SEMINAR IN ENVIRONMENTAL ECONOMICS

ECO-373-01 | *Spring 2025* | Union College

Course Basics

Meets:
T/TH 1:55pm - 3:40pm
Lippman Hall 201

Instructor:
Dolores Garrido
Karp Hall 118
(518) 388-6365
garridom@union.edu
www.dolores-garrido.com

Prerequisites: ECO-101, ECO-241, ECO-243

Textbook: No mandatory textbook is required. This course is based on selected papers and other readings.

Software: STATA is required for this course as you need it for the research-empirical exercises and your for your own research project.

I do expect you purchase a Stata student license that will last at least for 3 months and have it installed on your computer.

An Economist's View of the Environment
(Fullerton and Stavins, 1998)
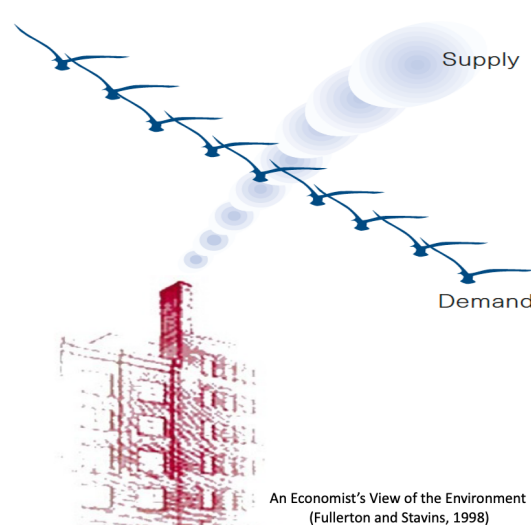
Overview

Environmental Economics studies the ways in which economic activity affects the environment and how environmental strategies and policies can be designed and implemented to achieve environmental goals at the lowest cost to society. Environmental economists use a variety of methods to study the economic dimensions of environmental challenges.

This seminar course provides a participatory framework for exploring (i.e., understanding, investigating, and discussing) key environmental challenges related to environmental values, environmental problems (e.g., air pollution), environmental attitudes and behaviors, environmental markets and policies, among other sustainability issues. The **principal objective** of this seminar course is you acquire the skills to think (*what, why, who?*), empirically conduct economic research (*how?*) and professionally communicate it (*so what?*) in the field of Environmental Economics.

Logistics

Office Hours

I wish you enjoy and succeed in this course. If you have questions about the class dynamics, assignments, assessments or want to chat with me about any other aspect, please join my office hours. **I do love working with my students!**

*Open***:** Karp Hall 118
- M: 2:00pm – 3:30pm
- W: 11:00am – 12:30pm

First come, first served. If you arrive and I'm with another student, please wait, I'll be with you as soon as possible.

*By appointment***:** If the above office hours do not work for you, you can <u>email</u> me and we'll find another time to meet. Note that if you request to meet with less than 24 hours, it may happen I cannot find a time to meet with you. So, please plan in advance.

Class Dynamic

We'll regularly meet at scheduled days, times and classroom. Each class will combine (very)short lectures, with discussion and participation activities, and with data-STATA and research corners. There will be a 5-7 minute break in every class.

<u>NO requests to Zoom</u> into class will be responded. If you cannot attend class because of COVID-19 positive testing/isolation, or any other important reason <u>officially communicated</u> to me by the Dean of Students Office, your absence will not affect your attendance and participation grade. I'll do my best to provide you access to the material/ content you missed.

For any other missed class, see the attendance and participation grading criteria. It will be your responsibility to catch up with the class.

Plan of Study

Introduction to Environmental Economics
- *What, Why, Who, How, So What?*
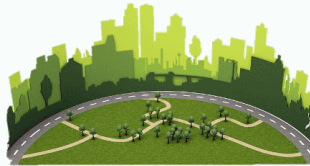
Environmental Values
[Non-market Valuation]

Environmental Problems: Air Pollution
[Effects on Economic Outcomes]

Environmental Attitudes and Behaviors
[Drivers and Barriers]

Environmental Markets
[Information & Greenwashing]

Environmental Quality and Policy
[Drivers and Barriers]

Research Project:
- Let's investigate! *What, Why, Who, How, So What?*

Communication

All class materials will be posted to Nexus. <u>Email</u> is the best way to reach me outside class time and office hours.

