

Synopsis of B.S. in Computer Science in CIS Department – 2024

Created
08/2020

Fourth (Freshman) Class – fall	Credits
CIS 101 – Intro to Computer Science *	3
CIS 111 – Programming I *	3
CIS 111L – Lab for Programming I	1
ERH 101 – Writing and Rhetoric I	3
HI 103 – World History I	3
MA 101 – Math that Matters I 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 – Introduction to Information, Interconnections, Intelligence, and Security *	3
ERH 102 – Writing and Rhetoric II	3
HI 104 – World History II	3
MA 102 – Math that Matters II 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 201 – Computer Architecture and Organization *	3
CIS 211 – Internet and Mobile Programming	3
CIS 241 – Discrete Structures	3
Science Requirement (CH, BI, PY with lab)	4
Math Elective ^	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 231WX – IT: Past, Present and Future	3
CIS 313 – Data Structures and Applications *	3
CIS 322 – Database Management Systems *	3
CIS 331 – Human Computer Interactions *	3
Science Requirement (CH, BI, PY with lab)	4
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 & Information Security	3
CIS 303L – Lab for Computer & Info Security	1
CIS 342 – Data Analytics	3
CIS Major elective	3
Math Elective ^	3
ROTC requirement – AS, MS, or NS	2
PE elective	0.5
TOTAL	15.5

First (Senior) Class – fall	Credits
CIS 390 – Capstone I	3
CIS Major electives	6
Free electives	6
ROTC requirement – AS, MS, or NS	2
PE elective	0.5
TOTAL	17.5

First (Senior) Class – spring	Credits
CIS 490 – Capstone II	3
CIS-442 – Design and Analysis of Algorithms	3
CIS Major elective	3
Free electives	6
ROTC requirement – AS, MS, or NS	2
TOTAL	17.0

* **Minimum grade of C required.**

^ **Preferred MA-123, -124, -305, or -306; excludes MA-110, -310, -330WX, -331WX.**

CIS Required = 61 (52 CIS, 9 Math for CIS), CIS Elective = 12, Free Elective = 12, Science = 8, Math = 12, History = 6, ERH = 7, ROTC = 12, PE = 4, Leadership = 3, Speech = 1

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

Total Hours: Minimum 137

Revised 11/24/2020 (science list)

CIS Major Electives:

1. CIS 380 – Research Topics in Computer and Information Sciences
2. CIS 401 – Advanced Computer and 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 and Management
10. CIS 432 – Computer Vision
11. CIS 433 – Usability Analysis
12. CIS 434 – Bioinformatics

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