

CSc 59867: Senior Project II

AI Agents for Decision Making in the Real World

Time: Fall 2026, Mon/Wed 2:00p-3:15p

Prof: Saptarashmi Bandyopadhyay

Office Hours: 4 pm - 5 pm Monday NAC 8/206D

Email: sbandyopadhyay@ccny.cuny.edu

Room: SH-205

TA: N/A

Course Description

Artificial Intelligence (AI) Agents are autonomous systems that can take reasonable actions, be it in the virtual or the real world. The class objective of Senior Project II is to scale up from simulation and prototype phase of research and development in Senior Project I to design and implement at a significant scale Agentic Machine Learning Algorithms in Senior Project II that allow AI to observe their environment, take an action that impacts the environment, and find qualitative and quantitative approaches (including receiving environmental feedback) to evaluate the goodness of the AI's decision making.

Students will be training and building Physical and Virtual Multimodal AI Agents (e.g., Large Language Models or LLM Agents, Audio-Vision-Language Models or AVLM Agents, Robotic Agents, Scientific Discovery Agents, Design and Synthesis Agents, Autonomous Transportation Agents, AR/VR/XR Agents, Scientific Discovery Agents, Energy Orchestrator Agents, Autonomous Vehicle Agents, Financial Trading/Supply Chain Agents, Agents that orchestrate Hardware Architectures/Systems/Networks and other Multimodal AI Agents) in this research project-oriented course.

The Senior Project II course will strengthen the research and development of AI Agents building on the fundamental introductions from Senior Project I about training, finetuning, and inferencing of AI Agents on existing training datasets and environments. Students will learn how to expand these fundamental concepts in the active learning exploration, continual learning, and have prototype AI Agents, models, environments and datasets published in a report with open-source accessibility, having appropriate licensing. Students will not just implement systems but will also explore algorithms and theory behind those systems to address fundamental questions like how can we make the AI Agents data efficient/energy efficient/robust/generalizable among other interdisciplinary questions for Research and Development. Students will build on their learning to decide when to do single-agent vs multi-agent learning or when to do multi-processing/distributed processing and when not to do it. The class will introduce to students real-world problems which can be often solved simply with counterfactual design, parametric harmonization, autonomous exploration algorithms, methods which students will explore. This involves an insight of how AI Agents balance their autonomous decision making capabilities with system parameters like latency, energy utilization, water and cooling, network bandwidth utilization, chip utilization, real-time execution, standardization, reliability and effective job prioritization with queuing among other computing parameters.

If a team chooses a Scientific Discovery project (e.g., utilizing massive databases like the Protein Data Bank or UniProt), it is required that at least one team member requests and utilizes the Empire AI cluster due to the massive compute and storage requirements.

Research Skills, Focus and Expectations

Students will be taught the fundamentals on how to do good research in AI Agents, starting from how to read research papers to understanding inputs, outputs and metrics for Research and Development (R&D) of AI Agents. Students will be taught AI Agent Algorithms from Deep Reinforcement Learning (RL), Multi-Agent RL, Imitation Learning, Self-Supervised Learning, Computational Game Theory, Model Predictive Control, Continual Learning and Evolutionary Learning. An important skill for students will be to deploy Efficient AI Agent models (either quantized, compressed or with any new innovative approach) which will have lesser parameters but can serve AI capabilities like planning, reasoning, task manipulation and navigation well while performing better in computing system parameters. Students are expected to develop an open-source code base, preliminary prototype Demo and write a high quality research paper report on their findings.

Coding Skills

Students are expected to have reasonable skills in Python programming (either from coursework or self-taught); but more importantly, show openness to learn quickly in picking up new AI skills, be it in Programming or Research, and demonstrate sincere eagerness and enthusiasm in how AI can be trained to make real-world decisions. Students will be picking up the skills to write efficient AI Agents code, be it with single processing, multiple processing or modern distributed computing, as appropriate. As a part of the Demo, students may learn new programming languages like JAX, or Kotlin, based on their relevant project. Students will also be learning good coding documentation and testing skills including writing unit tests.

Course Outcomes

The second semester (Fall 2026) will focus on implementation and scale up the basics of training, finetuning, and inferencing of AI Agents.

- **Theoretical & Algorithmic Capabilities:** Students will look beyond probability generation to master algorithms that take action. Focus areas include Multi-Agent Reinforcement Learning (MARL), Proximal Policy Optimization (PPO), Imitation Learning, and Computational Game Theory.
- **Real-World Applications:** Students will apply agents to solve complex physical and logistical problems, such as Climate Conservation, Supply Chain Orchestration, Stock Portfolio Orchestration, Smart Grid Energy Management, Autonomous Transportation, Robotic Agents, Next Gen Networks and Systems, along with Scientific Discovery.
- **Efficiency & Distributed Systems:** Students will learn to build distributed AI that is low-energy, low-latency, and memory-efficient to ensure agents are deployable on edge devices (e.g., smart glasses, robots) rather than just functioning as "toys" in simulation.

