COLLEGE OF ENGINEERING & COMPUTER SCIENCE
DEARBORN | UNIVERSITY OF MICHIGAN-DEARBORN

Student name: ID #:

Sample Pathway to Concurrent Bachelor of Science in *Computer and Information Science and Data Science*, 139 total credits

Semester 1	Semester 2	Semester 3
☐ ****CIS 150 and CIS 150L** (4) *Computer Science I,* or ****CIS 1501** (4) *Computer Science for DS I* (MATH 115*) ☐ **COMP 105** (3) *Writing & Rhetoric I* DDC GEWO ☐ **MATH 115** (4) *Calculus I* (MATH 105 'C-' or placement); DDC GEQT ☐ **DDC course** (3) GEHA **Must choose one of the following: ➢ **Group 1**: CIS 1501, CIS 2001, and CIS 296/CIS 297, or ➢ **Group 2**: CIS 150, CIS 200, CIS 298 Courses **cannot** be mixed from the two groups	☐ ****CIS 200** (4) *Computer Science II,* or ****CIS 2001** (4) *Computer Science for DS II* (CIS 1501 'C-', MATH 115) ☐ **MATH 116** (4) *Calculus II* (MATH 115 'C-') ☐ **CIS 275** (4) *Discrete Structures I* (MATH 115, CIS 200/2001*) ☐ **DDC course** (3) GEHA	☐ **MATH 227** (3) *Intro to Linear Algebra* (MATH 116 'C-') ☐ **DDC course** (3) GESB
Semester 4	**Semester 5**	**Semester 6**
☐ **MATH 215** (4) *Calculus III* (MATH 116 'C-') ☐ **CIS 306** (4) *Discrete Structures II* (CIS 275) ☐ **CIS 350** (4) *Data Structures* (MATH 115, CIS 200 or 2001 'C-', CIS 275) ☐ **STAT 305** (3) *Intro to Data Science*	☐ **CIS 310** (4) *Assembly Language* (MATH 115, CIS 200 or 2001, CIS 275) ☐ **COMP 270** (3) *Technical Writing* (COMP 105 or placement); DDC GEWO ☐ **Lab Science I** (4) Choose from: BIOL 130, GEOL 118, CHEM 134, PHYS 125, PHYS 150; DDC GENS ☐ **IMSE 317** (3) *Probability and Statistics* (MATH 116)	☐ **ECON 201** (3) *Macroeconomics,* or **ECON 202** (3) *Microeconomics* (MATH 105 recommended) ☐ **Lab Science Sequence II** (4) Choose from: BIOL 320, GEOL 218, CHEM 136, PHYS 126, PHYS 151; DDC GENS

* denotes a corequisite course
Courses listed in parentheses () are prerequisites for the listed course

Semester 7	Semester 8	Semester 9
☐ **CIS 450** (4) *Operating Systems* (CIS 310, CIS 350, IMSE 317*) ☐ **CIS 296** Fall (3) *Java*, or **CIS 297** Winter (3) *Intro to C#*, or **CIS 298** Winter (3) *Intro to Python* (CIS 200) ☐ **CIS 375** (4) *Software Engineering I* (COMP 270, CIS 350) ☐ **ECE 3100** Fall (4) *Data Science I* (CIS 150 or 1501, MATH 227, IMSE 317*)	☐ **CIS 427** (4) *Comp Networks* (IMSE 317, CIS 350) ☐ **CIS 479** (3) *Artificial Intelligence* (CIS 350) ☐ **CIS 3200** Winter (4) *Data Science II* (ECE 3100, CIS 200 or 2001 'C-') ☐ **HHS 470** Winter (3) *Info Science and Ethics*	☐ **Additional Lab Science** (4) Choose course in different subject area from Lab Science Sequence on the previous page. Options include: ASTR 130 + 131, GEOL 118, GEOL 218, CHEM 134, PHYS 125, PHYS 150 ☐ **ENT 400** (3) *Entrepreneurship* (55 credits), or **ENGR 400** (3) *Applied Business Techniques* (85 credits); DDC GEIN
Semester 10	**Semester 11**	**Semester 12**
☐ **STAT 430** Fall (3) *Applied Regression Analysis* (IMSE 317) ☐ **CIS 422** Fall (4) *Massive Data Management* (CIS 350) ☐ **DDC course** (3) GESB ☐ **DS Application** (3)	☐ **CIS 4981** (2) *Senior Design I* (CIS 375, IMSE 317, CIS 3200, CIS 310, and CIS 427 or 450) ☐ **DS Application** (3) ☐ **DS Application** (3) ☐ **DS Application** (3) ☐ **DS Application** (3)	☐ **CIS 4982** (2) *Senior Design II* (CIS 4981, STAT 430*) ☐ **DS Application** (3)

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NOTES	NOTES	NOTES
A course may fulfill multiple requirements; however, credit is only applied once. Using one course to fulfill multiple requirements may result in a deficiency in total credits. Check design/tech courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes.	The sample pathways were created with Fall and Winter semester enrollment in mind. Summer semesters can be used to lessen the workload, and/or participate in co-op or research. For DDC requirements, please see the University's guidelines Each student's pathway is unique and may differ slightly from this one See DDC master list for GESB/GEHA options	**Take 18 credit hours from the following:** CCM 404 (3), CCM 472 (3), CCM 473 (3), CIS 376 (4), CIS 405 (3), CIS 411 (3), CIS 423 (3), CIS 439 (3), CIS 446 (3), CIS 449 (3), CIS 451 (3), CIS 452 (3), CIS 481 (3), CIS 4851 (3), CIS 483 (3), CIS 489 (3)

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