LEHMAN COLLEGE
OF THE
CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF COMPUTER SCIENCE

CURRICULUM CHANGE

Name of Program and Degree Award: Computer Science, BA
Hegis Number: 0701.00
Program Code: 80345
Effective Term: Fall 2026

1. **Type of Change:** Change in Degree Requirements

2. **From:**

~~Computer Science, B.A. (43-46 Credit Major)~~

Complete ALL of the following Courses:

MAT 175 - Calculus I	4
MAT 176 - Calculus II	4
MAT 313 - Elements of Linear Algebra	4
CMP 167 - Programming Methods I	4
CMP 168 - Programming Methods II	4
CMP 232 - Discrete Mathematics	4
CMP 334 - Computer Organization	4
CMP 338 - Data Structures and Algorithms	4
~~CMP 339 - Programming Languages~~	~~4~~
~~OR CMP 426 - Operating Systems~~	~~4~~
~~CMP 405 - Introduction to Networks~~	~~4~~
~~OR CMP 420 - Database Systems~~	~~4~~

Notes:

~~All students, particularly those considering graduate work, are advised to take more upper-level Computer Science courses. (The list above is only the minimum required for graduation.)~~

For Departmental honors, see ~~one of the~~ adviser~~s~~ in the Department of ~~Mathematics and~~ Computer Science.

Major Requirements – Electives
Complete at least ~~2~~ of the following:
~~Two~~ advanced CMP electives: At 300- or 400-level. ~~MAT 226 can be used as one of these electives.~~

3. **To:** Underline the changes

Computer Science, B.A. (58-62 Credit Major)

Complete ALL of the following Courses:

- MAT 175 - Calculus I * 4
- MAT 176 - Calculus II ** 4
- MAT 313 - Elements of Linear Algebra 4
- CMP 157 - Programming Methods I Lab 1 1
- CMP 158 - Programming Methods II Lab 1 1
- CMP 167 - Programming Methods I 4
- CMP 168 - Programming Methods II 4
- CMP 232 - Discrete Mathematics 4
- CMP 269 - Programming Methods III 4
- CMP 334 - Computer Organization 4
- CMP 338 - Data Structures and Algorithms 4
- CMP 426 - Operating Systems 4
- CMP 405 - Introduction to Networks 4
- CMP 420 - Database Systems 4

*MAT 175 Prerequisite MAT 172 with a grade of C or better or MAT 171 and MAT 108 with a grade of C or better or placement by the Mathematics Department co-requisite MAT 155

**MAT 176 Co-requisite MAT 156 with a grade of C or better in MAT 175

Major Requirements – Electives
Complete at least 3 of the following:
Three advanced CMP electives: At 300- or 400-level.

Major Admission Requirements -

The B.A. in Computer Science is reserved for students completing a double major or pursuing a second bachelor's degree. Before students can declare the B.A. in Computer Science they must first consult an advisor in the Department of Computer Science to obtain permission to declare this major as well as receive important guidance concerning how to proceed. Students must not delay arranging for this consultation with the department advisor.

Notes:

1. All students interested in a Software Engineering career or considering graduate studies in Computer Science after completing their undergraduate education should enroll in the Computer Science B.S. Program.

2. For Departmental honors, see an adviser in the Department of Computer Science.
3. Students who do not meet the admission requirements are encouraged to major in Bachelor of Science in Computer Science.

Completion requirement

- Earn a minimum grade of C in all required courses. Students must repeat required courses in which they earn below C.
- Students may obtain Credit by Examination for CMP 157 and CMP 158. Students must earn a minimum of 80% on the exam to receive credit. See a Department of Computer Science advisor for details.

4. **Rationale (Explain how this change will impact learning outcomes of the department and Major/Program):**
In the rapidly changing field of Computer Science, the current major is no longer serving our students' needs. The new major now increases the foundation courses they will need to complete their undergraduate studies and will prepare them for possible graduate studies going forward. Further, students may choose to add additional courses if they wish.