Grading Criteria

- Attendance
- Participation
- Reading Quizzes
- Research-Empirical Exercises
- STATA Quiz
- Research Project

Attendance (5%)

Regular attendance is very important for the success of the classroom as a whole and for your individual success.

Class starts promptly. Plan to <u>arrive on time and do not leave the classroom until class is dismissed</u>. If you cannot attend class for documented COVID-19/medical reasons, College sanctioned activity, or any other <u>officially documented reason</u>, please inform me at least 24 hours in advance.

Attendance will be graded as follows:

5%: miss 0-1 classes	2%: miss 4 classes
4%: miss 2 classes	1%: miss 5 classes
3%: miss 3 classes	0%: miss >5 classes

Participation (10%)

Class participation is an important determinant of your success in this seminar course. Active participation involves making all necessary preparations for class (i.e., reading papers and drafting reading questions) and demonstrating your preparedness (i.e., actively participating in discussions) in the classroom. Other elements of participation include bringing fresh content and information to the classroom, delivering critical/constructive comments/questions/answers that stimulate further understanding/discussion in class and during presentations, and bringing highlighted, underlined and annotated printouts of required papers.
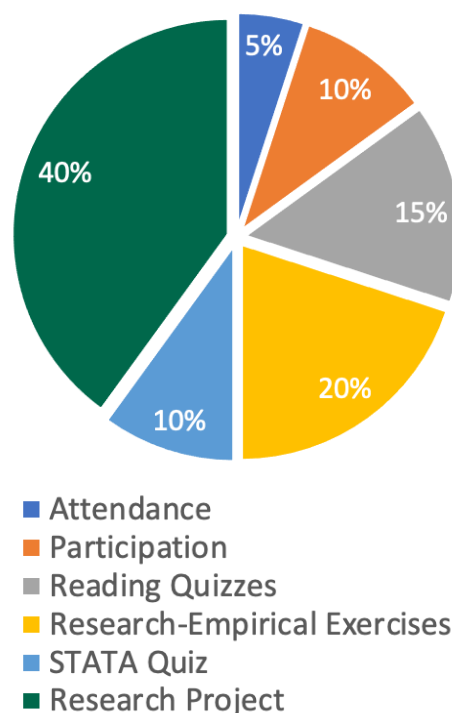
If you have any circumstances of concern to you that may affect your participation, please let me know.

Reading Quizzes (15%)

From week 1 (D02) through week 9 (D17) each class will begin with a short reading quiz to test whether you have read the required material for that day.

The quizzes will be graded on a 0-1-2 basis.

Research-Empirical Exercises (20%) + STATA Quiz (10%)

Research-Empirical exercises are designed to introduce you to the research methods used in Environmental Economics and to some common issues you will come across in academic papers. From a practical point of view, doing these exercises will give you some experience with finding, understanding and manipulating data, using STATA, and interpreting and writing up empirical results. Each exercise will be announce one week in advance to its due date. You <u>can work in pairs (2 persons)</u> and hand in a single common answer. To test your knowledge and use of STATA coding, an in-class open-book quiz will be delivered (TBA).

Research Project (40%)

An important goal of the course is to assist you in what may be your first large research project. This will be an individual ~12-15—page research paper and oral presentation on a topic of your choice. This project is discussed in more detail in a separate handout.