Project Deliverables: Students are expected to develop an open-source code base, a preliminary prototype Demo at the end of CSc 59867-E, and write a research report on their findings.

Attendance: Attendance in-class is recommended. There will be an in-class participation grade. Should any circumstances arise, please email the Professor as soon as possible. The course is outcome-driven.

- If students must miss class for job interviews or higher education events, they can notify the professor in advance to have their participation grade for that day waived.

Alternate Class Formats: If the professor is away for essential conferences or grant obligations, he will provide recorded lectures, host a Zoom classroom, or schedule an alternate class day so instruction is not affected.

Free TextBooks, Open-Source Coding & Relevant Resources

– Recommended Open-Source Resources on the HuggingFace platform

1. Deep RL: [Introduction to Reinforcement Learning](#)
2. AI Agents: [Tool use and Planning](#)
3. Robotics: [Robotics Course](#)
4. Post-Training: [Finetuning](#)

– Free Text Books

1. Parallel and Distributed Computation: Numerical Methods by Dimitri P. Bertsekas and John N. Tsitsiklis, 2018 <https://web.mit.edu/dimitrib/www/pdc.html>
<http://www.athenasc.com/pdcbook.pdf>
2. Rollout, Policy Iteration, and Distributed Reinforcement Learning by Dimitri P. Bertsekas, 2020
https://web.mit.edu/dimitrib/www/dp_rollout_book.html +
https://web.mit.edu/dimitrib/www/Rollout_Complete%20Book.pdf
3. Multi-Agent Reinforcement Learning Book by Stefano Albrecht, 2024
<https://www.marl-book.com/#download>
4. Reinforcement Learning by Dimitri P. Bertsekas, 2025 and 2019 (including video lectures)
<https://web.mit.edu/dimitrib/www/RLbook.html> +
<https://web.mit.edu/dimitrib/www/RLbook.html>
5. Deep Learning by Ian Goodfellow, 2012 <https://www.deeplearningbook.org/>
6. An Introduction to Multi-Agent Systems by Michael Wooldridge, 2001
https://uranos.ch/research/references/Wooldridge_2001/TLTK.pdf
7. 6G Flagship Book, 2023
<https://www.6gflagship.com/news/unveiling-the-digital-horizon-new-book-on-5g-6g-and-future-digital-services-released/>
8. Selected open-source research papers will be provided by the Professor

– Open-Access JAX Learning Resources

1. JAX 101 Tutorial <https://docs.jax.dev/en/latest/jax-101.html>
2. JAX Tutorials (including JAX 201 and JAX 301)
https://docs.jax.dev/en/latest/_tutorials/index.html
3. JAX Documentation
<https://docs.jax.dev/en/latest/jax.html?spm=a2c6h.13046898.publish-article.21.6f9f6ffaIymbyj>
4. JAXMARL <https://github.com/FLAIROx/JaxMARL>

– Open-Source LaTeX Coding Resources for Report Writing

1. LaTeX tutorial on Overleaf https://www.overleaf.com/learn/latex/Learn_LaTeX_in_30_minutes
2. TeXStudio https://texstudio-org.github.io/getting_started.html

– Open-Source Coding Resources

1. HuggingFace Transformers coding library <https://huggingface.co/docs/transformers/en/index>
2. PyTorch Lightning
 - a. Lightning <https://lightning.ai/docs/pytorch/stable/>
 - b. Lightning's github repository <https://github.com/Lightning-AI/pytorch-lightning>
 - c. Pypi package <https://pypi.org/project/pytorch-lightning/>
3. Gymnasium coding library

- a. Gymnasium on Farama <https://gymnasium.farama.org/index.html>
 - b. Farama's github repository <https://github.com/Farama-Foundation/Gymnasium>
4. Python multiprocessing coding library <https://docs.python.org/3/library/multiprocessing.html>
5. HuggingFace Deep Reinforcement Learning Materials
<https://huggingface.co/learn/deep-rl-course/en/unit0/introduction> Github:
<https://github.com/huggingface/deep-rl-class>
6. HuggingFace AI Agents Materials
<https://huggingface.co/learn/agents-course/en/unit0/introduction> Github:
<https://github.com/huggingface/agents-course>