5. **Date of departmental approval:** 12/15/2025

LEHMAN COLLEGE
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DEPARTMENT OF COMPUTER SCIENCE

CURRICULUM CHANGE

Name of Program and Degree Award: Computer Applications, Minor
Effective Term: Fall 2026

1. **Type of Change:** (Change in Minor Requirements)

2. **From:** ~~Strikethrough~~ the changes

Minor Requirements – Overall
~~Computer Applications Minor (16 credit minor)~~
~~Earn a minimum grade of C-~~

Minor Requirements - Required Course

Complete ALL of the following Courses:
~~CIS 211 - Computer Information Systems 4~~
~~CIS Course~~
Two courses at the 200-level
~~CIS Course~~
One CIS course at the 300 level

3. **To:** Underline the changes
Minor Requirements – Overall
Computer Applications Minor (Earn at least 19 credits)

Minor Requirements - Required Course
Complete ALL of the following Courses:
- CMP 157 - Programming Methods I Lab 1
- CMP 167 - Programming Methods I 4
- CIS 212 - Microcomputer Architecture * 4
- CIS 213 - Microcomputer Architecture Lab 1

*MAT 104-College Algebra or higher is a prerequisite for CIS 212.

And
Two courses at the 200-level or above
And
One CIS course at the 300 level or above

Note:
CMP courses of equal level can be substituted for CIS courses at the department's discretion.

Grading Policy:
Students must earn a C or above in all courses for the minor. If the grade is lower, the student must repeat the course.

4. **Rationale (Explain how this change will impact learning outcomes of the department and Major/Program):**
The Department of Computer Science is revising the Minor in Computer Applications by replacing CIS 211 with CIS 212 - Microcomputer Architecture and CIS 213 - Microcomputer Architecture Lab and introducing CMP 167 – Programming Methods I and CMP 157 – Programming Methods I Lab. This change is necessary due to the formal withdrawal of CIS 211 from the course catalog, as it no longer reflects the technical depth or relevance required in the evolving field of Computer Information Systems.

CIS 211 was a broad, survey-style course focused on business information systems. While once useful for general exposure, it lacks the technical rigor now expected of students entering advanced coursework or the workforce. In contrast, CIS 212 and CIS 213 introduce foundational knowledge in computer architecture, including CPU design, memory systems, and input/output mechanisms, along with a hands-on lab component that reinforces theoretical concepts through applied learning.

This update enhances the minor's alignment with the core Computer Science and CIS majors, supports improved course planning and advising, and better prepares students who may choose to transition into the major. It also reflects the department's commitment to offering a curriculum that is current, rigorous, and relevant to the tech industry.

This revision strengthens learning outcomes at both the program and departmental levels. For example, this helps to build a deeper technical understanding through focused instruction on computer systems.

For the Department, this change promotes curricular consistency across minors and majors and improves student readiness for both professional roles.

5. **Date of departmental approval:** 12/15/2025

LEHMAN COLLEGE
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DEPARTMENT OF COMPUTER SCIENCE

CURRICULUM CHANGE

1. **Type of Change:** Change in course title and description

2. **From:** ~~Strikethrough~~ the changes

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Information Systems
Course Prefix & Number	CIS 247
Course Title	~~Practical Unix: Programming and System Administration~~
Description	Topics chosen from the following: text editors, file system, utility programs, pipe and filter paradigms, shell language programming; tools for maintenance of normal system operation, security, hardware and software configuration management and network connections
Pre/ Co Requisites	CMP 157, CMP 167
Credits	4
Hours	4
Liberal Arts	[ ] Yes [X] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

3. **To:** Underline the changes

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Information Systems
Course Prefix & Number	CIS 247
Course Title	Practical Operating System Programming and Administration
Description	Topics chosen from the following: text editors, file system, utility programs, pipe and filter paradigms, shell language programming; tools for maintenance of normal system operation, security, hardware and software configuration management and network connections. For an operating system and tools such as Linux and PowerShell.
Pre/ Co Requisites	Prerequisites: CMP 157, CMP 167
Credits	4
Hours	4
Liberal Arts	[ ] Yes [X] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**
The proposed change reflects the current industry standard and aligns more closely with the tools, environments, and systems used in today's IT infrastructure. While UNIX laid the foundation for many operating system concepts, Linux has become the

dominant platform in enterprise servers, cloud computing, DevOps, cybersecurity, and open-source development.

Most modern system administration, scripting, and system programming tasks, especially in the context of CIS careers, are performed on Linux distributions such as Ubuntu, CentOS, Debian, and Red Hat. This renaming better communicates course relevance to students and employers, and ensures alignment with contemporary technologies, and supports program goals in preparing students for real-world, in-demand IT roles.