Grading Scale

93.00 and above	A	77.00 – 79.99	C+
90.00 – 92.99	A-	73.00 – 76.99	C
87.00 – 89.99	B+	70.00 – 72.99	C-
83.00 – 86.99	B	60.00 – 69.99	D
80.00 – 82.99	B-	Below 60.00	F

Professional Ethics and Honor Code

Union College recognizes the need to create an environment of mutual trust as part of its educational mission. Responsible participation in an academic community requires respect not only for oneself, but also for the thoughts and work of others, whether expressed in the present or in some distant time and place. Academic dishonesty is a rejection of the very purposes and ideals for which the College stands: personal integrity, independence of thought, critical understanding, and responsibility for one's own work.

According to Union College's Honor Code, **submitting work (e.g., homeworks, projects) that is produced by any source, whether it be another person or a technological entity (e.g., AI), and falsely claiming it as your own constitutes an act of academic dishonesty and could result in disciplinary action.**

Information about the Academic Honor Code is available at www.honorcode.union.edu. You are responsible for understanding the Honor Code and for meeting its requirements. **Ignorance is not an excuse for academic dishonesty.**

In a spirit of mutual respect and of dedication to your education, I affirm my commitment to the faculty's standards of professional ethics as laid out in the Faculty Manual.

You are all veterans of the Union College Honor Code and are expected to abide by it for the work in this class. In particular, this means: 1) give credit where it's due in your research project, 2) don't use another group's work on the empirical exercises, and 3) don't cheat on the reading quizzes.

Research-Empirical Exercises: You can work in groups. Within the group, work is collaborative, but do not copy material or discuss your results across groups. If you have problems with a mechanical issue, e.g., need help with the data or the software, and ask a member of another group, note that in the answer you hand in.

Research Project: You are expected to work individually. You may discuss your project with other students, but the work itself should be yours. The main issue here is plagiarism, which we'll discuss later in detail.

My Role: It is my job to clarify any questions you have about how the honor code applies to work preformed for this class.

Course Policies

Class Environment

Let's create an atmosphere in which everyone feels comfortable with the class. The use of electronic items (such as <u>cell phones or music devices</u>), <u>late arrival,</u> <u>leaving the class while meetings,</u> making noise, conversations that interfere with class activity, and similar conducts can disrupt the class dynamic. <u>Please refrain to do any of these practices.</u> **Laptops will be permitted only when working with STATA.**

Accommodation

It is the policy of Union College to make reasonable accommodations for qualified individuals with learning differences. If it is your case and you wish to request accommodations for this course, please visit the Accommodative Services Office (located in Shaffer Library - Room 222), call them at (518) 388-8785, or email their Director, Shelly Harrington at harrings@union.edu. Once you have received approved accommodations from them, please contact me as soon as possible to discuss your needs. Please be aware that <u>no accommodations will be provided without documentation from the Accommodative Services Office</u>.

Diversity + Inclusion

I would like to create a learning environment for my students that supports a diversity of thoughts, perspectives, and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.) To help accomplish this:

- If you have a name and/or set of pronouns that differ from those that appear in your official Union College records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to stop by my office and talk with me. I want to be a resource for you.
- I (like many people) am still in the process of learning about diverse perspectives and identities. If something is said in class (by anyone, including me!) that makes you feel uncomfortable, please talk to me about it.
- As a participant in class activities, you should also strive to honor the diversity of your classmates. Let's do not (pre)judge others!

Please express yourself!! A significant part of a college education is learning about the complexity of various issues. Therefore, it is important that we listen and respect one another but we do not have to agree. A richer discussion will occur when a variety of perspectives are presented in class for discussion.
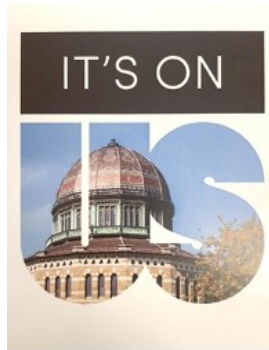
Based-Gender Misconduct and Harassment

I will listen and believe you if someone is threatening you.

