PennWest UNIVERSITY

Degree: Bachelor of Science **Credits Required:** 120
College: Science, Technology, and Business
Major: Computer Information Systems
Major Code: CISY **Minor:** N/A
Concentration: N/A **Minor Code:** N/A

General Education

Foundations: (12 Credits)

Oral Communication: (3 Credits)
☐ COMJ 1010 Public Speaking

Quantitative Reasoning: (3 Credits)
☐ MATH 1510 Discrete Structures

Technological Literacy: (3 Credits)
☐ CMIS 1100 Introduction to Information Systems

Written Communication: (3 Credits)
☐ ENGL 1200 College Composition

Discoveries: (Credits 27)
At least two (2) disciplines must be represented within each of the three (3) categories.

Art/Humanities: (9 Credits)
☐ _____
☐ _____
☐ _____

Natural Sciences & Technology: (9 Credits)
☐ CMIS 1200 Application Programming I
☐ STAT 2010 Statistics for Business
   ☐ Or STAT 2020 Elements of Statistics
☐ _____

Social Sciences: (9 Credits)
☐ ECON 2100 Principles of Microeconomics
   ☐ Or ECON 2200 Principles of Macroeconomics
☐ _____
☐ _____

Elective/Wellness & Personal Health: (3 Credits)
☐ CMAC 2000 Introduction to Cybersecurity

Competencies:

Applied Methodologies
☐ CMIS 4250 Applications of Machine Learning & Deep Learning
   ☐ Or CMIS 4920 Senior Capstone II

Ethical Reasoning
☐ CMIS 3000 Principles of Responsible Computing

Information Literacy
☐ CMIS 3000 Principles of Responsible Computing

Intercultural Fluency
☐ CMIS 4900 Senior Capstone I

Keystone Experience
☐ CMIS 4920 Senior Capstone II

Quantitative Applications
☐ CMIS 4250 Applications of Machine Learning & Deep Learning

Writing Intensive - Two (2) courses are required
☐ CMIS 4900 Senior Capstone I
☐ ENGL 3230 Technical Writing
   ☐ Or ENGL 3240 Workplace Writing
   ☐ Or CMAC 3010 Structured System Documentation

Program Requirements

Required Major Courses: (37 Credits)

☐ CMIS 2200 Application Programming II
☐ CMIS 3000 Principles of Responsible Computing
☐ CMIS 3125 Systems Analysis and Design
☐ CMIS 3150 Database Design and Modeling
☐ CMIS 3200 Database Application Programming
☐ CMIS 3250 CISCO CCNA 1
☐ CMIS 3500 Web Programming I
☐ CMIS 3600 Systems Project Management
☐ CMIS 4500 Web Programming II
☐ CMIS 4250 Application of Machine Learning and Deep Learning
☐ CMIS 4900 Senior Capstone I
☐ CMIS 4920 Senior Capstone II

Major Electives: (11 Credits) Select from the following:
**See note on 2nd page **
CMIS 3260 CISCO CCNA II , CMIS 3270 CISCO CCNA III, CMIS 3340 COBOL, CMIS 3720 Decision Support System, CMIS 4720 ERP, CMIS 4950 CIS Internship, CMIS 3990 Special Topics in Inf Sys, CMSC 3380 Python, CMAC 3740 Mobile Application Development, DSA 5100 Database Mgmt Systems & Data Warehousing, DSA 5220 Python Programming for Data Science, DSA 5300 Analytical Methods & Optimization, DSA 5400 Applied Data Mining, PSC 6000 Operating Systems, PSM 6450 Applied Cryptography, PSC 7350 Biometrics, PSC 7450 Cyber Risk Mgmt & Assess, PSC 7550 Wireless Network & Security

Related Electives: (12 Credits) *Select from the following:*

Business Track:
MGMT 3000 - Principles of Management **and**
Choose one from any ACC 2000 level or higher **and**
Choose one from any MKTG or QBA course 2000 level or higher **and**
Choose one from BLAW, FINA, BSIN, or IENT course 2000 level or higher

Free Electives: (18 Credits)

☐ _____
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☐ _____

Updated: 6/25/2025

Suggested Four Year Course Sequence

Year 1

Fall Semester

CMIS 1100 Introduction to Information Systems
CMIS 1200 Application Programming I
ENGL 1200 College Composition
COMJ 1010 Public Speaking
STAT 2020 Elements of Statistics
   ~Or~ STAT 2010 Business Statistics

Spring Semester

CMIS 2200 Application Programming II
CMAC 2000 Introduction to Cybersecurity
MATH 1510 Discrete Structures
QBA 1000 QBA-1 Optimization
   ~Or~ GEOG 2150 Conservation of Natural Resources
ENGL 3230 Technical Writing
   ~Or~ ENGL 3240 Workplace Writing

Year 2

Fall Semester

ECON 1000 Elements of Economics
   ~Or~ ECON 2100 Principles of Microeconomics, ECON 2200 Principles of Macroeconomics, GEOG 1050 People & The Planet, or GEOG 1110 World Geography
CMIS 3250 Cisco CCNA I
MGMT 3000 Principles of Management
   ~Or~ GGIS 1510 Geo Business
Discoveries - Social Science
Discoveries - Social Science

Spring Semester

CMIS 3125 Systems Analysis and Design
Discoveries - Natural Science & Technology
Discoveries - Arts and Humanities
Discoveries - Arts and Humanities
Free Elective

Year 3

Fall Semester

CMIS 3000 Responsible Computing
CMIS 3150 Database Design & Modeling
CMIS 3500 Web Programming I
CMIS 3600 Systems Project Management
Discoveries - Arts And Humanities

Spring Semester

CMIS 4900: Senior Capstone
CIS Major Elective
CIS Major Elective
Related Elective
Free Elective

Year 4

Fall Semester

CMIS 3200 Database Application Programming
CMIS 4500 Web Programming II
CMIS 4250 Applications of Machine Learning
Related Elective
Free Elective

Spring Semester

CMIS 4920: Senior Capstone II
CIS Major Elective
CIS Major Elective
Free Elective
Free Elective

Program Notes:
Students must have a minimum grade of "C-" in the following courses:
ENGL 1200, MATH 1510, CMIS 1100, STAT 2010 or STAT 2020, CMAC 2000, CMIS 1200, CMIS 2200, CMIS 3125, CMIS 3150, CMIS 3200, CMIS 3500, CMIS 3600, CMIS 4500, CMIS 4900, MGMT 3000.
Restrictions apply for the allowed number of graduate credits (level DSA, PSM and PSC courses) allowed for an undergraduate major and only a maximum of 4 credits of CMIS 4950 will be allowed for electives. Students need to be enrolled in the Accelerated Data Science & Analytics (DSA) program to take the DSA courses listed as electives. Students need to be enrolled in the Accelerated Professional Science Masters in Cybersecurity program to take the PSM & PSC courses listed as electives.