The proposed renaming of the course does not change the content of the course.

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CURRICULUM CHANGE

1. **Type of Change:** change in course title and description

2. **From:** ~~Strikethrough~~ the changes

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Science
Course Prefix & Number	CMP 409
Course Title	~~Security of Networks~~
Description	Introduction to attack and defense in network security. Basic tools for both attacking and defending networks and their use. NOTE: Students will be required to work with a variety of network attack and defense tools in a sandbox or ~~vitural~~ network.
Pre/ Co Requisites	Pre-requisite: CMP 405
Credits	4
Hours	4
Liberal Arts	[ ] Yes [X] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

3. **To:** Underline the changes

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Science
Course Prefix & Number	CMP 409
Course Title	Cybersecurity for Networked Systems
Description	Introduction to attack and defense in network security. Basic tools for both attacking and defending networks and their use. NOTE: Students will be required to work with a variety of network attack and defense tools in a sandbox or virtual network.
Pre/ Co Requisites	Pre-requisite: CMP 405
Credits	4
Hours	4
Liberal Arts	[ ] Yes [X] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	_X__ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

4. **Rationale (Explain how this change will impact the learning outcomes of the department and Major/Program):**

The proposed new title, Cybersecurity for Networked Systems, more accurately reflects the evolving scope and depth of the course content while aligning with current terminology in academia, industry, and research. The original title, Security of Networks, suggests a narrow focus on just traditional computer networks. However, modern networked systems encompass a much broader range of technologies, including

distributed systems and cloud architecture, Internet of Things (IoT) devices, wireless and mobile networks, and industrial control systems and infrastructure. The new title better encompasses the full range of these networked environments that are addressed in the curriculum.

Also, cybersecurity has become the standard term in both professional and academic circles to describe the protection of systems, networks, and data from digital threats. Using this term ensures the course is immediately recognizable and relevant to students, employers, and other academic institutions. So, the new title is clearer and more engaging.

The other change corrects a typo in the description.

Renaming of the course maintains the learning outcomes of the course. However, the change broadens the scope of the course and modernizes it: As a result,

- Students will learn to secure diverse and interconnected systems beyond the traditional networks.
- Learners will develop system-level thinking for identifying and mitigating complex risks in networked systems.

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CURRICULUM CHANGE

1. **Type of Change:** Course title, description and prerequisite

2. **From:** ~~Strikethrough~~ the change

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Information System
Course Prefix & Number	CIS 333
Course Title	~~Network Security~~
Description	Introduction to securing networks, with emphasis on firewalls, intrusion detection, and monitoring tools. Monitoring and improving the security of an ~~organizations~~ network. Building firewalls and configuring intrusion detection systems. Detecting some well-known attacks.
Pre/ Co Requisites	
Credits	3
Hours	4
Liberal Arts	[ ] Yes [X] No
Course Attribute (e.g. Writing Intensive, WAC, etc)	

General Education Component	__X_ Not Applicable _____ Required _____ English Composition _____ Mathematics _____ Science _____ Flexible _____ World Cultures _____ US Experience in its Diversity _____ Creative Expression _____ Individual and Society _____ Scientific World

3. **To:** Underline the changes

Department(s)	Computer Science
Career	[X] Undergraduate [ ] Graduate
Academic Level	[X] Regular [ ] Compensatory [ ] Developmental [ ] Remedial
Subject Area	Computer Information Systems
Course Prefix & Number	CIS 333
Course Title	Cybersecurity for Networked Systems CIS
Description	Introduction to securing networks, with emphasis on firewalls, intrusion detection, and monitoring tools. Monitoring and improving the security of an organization's network. Building firewalls and configuring intrusion detection systems. Detecting some well-known attacks.
Pre/ Co Requisites	Prerequisite: CIS 331 or CMP 405
Credits	3
Hours	4
Liberal Arts	[ ] Yes [X] No

Course Attribute (e.g. Writing Intensive, WAC, etc)	
General Education Component	__X_ Not Applicable ____ Required ____ English Composition ____ Mathematics ____ Science ____ Flexible ____ World Cultures ____ US Experience in its Diversity ____ Creative Expression ____ Individual and Society ____ Scientific World

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