Lauren McCluskey, a 21-year-old honors student athlete, was murdered on October 22, 2018, by a man she briefly dated on the University of Utah campus. We must all take actions to ensure that this never happens again.

www.laurenmccluskey.org

It's on Us pledge is a personal commitment to help women and men safe from sexual assault. It is a promise not to be a bystander to the problem, but to be a part of the solution, by:

- Recognizing that non-consensual sex is sexual assault.
- Identifying situations in which sexual assault may occur.
- Intervening in situations where consent has not or cannot be give.
- Creating an environment in which sexual assault is unacceptable and survivors are supported.

www.ItsOnUs.org

If you are in immediate danger, call 911.

If you are experiencing sexual assault, domestic violence, and stalking, please report it to me and I will connect you to resources, or call the Union College Sexual Assault Resource Hotline at (518) 388-6600 ext. 1 (an advocate is available 24/7 to confidentially explain all available resources and options) or Campus Safety (518) 388-6911.

Union College is committed to promoting a welcoming campus environment where sexual misconduct in all forms is strictly prohibited and recognized as unacceptable. If you (or someone you know) may have been sexually assaulted or subjected to sexual harassment, relationship violence or stalking, there are numerous avenues of support and options you can pursue. Seek help even if you are not sure if sexual misconduct has occurred; Union encourages you to report any form of sexual misconduct. Please visit the Title IX site for more detailed information regarding Union College's Sexual Misconduct Policy and Grievance Procedures.

Other confidential campus resources include Wicker Wellness Center Counseling Center (518) 388-6161 and Health Services (518) 388-6120.

COVID-19 / Other Uncertainties

I understand we live in a world of uncertainties (most recently the COVID-19 pandemic) that may require changes in this course plan. In such a case, I will be monitoring the situation closely. If I need to change the format of the course temporarily due to outbreaks of illness/other, I'll announce this via email and Nexus. We are expected to abide by all current Union College policies and guidance. **Let's all be responsible!**

Recommended Reading

[**NOTE:** This list of readings is *TENTATIVE*. Not all readings in this list will be required readings. Required and supplemental readings for each week will be announced in class and on Nexus]

Recommended Textbooks and other general readings in Environmental Economics

If no have no background in Environmental Economics, the following readings can introduce you into the the key concepts and topics.

Bretschger, L., & Pittel, K. (2020). Twenty key challenges in environmental and resource economics. *Environmental and Resource Economics*, *77*, 725-750.

Fullerton, D., & Stavins, R. (1998). How economists see the environment. *Nature*, *395*(6701), 433-434.

Kolstad, D.C. (2009). *Environmental Economics*. Oxford University Press.

Smith, S. (2011). *Environmental Economics: A Very Short Introduction*. Oxford University Press.

Tietenberg, T. H., & Lewis, L. (2024). *Environmental and natural resource economics*. Routledge.

Papers on Environmental Values

Bengochea Morancho, A. (2003). A hedonic valuation of urban green areas. *Landscape and Urban Planning*, *66*, 35-41.

Bertram, C., & Rehdanz, K. (2015). The role of urban green space for human well-being. *Ecological Economics*, *120*, 139-152.

Bishop, K.C., Kuminoff, N.V., Banzhaf, H.S., Boyle, K.J., von Gravenitz, K., Pope, J.C., Smith, V.K., & Timmins, C.D. (2020). Best Practices for Using Hedonic Property Value Models to Measure Willingness to Pay for Environmental Quality. *Review of Environmental Economics and Policy*, *14*(2), 260-281.

Freeman III, A.M., Herriges, J.A., & Kling, C.L. (2014). Property Value Models (Chapter 10). *The Measurement of Environmental and Resource Values: Theory and Methods*. Routledge.

Gibbons, S., Mourato, S., & Resende, G.M. (2014). The Amenity Value of English Nature: A Hedonic Price Approach. *Environmental Resource Economics*, *57*, 175-196.

Guo, X., Liu, H., Mao, X., Jin, J., Chen, D., & Cheng, S. (2014). Willingness to pay for renewable electricity: A contingent valuation study in Beijing, China. *Energy Policy*, *68*, 340-347.