– Open-source Unit Testing Resources

1. Python unittest package <https://docs.python.org/3/library/unittest.html>
2. Python pytest package <https://pytest.org/>

– Background

1. Probability: Introduction to Probability for Computing by Mor Harchol Balter, 2024
<https://www.cs.cmu.edu/~harchol/Probability/chapters/HarcholBalterWholeBook.pdf>
2. Mathematics for Machine Learning by Marc Peter Deisenroth, A. Aldo Faisal, Cheng Soon Ong, 2020
<https://mml-book.github.io/book/mml-book.pdf>
3. Convex Optimization for Statistics and Machine Learning, Volume 1: Analysis by Ryan Tibshirani 2025
<https://github.com/ryantibs/convexopt-book1/blob/main/book1.pdf>
4. An Introduction to Statistical Learning with Python by Garreth James, Daniela Witten, Trevor Hastie, Robert Tibshirani, 2023
<https://www.statlearning.com/>

– Empire AI Compute Access

1. Students whose research projects require high-performance computing will be granted access to the state's Empire AI cluster (featuring state-of-the-art B200 GPUs). To request access, students must provide me with their phone number, personal Gmail, and CUNY email address. This information will be forwarded to the CUNY HPCC director, who will send an SMS text for verification; students must validate this text within 24 hours.

– Google Colaboratory Set-Up for Assignments and Projects

– You can run the Jupyter Notebook for Coding Assignments and Projects.

1. The easiest way to run these accounts is creating a gmail account quickly with your name (student_name)@gmail.com as Google Colab offers free compute on Cloud to run experiments
2. If you want to install Jupyter locally (local installation is not mandatory as Colab is easy to write development code on), follow the steps here <https://docs.jupyter.org/en/latest/running.html>

Feedback and Communication:

Student feedback is always welcome. If you are confused, have questions, have any insights, or are excited by some topic in class, you are always welcome to share it in class, in office hours or via email. Prompt communication is always encouraged so that students can get help quickly.

Tentative Course Schedule (Fall 2026)

The course schedule for the class (subject to revision) provides class topics and due dates. All slides will be uploaded to the website within a few days to a week after class. All submissions are due on the mentioned date in the table at 11:59 pm ET (Eastern Time).

Specific subtopics discussed in a class will be mentioned in the syllabus to help students revise during exams and to help them in their class projects.

All slides will be uploaded to the website within a few days to a week after class.

<u>DATE</u>	<u>TOPIC</u>	<u>Due Dates</u> (<u>Assignments/Project</u> <u>outcomes</u>)
Aug 31	Introduction: Implementing AI Agents in the Real and Virtual World	
Sep 2	Scientific Discovery and Autonomous Task Exploration	
Sep 7	Labor Day Holiday at CCNY, CUNY	
Sep 9	Transitioning from Prototyping to Implementation: Expanding Algorithms to Real-World Scale	
Sep 14	System-Level Parameters: Optimizing Latency, Memory Inflation, and Network Bandwidth	
Sep 16	System-Level Parameters: Energy Utilization, Smart Grids, and Power Infrastructure	In-Class Classwork 1
Sep 21	No Classes Scheduled (Fall Recess)	
Sep 23	Counterfactual Design, Active Learning, and Autonomous Exploration	
Sep 28	Advanced Topics: Scientific Agents, Design, and Synthesis Agents	
Sep 30	Advanced Topics: Biomaterials, Cellular Biology Simulations, and Disease Modeling	
Oct 5	Advanced Topics: Financial Agents, Stock Portfolio Orchestration, and Trading	
Oct 7	Advanced Topics: Real-World Supply Chain Logistics and Orchestration	

Oct 13 (Follows Monday Schedule)	Advanced Topics: Drone Swarms, Autonomous Vehicles, and Transportation Advanced Topics: Augmented Reality (AR/VR/XR) and Hardware Agents	
Oct 14	New Developments: Quantum Control Mechanisms and Non-Deterministic AI	
Oct 19	Navigating Open-Ended Problems, Establishing New Metrics, and Reliability	Bi-Weekly Research Project Update 1 Due on Oct 19
Oct 21	MidTerm Exam Project Presentations (Part I)	MidTerm Exam Project Presentation (with 1-page report) Due
Oct 26	MidTerm Exam Project Presentations (Part II)	
Oct 28	Scaling Up: Distributed Processing and B200 GPU Utilization on Empire AI	
Nov 2	Guest Lecture: Perspectives from Industry and Big Tech	Bi-Weekly Research Project Update 2 Due on Nov 2
Nov 4	Guest Lecture: Perspectives from Academia, National Labs, and Defense	
Nov 9	Troubleshooting Implementations: Overcoming the "Moravec's Paradox" in Robotics	
Nov 11	Trust and Alignment: Preventing Reward Hacking and Pathological Agent Optimizations	Hand-Written Research Paper Review 2 Due on Nov 11
Nov 16	Open-Source Licensing, Hugging Face Integration, and Deployment Strategies	Bi-Weekly Research Project Update 3 Due on Nov 16
Nov 18	Future Horizons: Interstellar Internet and Advanced Sensing Networks	

