BUSINESS ANALYTICS (M.S.)

The Gabelli School Master of Science in Business Analytics (MSBA) will help you to see the big picture that your future employer is going to ask you to draw. The curriculum teaches you to pull valuable conclusions from a wide range of information types: big data, business performance data, web and text content, and more.

The Gabelli School MSBA provides skills in:

- Artificial intelligence and deep learning
- Business analytics
- Data engineering
- DevOps engineering for data science
- Programming for analytics and data science
- Statistical analytics for business

The MSBA has two schedule choices: a one-year full-time program or a part-time program spread over a longer time frame, such as two years —ideal for professionals who don't want to leave their jobs while they pursue the degree.

Learning Competencies

1. Students will become proficient in understanding data, its preparation, and modeling for analytics use.
2. Students will become proficient in coding and programming for analytics.
3. Students will demonstrate understanding of the models, methods, and tools of analytics.
4. Students will demonstrate understanding of the managerial issues surrounding analytics.

To learn more about the M.S. in Business Analytics, visit the Gabelli School of Business website.

CIP Code

30.7102 - Business Analytics.

You can use the CIP code to learn more about career paths associated with this field of study and, for international students, possible post-graduation visa extensions. Learn more about CIP codes and other information resources.

Requirements

The 30-credit program consists of 10 courses (five required and five electives), across three semesters. Students can earn the MSBA in one year of full-time study or two years of part-time study. The schedule below outlines the full-time format; part-time students coordinate their coursework with guidance from the program director and academic adviser.

Through the selection of elective courses, the program allows students to specialize in one of four career-oriented tracks, according to their interests. They can choose from tracks in:

- Machine Learning and AI
- Advanced Analytics
- Analytics Consulting
- IT Ethics and Cybersecurity

For details on MSBA tracks, see the Tracks (p. 2) tab.

Course	Title	Credits
Required Courses		
BYGB 7973	Data Management and SQL	3
ISGB 7943	Programming with Python	3
BYGB 7967	Machine Learning for Business	3
BYGB 7977	Natural Language Processing and Applications	3
BYGB 7975	Data Visualization	3
Electives		
Choose five electives from the list below.[1]		15
Total Credits		**30**

Electives

Courses in this group have the BUAN attribute.

Course	Title	Credits
AIGB 6208	Law and Ethics of AI	3
BYGB 7978	Web Analytics	3
BYGB 7988	Business Performance Analytics	3
BYGB 7990	Cloud Computing for Analytics	3
ISGB 6910	Business Tech & Analytics	3
ISGB 7811	Internship Project	1-3
ISGB 7902	System Analysis & Design	3
ISGB 7910	Info Systems Strategy & Mgmt	3
ISGB 7922	Healthcare IT	3
ISGB 7924	Mobile Commerce and Apps	3
ISGB 7932	Accounting Info System	3
ISGB 7933	Audit Data Analytics	3
ISGB 7934	Artificial Intelligence	3
ISGB 7942	Optimization Models in Bus	3
ISGB 7944	Sports Analytics	3
ISGB 7955	Project Management	3
ISGB 7980	Advanced Data Analytics with Excel & Power BI	3
ISGB 7985	Data Warehousing	3
ISGB 799D	Cybersecurity and Data Privacy	3
ISGB 799R	IT Audit and Information Assurance	3
ISGB 799V	R Statistical Programming	3
ISGB 799X	Fintech -An Introduction	3
ISGB 799Y	Blockchain Tech & App Dev	3
ISGB 799Z	Deep Learning	3
ISGB 79AA	Advanced Python with AI	3

ISGB 79AC	Cybersecurity	3
ISGB 79AD	Digital Forensics	3
ISGB 79AE	Robotic Process Automation	3
ISGB 79AJ	Ethics of Data Analytics & AI	3
ISGB 79AK	Large Language Models and Generative AI	3
ISGB 79AL	Agentic AI with Copilot	3
ISGB 79AM	RAG and Context Engineering	3
OPGB 6627	Operations and Supply Chain Management	3

Students seeking special permission to count a course without the BYGB or ISGB subject code as an elective must follow the below, three-step approval process.

Only 6000-level or above courses may be considered for electives to count towards the MSBA.

1. The student should send a detailed petition to the MSBA Program Director explaining why they are considering a non-BYGB or ISGB subject code course as an elective.
2. The student should request permission from the instructor of the relevant course to join the elective, who should then send an email to the student authorizing the student's enrollment in the course. The student should forward that email to the MSBA Program Director and MSBA Advising Dean.
3. The MSBA Program Director and MSBA Advising Dean will discuss the request, giving it due consideration, and render a decision on whether the non-BYGB or ISGB subject code course may be accepted as an elective.

Note: all advanced ISGB courses with prerequisites must be met (please discuss with the Program Director/Advising Dean).

Tracks

For students who are not interested in any of the below tracks, another option is to create an optimal mix of electives across the tracks, in consultation with the program director and area chair.

Machine Learning and AI Track

Courses in this group have the BUML attribute.

Course	Title	Credits
ISGB 7934	Artificial Intelligence	3
ISGB 799Z	Deep Learning	3
ISGB 79AA	Advanced Python with AI	3
ISGB 79AK	Large Language Models and Generative AI	3
ISGB 79AL	Agentic AI with Copilot	3
ISGB 79AM	AI Agents and Engineering	3

Advanced Analytics Track

Courses in this group have the BUAA attribute.

Course	Title	Credits
BYGB 7978	Web Analytics	3
BYGB 7990	Cloud Computing for Analytics	3
ISGB 7944	Sports Analytics	3
ISGB 799V	R Statistical Programming	3
ISGB 79AC	Cybersecurity	3

Analytics Consulting Track

Courses in this group have the BUAC attribute.

Course	Title	Credits
BYGB 7988	Business Performance Analytics	3
ISGB 7910	Info Systems Strategy & Mgmt	3
ISGB 7922	Healthcare IT	3
ISGB 7955	Project Management	3
ISGB 799Y	Blockchain Tech & App Dev	3

IT Ethics and Cybersecurity Track

Courses in this group have the BUEC attribute.

Course	Title	Credits
AIGB 6208	Law and Ethics of AI	3
ISGB 799D	Cybersecurity and AI Governance	3
ISGB 79AC	Cybersecurity	3
ISGB 79AJ	Ethics of Data Analytics & AI	3