Hanemann, W.M. (1994). Valuing the Environment Through Contingent Valuation. *The Journal of Economic Perspectives*, *8*(4), 19-43.

Hoyos, D., & Mariel, P. (2010). Contingent valuation: Past, present and future. *Prague economic papers*, *4*(2010), 329-343.

Portney, P.R. (1994). The Contingent Valuation Debate: Why Economists Should Care. *The Journal of Economics Perspectives*, *8*(4), 3-17.

Venkatachalam, L. (2004). The contingent valuation method: a review. *Environmental impact assessment review*, *24*(1), 89-124.

Papers on Environmental Problems: Air Pollution

Bayham, J., Burkhardt, J., Coffman, M., Hayashida, S., & La Croix, S. (2022). Does air pollution increase electric vehicle adoption? Evidence from US metropolitan areas, 2011–2018. *Journal of Environmental Economics and Policy*, *11*(4), 438-462.

Burkhardt, J., Bayham, J., Wilson, A., Carter, E., Berman, J. D., O'Dell, K., ... & Pierce, J. R. (2019). The effect of pollution on crime: Evidence from data on particulate matter and ozone. *Journal of Environmental Economics and Management*, *98*, 102267.

Chay, K. Y., & Greenstone, M. (2003). The impact of air pollution on infant mortality: evidence from geographic variation in pollution shocks induced by a recession. *The quarterly journal of economics*, *118*(3), 1121-1167.

Chen, S., Guo, C., & Huang, X. (2018). Air pollution, student health, and school absences: Evidence from China. *Journal of Environmental Economics and Management*, 92, 465-497.

Dechezleprêtre, A., Rivers, N., & Stadler, B. (2019). *The economic cost of air pollution: Evidence from Europe*. OECD.

Ferreira, S., Akay, A., Brereton, F., Cuñado, J., Martinsson, P., Moro, M., & Ningal, T. F. (2013). Life satisfaction and air quality in Europe. *Ecological Economics*, *88*, 1-10.

Germani, A. R., Scaramozzino, P., Castaldo, A., & Talamo, G. (2021). Does air pollution influence internal migration? An empirical investigation on Italian provinces. *Environmental science & policy*, *120*, 11-20.

Herrnstadt, E., Heyes, A., Muehlegger, E., & Saberian, S. (2021). Air pollution and criminal activity: Microgeographic evidence from Chicago. *American Economic Journal: Applied Economics*, *13*(4), 70-100.

Hospido, L., Sanz, C., & Villanueva, E. (2023). Air pollution: a review of its economic effects and policies to mitigate them. *Banco de España Occasionally Paper*, (2301).

Kuo, P. F., & Putra, I. G. B. (2021). Analyzing the relationship between air pollution and various types of crime. *PLoS one*, *16*(8), e0255653.

Li, S., Liu, Y., Purevjav, A. O., & Yang, L. (2019). Does subway expansion improve air quality?. *Journal of Environmental Economics and Management*, *96*, 213-235.

Lu, J. G. (2020). Air pollution: A systematic review of its psychological, economic, and social effects. *Current opinion in psychology*, *32*, 52-65.

Saberian, S., Heyes, A., & Rivers, N. (2017). Alerts work! Air quality warnings and cycling. *Resource and Energy Economics*, *49*, 165-185.

Sager, L. (2019). Estimating the effect of air pollution on road safety using atmospheric temperature inversions. *Journal of Environmental Economics and Management*, *98*, 102250.

Papers on Environmental Attitudes and Behaviors

Arbuckle, M. B., & Konisky, D. M. (2015). The role of religion in environmental attitudes. *Social Science Quarterly*, *96*(5), 1244-1263.

Babutsidze, Z., Blankenberg, A. K., & Chai, A. (2023). The effect of traditional media consumption and internet use on environmental attitudes in Europe. *Journal of Evolutionary Economics*, *33*(2), 309-340

Davis, L., Garrido, D., & Missura, C. (2023). Inherited Patience and the Taste for Environmental Quality. *Sustainability*, *15*(5), 4038.