Nov 23	Hands-On Coding Lab / Project Troubleshooting	
Nov 25	No Classes Scheduled (Thanksgiving Recess)	
Nov 30	Finalizing 8-Page Research Reports and LaTeX Formatting	Bi-Weekly Research Project Update 4 Due on Nov 30
Dec 2	Course Wrap-up: Preparing for Job Interviews, Graduate School, and Academic Milestones	
Dec 7	Final Project Troubleshooting and Presentation Prep	
Dec 9	Final Exam Class Research Project Presentations (Part I)	Bi-Weekly Research Project Update 5 Due on Dec 9
Dec 14	Final Exam Class Research Project Presentations (Part II)	Final Presentations and Code Due. Attendance is mandatory for all students.
Dec 15–21	Final Exam Week Class Research Project Report	Final Project Report (8-pages) and Final Code Due on Final Exam Week (Specific Date TBA)

– **Late Policy**

– Delays in Assignment submission will lead to a deduction of 10% every day the assignment is delayed leading to a 0 if assignment is submitted 10 days after submission deadline. If an assignment is out of 100, a delayed submission will lead to a grade out of 90 points on Day 1, 80 points on Day 2 and so on.

– **Recommendations on Assignment Submission**

– My recommendation is to start and submit the assignments early, so that if you have questions, you can email me, come to my office hours, or ask me in class.

PLEASE SUBMIT ASSIGNMENTS EARLY

PLEASE REVISE YOUR ASSIGNMENTS AND PROJECTS THOROUGHLY

– Grading Structure

- Classwork Assignments (20%)
 - Classwork will consist of programming tasks and theoretical pen and paper exams will be graded during a break in class.
 - The sum of all classwork assignment scores (theory and programming) will be weighted to generate a score out of 20
 - This grades includes coding new problems and debugging existing coding problems in class
 - Assignments will be individual/group-based submissions as announced by the Professor
- Bi-Weekly Research Progress Update (15%)
 - Students will submit a brief summary (1 to 2 page report) of their research project progress, including coding updates, report writing updates, brainstorming, etc.
 - Students have to clearly outline their individual research tasks as well as their tasks jointly done in a group
- Classroom Participation (12%)
 - Classroom Questions In-Person (1% in each class during interactions, maximum of 12 classes)
- Group Project (53%)
 - 1 page project abstract (5%)
 - MidTerm Exam Project Presentation (7%)
 - A simple one-page report must accompany the midterm presentation
 - Final Exam Project Presentation (10%)
 - Final Exam Project Report (31%)
 - For the Finals grade, students have to submit clear assignment deliverables in the form of
 - open-source documented code
 - an 8 page single-column project report in LaTeX following the template from this [style file](#)
 - Any additional diagrams can be put in the Appendix outside the 8 page limit
 - References are to be provided after the 8 pages, providing citations in the project report
 - If any group of students are facing challenges with LaTeX based report writing, they should contact the Professor immediately for alternative templates
 - and presentation slides with visualizations
 - Provide the open-source code links in your reports with appropriate licensing

NOTE: The grading is designed to encourage student learning and participation and address challenges from Generative AI with in-class learning, regular updates, classroom participation and project presentation.

– How to Read Research Papers:

Research in this class must be efficient. You are expected to skim papers first to avoid "rabbit holes" (spending hours on a paper without understanding it). Follow this protocol for every paper:

1. **Abstract (5 mins):** Identify the specific weakness in existing methods and the proposed solution. Make scratchpad notes immediately.
2. **Conclusion & Future Work (4 mins):** Look for the quantitative results backing the solution. Note the authors' self-admitted weaknesses and future work suggestions—these are opportunities for your own project.
3. **The Decision:** If the paper is relevant, go back and read the Methods/Algorithms and Results sections (>5 mins).

Identify "Pillar Papers": For your specific project, you must identify a few "Pillar Papers." These are the core papers describing the system you are improving or the main weakness you are addressing. Once approved by the Professor, these must be read thoroughly.

