Synopsis of B.S. in Computer Science in CIS Department – 2022

Created 08/2018

Fourth (Freshman) Class – fall	Credits
CIS 101 – Intro to Computer Science *	3
CIS 111 – Programming I *	3
CIS111L – Lab for Programming I	1
ERH 101 – Writing and Rhetoric I	3
HI 103 – World History I	3
MA 101 – Math that Matters or MA 123 Calculus I	3
ROTC requirement – AS, MS, or NS	1
PE 102 Boxing or PE 105 Wellness Concepts	0.5
TOTAL	**17.5**

Fourth (Freshman) Class – spring	Credits
CIS 112 – Programming II *	3
CIS 112L – Lab for Programming II	1
CIS 131 – Intro to Information Science *	3
ERH 102 – Writing and Rhetoric II	3
HI 104 – World History II	3
MA 102 – Math that Matters or MA 124 – Calculus II	3
ROTC requirement – AS, MS, or NS	1
PE 102 Boxing or PE 105 Wellness Concepts	0.5
TOTAL	**17.5**

Third (Sophomore) Class – fall	Credits
CIS 211 – Internet and Mobile Programming	3
CIS 201 – Computer Architecture and Organization *	3
CIS 241 – Discrete Structures	3
Science Requirement (CH, BI, PY with lab)	4
PS 201 – Intro to Psychology or PS 313 – Forensic Psychology	3
ROTC requirement – AS, MS, or NS	1
PE 300 – Principles of Physical Education or PE 101 – Swimming	1
TOTAL	**18.0**

Third (Sophomore) Class – spring	Credits
CIS 331 – Human Computer Interactions *	3
CIS 313 – Data Structures and Applications *	3
CIS 322 – Database Management Systems *	3
Science Requirement (CH, BI, PY with lab)	4
Free elective	3
ROTC requirement – AS, MS, or NS	1
PE 300 – Principles of Physical Education or PE 101 – Swimming	0.5
TOTAL	**17.5**

Second (Junior) Class – fall	Credits
CIS 301 – Networking *	3
CIS 301L – Networking Lab	1
CIS 302 – Modern Operating Systems	3
CIS 312W – Software Engineering	3
PS 344 – Leadership in Organizations	3
ERH 103 – Fund. of Public Speaking	1
ROTC requirement – AS, MS, or NS	2
PE elective	0.5
TOTAL	**16.5**

Second (Junior) Class – spring	Credits
CIS 303 – Computer & Network Security	3
CIS 342 – Data Analytics	3
CIS 442 – Design & Analysis of Algorithms	3
CIS Major electives	3
Science or Mathematics elective ^	3
ROTC requirement – AS, MS, or NS	2
PE elective	0.5
TOTAL	**17.5**

First (Senior) Class – fall	Credits
CIS 390 – Capstone I	3
CIS Major electives	6
Science or Mathematics elective ^	4
ROTC requirement – AS, MS, or NS	2
PE elective	0.5
TOTAL	**15.5**

First (Senior) Class – spring	Credits
CIS 490 – Capstone II	3
CIS Major electives	3
Free elective	9
ROTC requirement – AS, MS, or NS	2
TOTAL	**17.0**

*** Minimum grade of C required.**

^ Science and Mathematics electives exclude MA-110, -310, -330WX, -331WX.

CIS Required = 48, CIS Elective = 12, Free Elective = 12, Science = 15, Math = 15, History = 6 ERH = 7, ROTC = 12, PE = 4, Leadership = 3, Speech = 1, Psychology = 3.

Note that the 1 credit of the Speech class is include in the ERH hours.

Total Hours: Minimum 137

Revised 11/24/2020 (science list)

CIS Major Electives (with new numbering) in the new curriculum

1. CIS 231WX – IT: Past, Present and Future
2. CIS 401 – Advanced Network Security
3. CIS 402 – Computer Forensics
4. CIS 411 – Web Development
5. CIS 412 – Mobile Programming
6. CIS 421 – Database Design and Development
7. CIS 422 – Information Retrieval
8. CIS 424 – Artificial Intelligence
9. CIS 431 – Information Organization & Management
10. CIS 432 – Computer Vision
11. CIS 433 – Usability Analysis
12. CIS 434 – Bioinformatics

CIS New Curriculum Changes Course Interpretation

Previous Course	New Course (Replace with)
CIS 101 - Computer and Information Sciences	CIS 101 - Introduction to Computer Science
CIS 111 – Programming I	CIS 111 – Programming I
N/A	CIS 111 L – Lab for Programming I
CIS 112 – Programming II	CIS 112 – Programming II
N/A	CIS 112 L – Lab for Programming II
CIS 253 - Information Systems and Services	CIS 131 - Introduction to Information Science
CIS 271 – Discrete Mathematics for CIS	CIS 241 – Discrete Structures
CIS 311- Web Development	CIS 211 Internet and Mobile Programming
CIS 415- Data Structures and Algorithms	CIS 313 Data Structures and Applications
CIS 405 - Operating Systems and Computer Architecture	CIS 301 – Modern Operating Systems
CIS 441 – Data Analysis & Data Mining	CIS 342 – Data Analytics
CIS 411- Advanced Web Development	CIS 411 Web Development
CIS 353- Systems Administration	CIS 201 Computer Architecture and Organization
CIS 270WX – History of Information Technology	CIS 231WX – Information Technology: Past, Present, and Future
CIS 321 - Networking	CIS 301 – Networking
CIS 321 L – Networking Lab	CIS 301 L – Networking Lab
CIS 341 - Database Management	CIS 322 - Database Management Systems
CIS 351 W - Software Engineering	CIS 312 W - Software Engineering
CIS 425 - Computer Forensics	CIS 402 - Computer Forensics
CIS 443 - Information Retrieval	CIS 422 - Information Retrieval
CIS 355 - Information Organization and Management	CIS 431 - Information Organization and Management
CIS 413 - Mobile Computing	CIS 412 - Mobile Programming
CIS 423 - Information and Cyber security	CIS 303 - Computer and Information Security I
CIS 426 - Advanced Computer and Network Security	CIS 401 - Computer and Information Security II
N/A	CIS 442 - Design and Analysis of Algorithms
CIS 471 – Intelligent Systems	CIS 424 - Artificial Intelligence
CIS 475 - Computer Vision	CIS 432 - Computer Vision
CIS 474 - Database Design and Development	CIS 421 - Database Design and Development
CIS 470 - Bioinformatics	CIS 434 – Bioinformatics
CIS 310 - Computer Programming	CIS 310 – Computational Thinking
CIS 331 - Human Computer Interactions	CIS 331 - Human Computer Interactions
CIS 433 - Usability Analysis	CIS 433 - Usability Analysis

Note: CIS-111L and CIS-112L labs are only required for the Class of 2022 and beyond

Science list on next page.

Students in the B.S. in Computer Science degree program are required to complete 8 hours of science course work. Each student is expected to complete one of the following three groups of science sequence with a laboratory work.

BI 101 – General Biology I …….. 4 credit hours
BI 102 – General Biology II …….. 4 credit hours

Or

CH 131 – Chemical Science I …….. 3 credit hours
CH 111 – Laboratory for Chemical Science 131 ……. 1 credit hour
CH 132 – Chemical Science II …….. 3 credit hours
CH 112 – Laboratory for Chemical Science 132 ……. 1 credit hour

Or

PY 160 – General Physics I …….. 3 credit hours
PY 155 – General Physics Laboratory I …….. 1 credit hour
PY 161 – General Physics II …….. 3 credit hours
PY 156 – General Physics Laboratory II …….. 1 credit