ARTIFICIAL INTELLIGENCE (GABELLI GRADUATE) (AIGB)

AIGB 6200. Python Proficiency. (0 Credits)
The Python Proficiency course assesses the competence of using the Python programming language effectively. Students need to demonstrate proficiency in Python programming, including syntax, logic, algorithmic thinking, and ability to write standalone Python programs.

AIGB 6201. Python for AI Bootcamp. (1 Credit)
Python is an essential tool for artificial intelligence. The Python Bootcamp course is an online course that provides an introduction with hands-on practices for Python programming. Students will learn fundamental syntax, logic, data manipulation, application of Python code, and algorithmic thinking.

AIGB 6205. Artificial Intelligence. (3 Credits)
The goal of this course is to acquaint you with the objectives and methods of researchers and practitioners in artificial intelligence. This course will explore numerous aspects of computational models of intelligence, including search and problem solving, planning, machine learning, reasoning, knowledge representation, robotics, natural-language processing, speech recognition, vision, cognitive science, and expert systems.

AIGB 6206. Machine Learning for Business. (3 Credits)
We will discuss machine learning techniques and their use in strategic business decision-making. This is a hands-on course that provides an understanding of the key methods of data selection, exploration, association, classification, prediction, nearest neighbors, neural networks, and others.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 6207. Quantitative Foundations for AI. (3 Credits)
This course serves as a foundational introduction to essential mathematical concepts and techniques required for understanding and applying Artificial Intelligence (AI) in business contexts.

AIGB 6208. Law and Ethics of AI. (3 Credits)
This class provides a comprehensive understanding of the data market and artificial intelligence (AI) business from an ethical and legal perspective.

AIGB 7240. Computational Finance. (3 Credits)
This course is an introduction to data analysis in finance. The first half of the course will review programming in Python. We will take the opportunity to learn programming concepts that are useful in financial analysis.
Attributes: AIEL, AIFI.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7241. Machine Learning for Finance. (3 Credits)
Machine Learning for Finance is an elective course introducing students to machine learning and statistical learning methods with application to financial analysis and research.
Attributes: AIEL, AIFI.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7242. Fintech and Disruption in the Finance Industry. (3 Credits)
This course is designed to introduce the fundamental building blocks of fintech. We use case method approach to examine how fintech has challenged and transformed businesses across industries and the globe.
Attributes: AIEL, AIFI.
Prerequisite: GFGB 6006.

AIGB 7243. Investment Analysis with Data Visualization and Gen AI. (3 Credits)
This course is an advanced investment analysis course with three overlapping parts. The course will utilize well-regarded investment websites available on the internet to speed up economic data analysis, portfolio evaluation, and stock selection. It also involves using generative AI to rapidly ask questions and gain various perspectives, uncover blind spots, and open new areas of opportunity.
Attributes: AIEL, AIFI.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7244. Artificial Intelligence in Asset Management. (3 Credits)
The objective of this course is to use artificial intelligence and machine learning to evaluate complex financial (often derivatives) contracts. To do that, we not only need to be able use on-the-shelf libraries, but also need to understand the underlying math and algorithms.
Attributes: AIEL, AIFI.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 724A. Econtech: Econ and Data Mining. (3 Credits)
Overall, financial markets and individual company performance are largely driven by the growth rate of the economy, which in turn is affected by monetary, fiscal, and currency policies. Our understanding and forecasting ability are based on analyzing and mining available data. This course will examine data and data mining to better understand a range of policy and output variables, and how they interact under different regimes.
Attributes: AIEL, AIFI.

AIGB 7260. Generative AI for Managers. (3 Credits)
In this course, "Generative AI for Managers," business leaders will dive into the rapidly evolving world of generative artificial intelligence. The course is designed to not only impart foundational knowledge but also to cultivate strategic thinking about the integration of AI into business processes.
Attributes: AICO, AIEL.

AIGB 7261. Judgment and Decision Making. (3 Credits)
The purpose of this course is to make you a better decision maker both professionally and in your personal life. The course is organized around two distinct approaches to decision making: the normative approach and the descriptive approach.
Attributes: AICO, AIEL.

AIGB 7262. AI Implementation Strategies. (3 Credits)
This course explores the strategic aspects of implementing artificial intelligence (AI) solutions in various industries and organizations.
Attributes: AICO, AIEL.

AIGB 7263. Blockchain: Industry Disruptor & Creator. (3 Credits)
This course is designed to introduce the fundamental building blocks of fintech. We use a case method approach to examine how fintech has challenged and transformed businesses across industries and the globe.
Attributes: AICO, AIEL.

AIGB 7264. Strategies for Technological Innovation and Change. (3 Credits)
This course relies on fundamental concepts in the fields of economics, strategy, and organizational theory to discuss firms' actions in the face of technological and business model changes.
Attributes: AICO, AIEL.

AIGB 7290. Deep Learning. (3 Credits)
The goal of this course is to acquaint students with the objectives and methods of deep machine learning (DML). We will explore and learn the basic types of deep neural networks, including convolutional, recurrent, and generative adversarial, and the type of data each is designed for.
Attributes: AIEL, AITE.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7291. Cloud Computing for Analytics. (3 Credits)
This course provides a broad and practical introduction to cloud computing and exposure to key elements of a big data technology framework and platform, including Hadoop and MapReduce, GCP, HIve, Kafka, and AWS.
Attributes: AIEL, AITE.
Prerequisites: (AIGB 6200 or AIGB 6201 or ISGB 7943) and ISGB 7967.

AIGB 7292. NLP and Applications. (3 Credits)
In this course, we will cover important topics in natural language processing (NLP), including basic natural language processing techniques, document representation, text classification and clustering, sentiment analysis, information extraction, probabilistic topic models, social media analysis, and text visualization.
Attributes: AIEL, AITE.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7293. Data Visualization. (3 Credits)
This course introduces the concepts of data visualization and the various related concepts and techniques, including business intelligence, data analytics, data science, the scientific method, visualization, visual storytelling, and brief overviews of statistical and machine learning analytics.
Attributes: AIEL, AITE.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7294. Large Language Models and Generative AI. (3 Credits)
This course provides an in-depth exploration of large language models (LLM) and generative AI (GenAI) technologies and their impact on business. This course will introduce a suite of current LLM and GenAI applications and models. Some of the models and tools we cover are GPT3, ChatGPT, OpenAI APIs, Dall-E, Midjourney (Discord), Stable Diffusion, and Llama 2.
Attributes: AIEL, AITE.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.

AIGB 7295. Robotic Process Automation. (3 Credits)
This course will introduce you to the key concepts of robotic process automation and discuss how organizations can automate some of the internal processes to bring about an improvement in productivity and get employees to move up the work value chain.
Attributes: AIEL, AITE.

AIGB 7296. Optimization Models for Business. (3 Credits)
This course introduces students to applied optimization modeling in different business areas. Topics include a variety of math programming approaches used to solve real world problems, including linear, network, integer, and nonlinear programming.
Attributes: AIEL, AITE.

AIGB 7297. Data Management with SQL. (3 Credits)
This course covers essential concepts and tools in designing, implementing, and managing organizational databases. We will use the relational database framework, although other approaches, like object-oriented databases will also be discussed briefly.
Attributes: AIEL, AITE.

AIGB 7299. Capstone Project. (3 Credits)
Capstone projects in artificial intelligence provide students with the opportunity to apply their knowledge and skills acquired throughout the program. Students will work closely with an assigned industry client, tailoring their projects based on their (track) specialization.
Prerequisites: AIGB 6200 or AIGB 6201 or ISGB 7943.