternative.

#### Grievances and solving problems

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order.

# **Tentative Course Schedule (see next page)**

Refer to the Carmen Canvas course for up-to-date due dates.

Week	Date	Topics	Readings, Assignments, Due Dates
	Aug. 20	Introduction, overview, and logistics	
1	Aug. 22	Microeconomics review	
	Aug. 27		Hanley et al. 2001
2	Aug. 29	Overview of CBA	Optional: Philadelphia case study
	Sept. 3		Keohane & Olmstead Ch. 3
3	Sept. 5	Welfare principles and metrics	Perman et al. Ch. 12 Boardman et al. Ch. 3 HW1 posted on Sept. 3rd
	Sept. 10		Goulder & Stavins 2002
4	Sept 12	Discounting	Fields 2005 RFF 2020
	Sept. 17	Overview of non-market valuation approaches	Freeman et al. 2014 Ch. 1
5	Sept. 19	Intro to Stata	HW1 due Sept. 17th
	Sept. 24		
6	Sept. 26	Review and Exam 1	
	Oct. 1		Taylor 2018. Primer on Non- Market Valuation Ch. 7
7	Oct. 3	Revealed preference: Hedonics	HW2 posted on Oct. 1st
	Oct. 8	Revealed preference: Health	Dickie 2018. Primer on Non-
8	Oct. 10	Fall break (no class)	Market valuation Ch. 8
	Oct. 15		Parsons 2018. Primer on Non- Market valuation Ch. 6
			HW2 due on Oct. 15 <sup>th</sup>
9	Oct. 17	Revealed preference: RUM	HW3 posted on Oct. 17th
10	Oct. 22	Stated preference methods	TBD

	Oct. 24		
	Oct. 29		
11	Oct. 31	Benefit transfer methods	HW3 due on Oct. 31
	Nov. 5	Case studies: Energy and	
12	Nov. 7	renewable resources	TBD
	Nov. 12	Case studies: Water quality and	
13	Nov. 14	water access	TBD
	Nov. 19	Case study: Habitat protection	
14	Nov. 21	Review for Exam 2	TBD
	Nov. 26	Exam 2	
15	Nov. 28	Thanksgiving	
16	Dec. 3	Ways forward	