Konisky, D. M., Milyo, J., & Richardson, L. E. (2008). Environmental policy attitudes: Issues, geographical scale, and political trust. *Social science quarterly*, *89*(5), 1066-1085.

Kountouris, Y. (2022). Awareness days and environmental attitudes: The case of the "Earth Hour". *Ecological Economics*, *195*, 107367.

Kumar, R. R., & Alok, K. (2020). Adoption of electric vehicle: A literature review and prospects for sustainability. *Journal of Cleaner Production*, *253*, 119911.

Kuzey, C., Fritz, M. M., Uyar, A., & Karaman, A. S. (2022). Board gender diversity, CSR strategy, and eco-friendly initiatives in the transportation and logistics sector. *International Journal of Production Economics*, *247*, 108436.

Lazri, A. M., & Konisky, D. M. (2019). Environmental attitudes across race and ethnicity. *Social Science Quarterly*, *100*(4), 1039-1055.

Li, D., Zhao, L., Ma, S., Shao, S., & Zhang, L. (2019). What influences an individual's pro-environmental behavior? A literature review. *Resources, Conservation and Recycling*, *146*, 28-34.

Millock, K., & Nauges, C. (2010). Household adoption of water-efficient equipment: the role of socio-economic factors, environmental attitudes and policy. *Environmental and Resource Economics*, *46*, 539-565.

Sapci, O., & Considine, T. (2014). The link between environmental attitudes and energy consumption behavior. *Journal of Behavioral and Experimental Economics*, *52*, 29-34.

Torgler, B., & Garcia-Valiñas, M. A. (2007). The determinants of individuals' attitudes towards preventing environmental damage. *Ecological Economics*, *63*(2-3), 536-552.

Ziegler, A. (2017). Political orientation, environmental values, and climate change beliefs and attitudes: An empirical cross country analysis. *Energy Economics*, *63*, 144-153.

Papers on Environmental Markets / Environmental Quality and Policy

Adedoyin, F. F., & Zakari, A. (2020). Energy consumption, economic expansion, and CO2 emission in the UK: the role of economic policy uncertainty. *Science of the Total Environment*, *738*, 140014.

Berrone, P., Fosfuri, A., & Gelabert, L. (2017). Does greenwashing pay off? Understanding the relationship between environmental actions and environmental legitimacy. *Journal of Business Ethics*, *144*, 363-379.

Delmas, M. A., & Gergaud, O. (2021). Sustainable practices and product quality: Is there value in eco-label certification? The case of wine. *Ecological Economics*, *183*, 106953.

Farooq, U., Gillani, S., Subhani, B. H., & Shafiq, M. N. (2023). Economic policy uncertainty and environmental degradation: the moderating role of political stability. *Environmental Science and Pollution Research*, *30*(7), 18785-18797.

Gavriilidis, K. (2021). Measuring climate policy uncertainty. *SSRN, 3847388*.

Hemmerling, S., Hamm, U., & Spiller, A. (2015). Consumption behaviour regarding organic food from a marketing perspective—a literature review. *Organic Agriculture*, *5*, 277-313.

Katare, B., Yim, H., Byrne, A., Wang, H. H., & Wetzstein, M. (2023). Consumer willingness to pay for environmentally sustainable meat and a plant-based meat substitute. *Applied Economic Perspectives and Policy*, *45*(1), 145-163.

Koos, S. (2011). Varieties of environmental labelling, market structures, and sustainable consumption across Europe: A comparative analysis of organizational and market supply determinants of environmental-labelled goods. *Journal of Consumer Policy*, *34*, 127-151.

McCluskey, J. J. (2000). A game theoretic approach to organic foods: An analysis of asymmetric information and policy. *Agricultural and Resource Economics Review*, *29*(1), 1-9.