– Recommended Reading List (Non-sequential; **Simulated Environments & Agents**)

- [JAXMARL \(NeurIPS 2024\)](#): Simulated environments for AI Agent capabilities.
- [Social Intelligence](#): Imitation Learning and Population-based learning (AAMAS/ACM).
- [Multimodal Model Predictive Control](#): Self-Driving Cars and Autonomous Transportation
- [YETI \(2025\)](#): Proactive Agency and Multimodal Efficiency in AR/VR/XR.
- [Multi-Agent LLM Debate \(ICML 2024\)](#) – Using agentic debate to improve factual accuracy and reasoning capabilities
- [AI Agents for K-12 Interactive Visualization](#) – Education
- [Factored NMT and NLRG Backtranslation](#) – Efficiency (Training with less data)..

– Research Applications of AI Agents in the Real World

- 🕶️ Autonomous Assistance with Augmented Reality/XR/VR/MR Agents
- 🤖 Robotic Planning, Reasoning and Task Manipulation at Scale
- 🚗 Autonomous Transportation Navigation with Self-Driving Cars and Drones
- 🚚 Supply Chain Planning and Orchestration
- 📈 Stock Portfolio Optimization
- 🔋 Efficient Energy usage in Power Grid / Building / Battery Systems
- 🧬 Scientific Discovery accelerating protein and material design,
- 🧠 Quantum Neuroscientific Modeling for the Artificial Brain,
- 🛰️ Autonomous Satellite correction in Astrophysical Systems with interplanetary Internet,
- 🧩 Explainable AI to improve user experience in Recommender Systems
- ☐ Multi-Agent AI Guided Chip Design,
- 🌳 AI Agents Guiding Climate Conservation,
- 🧑🔬 AI Agents for Biomedical Discovery to assist disease cure,
- 🏈 AI Agent Coaches for Sports Strategizing
- 🏗️ AI for Infrastructure Design, Building, Maintenance
- 🏋️ AI Agents for Fitness and Health Guidance

-  AI Agents for Building Engineering and Consultancy,
-  Multi-Agent AI driven Energy Management System for Reliable Power Grid Orchestration,
-  AI Agents Designing Hybrid Battery Systems for Energy Storage
- ☐ AI Agents for Solving Board Games

Further insights on AI Agents and Real-World Applications can be found [here](#).

– Publication Targets

High-quality class projects should aim for submission to:

- Short-term: ACL, CVPR, and CHI Workshops among other workshops
- Long-term: NeurIPS, IROS, NAACL, CoRL, and other conferences and journals

– Collaboration Policy

Each student in the team has to clearly outline their individual research tasks as well as their tasks jointly done in a group for their projects in the six Research Progress Update assignment submissions. Every assignment will be clarified by the Professor about whether they are individual or group submissions in the assignment description. Within 1 team, each of the two students are expected to functionally collaborate. Across teams, students can discuss their project ideas in class, office hours, or midterm exam review while maintaining their unique innovation in their respective projects. Students have to ensure they are clearly following class policies.

– Research Project Feasibility Updates

The students should follow and update the specifics in their project based on the Professor's feedback in updating their project feasibility, specially from the Project Abstract, Midterm Review and six Research Progress Update assignments. Research Topics will initially be assigned by the Professor. If students would like to change the topics, they need to speak with the Professor within 1 week of topic assignment.

– GenAI Policy

1. Generative AI can hallucinate (lie) to user prompts. You are responsible for any statements in your submissions, which will be judged based on whether they are true. You are accountable and liable to Generative AI usage. If Generative AI makes a mistake and you used the mistaken statement, you will be penalized for using the wrong statement.
2. You are allowed to use Generative AI during class homework and projects (NOT IN EXAMS) subject to:
 - a. Usage of Generative AI should be done similar to how you search Online (e.g. Google)
 - b. Cite any Generative AI transcripts/links that you have referred to in your assignments and projects
 - c. Do not use Generative AI outputs verbatim!
 - d. Rewrite RELEVANT PARTS of Generative AI outputs in your own words! Every written letter in your submissions must be your own.

- e. AI Detectors: I will not use AI detectors to evaluate student work. AI detectors are unreliable and create an incentive for students to use additional tools to humanify their text. Instead, I will use other methods to ensure students thoroughly understand their work.

