Bachelor of Science in Data Science & AI
with Concentration in Artificial Intelligence

Program Overview
The Bachelor of Science (BS) in Data Science and Artificial Intelligence at Lehman College provides students with the technical and analytical skills required to work in data science and AI-related fields. This program offers a rigorous foundation in programming, mathematics, and data analysis, with specialized coursework for those choosing the Artificial Intelligence (AI) concentration.

General Degree Requirements
To successfully complete the BS in Data Science and AI, students must meet the following requirements:

- **Total Credits Required:** 120 credits
- **Minimum GPA:** 2.0
- **Residency Requirement:** At least 30 credits must be earned at Lehman College
- **General Education Requirements:** Includes courses in English Composition, Mathematics, Science, Social Sciences, and a Foreign Language

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Core Courses (Required for All Concentrations)
The core curriculum provides foundational knowledge in computing, data management, probability, machine learning, and statistics. The key required courses include:

Programming & Computing

- CMP 157 - Programming Methods I Lab (1 credit)
- CMP 158 - Programming Methods II Lab (1 credit)
- CMP 167 - Programming Methods I (4 credits)
- CMP 168 - Programming Methods II (4 credits)
- CMP 338 - Data Structures (4 credits)
- CMP 340 - Probability for Computer Science (4 credits) *or* MAT 330 - Probability and Statistics (4 credits)
- CMP 420 - Database Systems (4 credits)

Mathematics & Statistics

- MAT 155 - Calculus I Lab (1 credit)
- MAT 156 - Calculus II Lab (1 credit)
- MAT 175 - Calculus I (4 credits)
- MAT 176 - Calculus II (4 credits)
- MAT 226 - Vector Calculus (4 credits)

- MAT 313 - Elements of Linear Algebra (4 credits)
- MAT 327 - Statistical Inference (4 credits)

Data Science & AI Basics

- CMP 415 - Machine Learning (4 credits) *(Required for AI Concentration)*
- DAT 310 - Data Visualization (3 credits)
- CMP 333 - Data Management and Analysis (4 credits)
- SOC 348 - Reasoning with Data (4 credits)

Total **Core Credits:** 59-62

AI Concentration Requirements

Students pursuing the Artificial Intelligence (AI) concentration must complete **at least 11 additional credits** focused on AI-related coursework.

Mandatory Course:

- CMP 414 - Artificial Intelligence (4 credits)

Elective Courses (Choose at least 2):

- CMP 415 - Machine Learning (4 credits) *(If not already counted in core)*
- CMP 447 - Linear Programming and Operations Research (4 credits)
- CMP 464 - Topics in Computer Science (4 credits)
- CMP 485 - Independent Study in AI (3 credits)
- MAT 347 - Linear Programming and Convex Algebraic Geometry (4 credits)

Total **AI Concentration Credits: 11 or more**

Culminating Experience

Before graduating, students must complete a capstone project, internship, or independent research project. This hands-on experience allows students to apply their AI knowledge to real-world scenarios.

Options Include:

- CMP 485 - Independent Study *(3 credits)*
- MAT 485 - Independent Study *(3 credits)*
- Approved AI-focused internship or research project

Career Opportunities

Graduates with an AI concentration will be well-prepared for roles such as:

- **Machine Learning Engineer**
- **Artificial Intelligence Specialist**
- **Data Scientist**
- **AI Researcher**
- **Software Developer with AI Expertise**

They may also pursue **graduate studies in AI, data science, or related fields**.

Summary of Major Credit Requirements

Category	Credits
Core Courses	59-62
AI Concentration	11+
Electives/Other Requirements	Variable
Total for Graduation	**120+**

This **BS in Data Science and AI** is designed to provide students with cutting-edge technical knowledge and hands-on experience, preparing them for careers in the fast-growing field of Artificial Intelligence.