Yip, C. M. (2018). On the labor market consequences of environmental taxes. *Journal of Environmental Economics and Management*, *89*, 136-152.

Yokessa, M., & Marette, S. (2019). A review of eco-labels and their economic impact. *International Review of Environmental and Resource Economics*, *13*(1-2), 119-163.

Econometrics, STATA and Other Research Resources

Bailey, M.A. (2019) *Real econometrics the right tools to answer important questions*. Oxford University Press.

Dudenhefer, P. (2014) *A Guide to Writing in Economics*. Duke University. https://econ.duke.edu/sites/econ.duke.edu/files/documents/Dudenhefer%2C%20Paul%20-%20Guide%20to%20Writing%20in%20Economics_0.pdf

Greenlaw, S.A. (2006) *Doing Economics*. Houghton Mifflin.

Hacker, D. & Sommers, N. (2020). *A Pocket Style Manual.* Bedford/St. Martins.

Huntington-Klein, N. (2022) The Effect: An Introduction to Research Design and Causality. CRC Press. https://theeffectbook.net/index.html

McCloskey, D. (2019) *Economical Writing*. Chicago Guides to Writing, Editing, and Publishing Series.

Nikolov, P. (2020) Writing Tips for Economics Research Papers. Harvard University. https://dash.harvard.edu/handle/1/11041649

STATA: Free tutorials and materials are countless. I'll provide some on Nexus.

Turabian, Kate L. (2017) *A Manual for Writers of Research Papers, Theses, and Dissertations.* Chicago Guides to Writing, Editing, and Publishing.

Disclaimer: This syllabus, class dynamics, readings and others are subject to change due to College mandates and/or to facilitate instructional and/or students' needs.
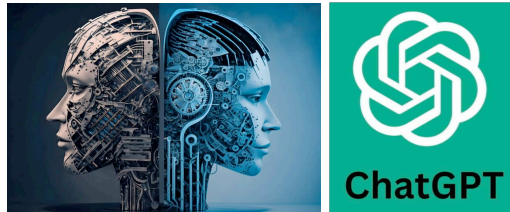
A Note on Artificial Intelligence (AI)

According to Union College's Honor Code, submitting work that is produced by any source, whether it be another person or a technological entity (e.g., AI), and falsely claiming it as your own constitutes an act of academic dishonesty and could result in disciplinary action.

In the context of the research project, inappropriate use of generative AI tools could be classified as any of the following academic violations, as per Union's Honor Code:

- *Plagiarism involves two elements: (1) taking something produced or created by someone else; (2) failing to give proper indication that you have done this.*
- *Falsification of data or evidence is altering or fabricating any information, data, or citation that may mislead those reading an assignment.*

Who hasn't heard about ChatGPT?
[The chatbot that took the internet by storm with a click!]

While ChatGPT can *miraculously* write a full-length essay with you just commanding it with a single-line prompt, it isn't quite there when it comes to writing a research paper. ChatGPT has a few limitations that are pretty important:

- ChatGPT doesn't provide you with actual sources when it writes something. If you copy from ChatGPT word-for-word, you'll likely end up plagiarizing another source.
- ChatGPT gets its information from a variety of sources, and not all of them are accurate. Moreover, it is incapable of distinguishing between correct and incorrect information.
- ChatGPT can have some issues understanding the vocabulary that is very specific to narrow subject or context.
- ChatGPT may not be up to date.

As outlined by Union College's Honor Code, **ALL WORK in your course assignments and assessments must be YOUR OWN!** and any sources that contribute to your work must be properly acknowledged and cited. Failure to do so will be considered a violation of the honor code.

While working on your research project, you may use ChatGPT (other generative AI tool) **ONLY (and only)** for:

- **Brainstorming ideas**: If you are struggling to find a topic/approach for your paper, ChatGPT can help by gathering information on the topic and by generating new ideas or suggesting different angles to explore.
- **Proofreading:** You can use ChatGPT to proofread and check your paper's grammar, writing style and errors.