– **CUNY CCNY Resources**

- Accessibility <https://www.ccny.cuny.edu/accessability>
- Health and Wellness <https://www.ccny.cuny.edu/health-wellness>
- Student Affairs <https://www.ccny.cuny.edu/studentaffairs>
- Counseling Center <https://www.ccny.cuny.edu/counseling>
- Writing Center <https://www.ccny.cuny.edu/writing>
- IT Resources [ccny.cuny.edu/it/services-students](https://www.ccny.cuny.edu/it/services-students)
- Athletics and Campus Fitness <https://www.ccny.cuny.edu/studentaffairs/recreation-schedule>
- Zahn Innovation Center for Entrepreneurship <https://www.ccny.cuny.edu/zahn>
- Career and Professional Development Institute <https://www.ccny.cuny.edu/cpdi>
- MS Resources <https://www.ccny.cuny.edu/admissions/graduate-studies-application>
- PhD Resources <https://www.gc.cuny.edu/admissions-aid/how-apply> and <https://welcome.gc.cuny.edu/apply/>
- PhD Research <https://www.gc.cuny.edu/computer-science/faculty-and-committees>
- Interuniversity Doctoral Consortium <https://www.gc.cuny.edu/academics/programs/interuniversity-doctoral-consortium>

– **University Policies**

– CUNY Academic Integrity Policy

<https://www.cuny.edu/about/administration/offices/legal-affairs/policies-resources/academic-integrity-policy/>

Academic dishonesty is prohibited in The City University of New York. Penalties for academic dishonesty include academic sanctions, such as failing or otherwise reduced grades, and/or disciplinary sanctions, including suspension or expulsion.

<https://www.cuny.edu/about/administration/offices/legal-affairs/policies-resources/academic-integrity-policy/>

Academic integrity is at the core of a college or university education. Faculty assign essays, exams, quizzes, projects, and so on both to extend the learning done in the classroom and as a means of assessing that learning. When students violate the academic integrity policy (i.e., “cheat”), they are committing an act of theft that can cause real harm to themselves and others including, but not limited to, their classmates, their faculty, and the caregivers who may be funding their education. Academic dishonesty confers an unfair advantage over others, which undermines educational equity and fairness. Students who cheat place their college’s accreditation and their own future prospects in jeopardy.

1. Definitions and Examples of Academic Dishonesty.

1. **Cheating** is the unauthorized use or attempted use of material, information, notes, study aids, devices, artificial intelligence (AI)

systems, or communication during an academic exercise. Example of cheating include:

1. Copying from another person or from a generative AI system or allowing others to copy work submitted for credit or a grade. This includes uploading work or submitting class assignments or exams to third party platforms and websites beyond those assigned for the class, such as commercial homework aggregators, without the proper authorization of a professor. Any use of generative AI tools must be in line with the usage policy for specific assignments as defined in the course of the syllabus and/or communicated by the course instructor.
2. Using artificial intelligence tools to generate content for assignments or exams, including but not limited to language models or code generators, without written authorization from the instructor.
3. Unauthorized collaboration on assignments or examinations.
4. Taking an examination or completing an assignment for another person or asking or allowing someone else to take an examination or complete an assignment for you, including exams taken on a home computer.
5. Submitting content generated by another person or an AI tool or any other source as solely your own work as your own, including, but not limited to, material obtained in whole or in part from commercial study or homework help websites, or content generated or altered by AI or digital paraphrasing tools without proper citation.
6. Fabricating and/or falsifying data (in whole or in part).

7. Giving assistance to acts of academic misconduct/dishonesty.
8. Altering a response on a previously graded exam or assignment and then attempting to return it for more credit or a higher grade without permission from the instructor.
9. Submitting substantial portions of a paper or assignment to more than one course for credit without permission from each instructor.
10. Unauthorized use during an examination of notes, prepared answers, or any electronic devices such as cell phones, computers, smart watches, or other technologies to copy, retrieve, generate or send information.

2. **Plagiarism** is the act of presenting ideas, research or writing that is not your own as your own. Examples of plagiarism include:

1. Copying another person's or an AI tool's actual words or images without the use of quotation marks and citations attributing the words to their source.
2. Presenting another person's ideas or theories in your own words without acknowledging the source.
3. Failing to acknowledge collaborators on homework and laboratory assignments.
4. Internet plagiarism, including submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, or "cutting & pasting" from various sources without proper attribution.
5. Unauthorized use of AI-generated content; or use of AI-generated content, whether in whole or in part, even when paraphrased, without citing the AI as the source.

3. **Obtaining Unfair Advantage** is any action taken by a student that gives that student an unfair advantage in his/her academic work over another student, or an action taken by a student through which a student attempts to gain an unfair advantage in his or her academic work over another student. Examples of obtaining unfair advantage include:

1. Stealing, reproducing, circulating or otherwise gaining advance access to examination materials.
2. Depriving other students of access to library materials by stealing, destroying, defacing, or concealing them.
3. Retaining, using or circulating examination materials which clearly indicate that they should be returned at the end of the exam.
4. Intentionally obstructing or interfering with another student's work.

5. **Falsification of Records and Official Documents**

Examples of falsification include:

1. Forging signatures of authorization.
2. Falsifying information on an official academic record.
3. Falsifying information on an official document such as a grade report, letter of permission, drop/add form, ID card, or other college document.
4. Falsifying medical documentation that has a bearing on campus access or the excuse of absences or missed examinations and assignments.

2. **Methods for Promoting Academic Integrity**

1. The CUNY Policy on Academic Integrity, and, if applicable, the college's procedures for implementing the Policy, shall be posted to each college's website with a link provided in the Learning Management System (LMS) shell. It is recommended that the link also be included in each course syllabus. Orientation sessions for all

new faculty (full- and part-time) and students shall incorporate a discussion of academic integrity.

2. All college catalogs, student handbooks, faculty handbooks, and college websites shall include the CUNY Policy on Academic Integrity and, if applicable, college procedures implementing the policy and the consequences of not adhering to the Policy.
3. Each college shall subscribe to an electronic plagiarism detection service and shall notify students of the fact that such a service is available for use by the faculty. Colleges shall make faculty aware of the availability of such services and faculty should inform students of their use.

3. Reporting

1. Each college's president shall appoint an Academic Integrity Officer in consultation with the elected faculty governance leadership. The Academic Integrity Officer shall serve as the initial contact person with faculty members when they report incidents of suspected academic dishonesty. The Academic Integrity Officer may be the college's Student Conduct Officer, another student affairs official, an academic affairs official, or a tenured faculty member. Additional duties of the Academic Integrity Officer are described in Sections 4.1., 4.2.1., 4.2.2., 4.3 and 4.4.
2. A faculty member who suspects that a student has committed a violation of the CUNY Academic Integrity Policy shall review with the student the facts and circumstances of the suspected violation whenever feasible. Thereafter, a faculty member who concludes that there has been an incident of academic dishonesty sufficient to affect the student's final course grade shall report such incident on a Faculty Report Form in substantially the same format as the sample annexed to this Policy and shall submit the Form to the college's Academic Integrity Officer, copying his/her Department Chair. Each college shall use a uniform form throughout the college, which shall contain, at a minimum, the name of the instructor, the name of the student, the course name and number, the date of the incident, an explanation of the incident and the instructor's contact information. All instances of academic dishonesty that are reported to the

Academic Integrity Officer shall be recorded for documentation and tracking purposes.

3. The Academic Integrity Officer shall update the Faculty Report Form after a suspected incident has been resolved to reflect that resolution. Unless the resolution exonerates the student, as described in Section 4.4, the Academic Integrity Officer of each college shall place the Form in a confidential academic integrity file created for each student alleged to have violated the Academic Integrity Policy and shall retain each Form for the purposes of identifying repeat offenders, gathering data, and assessing and reviewing policies. Unless they exonerate the student, written decisions on academic integrity matters after adjudication also shall be placed in the student's academic integrity file. The Academic Integrity Officer shall be responsible for maintaining students' academic integrity files.

4. Procedures for Imposition of Sanctions

1. Determination on academic vs. disciplinary sanction.

The Academic Integrity Officer shall determine whether to seek a disciplinary sanction in addition to an academic sanction. In making this determination, the Academic Integrity Officer shall consult with the faculty member who initiated the case and may consult with student affairs and/or academic affairs administrators as needed. Before determining which sanction(s) to seek, the Academic Integrity Officer also shall consult the student's confidential academic integrity file, if any, to determine whether the student has been found to have previously committed a violation of the Academic Integrity Policy, the nature of the infraction, and the sanction imposed or action taken. Prior violations include both violations at the student's current college and violations that occurred at any other CUNY college. In making the determination on prior violations, the Academic Integrity Officer shall determine whether the student previously attended any other CUNY college and, if so, shall request and be given access to the academic integrity file, if any, at such other CUNY college.

The Academic Integrity Officer should seek disciplinary sanctions

only if (i) there is a substantial violation; (ii) the student has previously violated the Policy; or (iii) academic sanctions may not be imposed because the student has timely withdrawn from the applicable course. Examples of substantial violations include but are not limited to: forging a grade form or a transcript; stealing an examination from a professor or a university office; having a substitute take an examination or taking an examination for someone else; having someone else write a paper for the student or writing a paper for another student; generating entire assignments or exam responses using AI without authorization, sabotaging another student's work through actions that prevent or impede the other student from successfully completing an assignment; and violations committed by a graduate or professional student or a student who will seek professional licensure. The college also should consider any mitigating circumstances in making this determination.

2. Procedures in Cases Involving Only Academic Sanctions.

1. Student Admits to the Academic Dishonesty and Does Not Contest the Academic Sanction.

If a faculty member wishes to seek only an academic sanction (i.e., a reduced grade) and students do not contest either their guilt or the particular reduced grade the faculty member has chosen, then the student shall be given the reduced grade, unless the Academic Integrity Officer decides to seek a disciplinary sanction. The reduced grade may apply to the particular assignment as to which the violation occurred or to the course grade, at the faculty member's discretion. A reduced grade may be an "F" or another grade that is lower than the grade that the student would have earned but for the violation. The faculty member shall inform the Academic Integrity Officer of the resolution via email and the Officer shall update the applicable Faculty Report Form to reflect that resolution.

2. Student Admits to the Academic Dishonesty but
Contests the Academic Sanction.

In a case where a student admits to the alleged academic dishonesty but contests the particular academic sanction imposed, the student may appeal the academic sanction through the college's grade appeal process. The student shall be allowed, at a minimum, an opportunity to present a written position with supporting evidence. The committee reviewing the appeal shall issue a written decision explaining the justification for the academic sanction imposed.

3. Student Denies the Academic Dishonesty

In a case where a student denies the academic dishonesty, a fact-finding determination shall be made, at each college's option, by an Academic Integrity Committee established by the College's governance body or by the Student-Faculty Disciplinary Committee established under Article XV of the CUNY Bylaws. Each college's Academic Integrity Committee shall adopt procedures for hearing cases. (If a college opts to use its Student-Faculty Disciplinary Committee for this purpose, that Committee shall use Article IX procedures.) These procedures, at a minimum, shall provide students with (i) written notice of the charges against them; (ii) the right to appear before the Committee; and (iii) the right to present witness statements and/or to call witnesses. Those procedures also shall provide the faculty member with the right to make an appearance before the Committee and/or present supporting documents. The Committee may request the testimony of any witness and may permit any such witness to be questioned by the

student and by the administrator presenting the case. Academic Integrity Committees and Student-Faculty Disciplinary Committees, as applicable, shall issue written decisions and send copies of their decisions to the college's Academic Integrity Officer. The Academic Integrity Officer may not serve on a college's Academic Integrity Committee.

3. Procedures in Cases Involving Disciplinary Sanctions.

If the college decides to seek a disciplinary sanction, the case shall be processed under Article XV of the CUNY Bylaws. If the case is not resolved through mediation under Article XV, it shall be heard by the college's Faculty-Student Disciplinary Committee.

If the college seeks to have both a disciplinary and an academic sanction imposed, the college shall proceed first with the disciplinary proceeding and await its outcome before addressing the academic sanction. The student's grade shall be held in abeyance by using the PEN grade established for this purpose, pending the Committee's action. If the Faculty-Student Disciplinary Committee finds that the alleged violation occurred, then the faculty member may reflect that finding in the student's grade. The student may appeal the finding in accordance with Article XV procedures and/or may appeal the grade imposed by the faculty member in accordance with section 4.2.2. If the Faculty-Student Disciplinary Committee finds that the alleged violation did not occur, then no sanction of any kind may be imposed.

Where a matter proceeds to the Faculty-Student Disciplinary Committee, the Academic Integrity Officer shall promptly report its resolution to the faculty member and file a record of the resolution in the student's confidential academic integrity file, unless, as explained below, the suspected violation was held to be unfounded.

4. Required Action in Cases of No Violation

If either the Academic Integrity Committee or the Faculty- Student Disciplinary Committee finds that no violation occurred, the Academic Integrity Officer shall remove all material relating to that

incident from the student's confidential academic integrity file and destroy the material.

5. Implementation

Each college shall implement this Policy and may adopt its own more specific procedures to implement the Policy. Colleges' procedures must be consistent with the policy and procedures described in the Policy. **CUNY BOT adopted a revised "Policy on Academic Integrity" on June 27, 2011, which went into effect on July 1, 2011 (6.27.2011.Cal.5.L). Amended and replaced on June 27, 2022. (6.27.2022. No. 4.F.)**

EXPLANATION Revision to the 2022 Academic Integrity Policy is necessary because the current policy does not address the advent of Artificial Intelligence and its use by students at CUNY. Preparing students to learn from and use AI responsibly and ethically is critical to the University's mission, to ensuring academic integrity, to securing the rigor of the University's academic programs. Further, students must become facile with the use of AI to learn effectively in today's world and to prepare for their AI-assisted careers and lives in the future.