

## College of Computer, Mathematical and Natural Sciences

## Computer Science Effective Fall 202

$\qquad$ Nam
Date Entered Major__S_Second degree/major

UID
UID

| Is CMNS first major? Y N |  |  |  |
| :--- | :---: | :---: | :---: |
| Major Requirements |  |  |  |
| Lower Level Requirements (Must pass with a grade of C- or higher)    <br> Course Credits Competed?  <br> Citle MATH 140 4  <br> Calculus I MATH 141 4  <br> Object-Oriented Programming I CMSC 131 or <br> CMSC 141 4  <br> Programming with Purpose I: Data-Centric Computing CMSC 132 or <br> CMSC 142 4  <br> Object-Oriented Programming II CMSC 216 4  <br> Programming with Purpose II: Data Structures and Algorithms CMSC 250 4  <br> Introduction to Computer Systems CMSC 330 3  <br> Discrete Structures CMSC 351 3  <br> Organization of Programming Languages STAT 4XX 3  <br> Algorithms  $3 / 4$  <br> STAT 4xx with MATH 141 prerequisite    <br> MATH/AMSC/STAT xxx with MATH 141 prerequisite    |  |  |  |


| Upper Level Courses (Must pass with a grade of C- or higher) <br> Select 5 courses from at least 3 of the following areas with no more than 3 courses in a given area |  |  |  |
| :--- | :---: | :---: | :---: |
| Area 1: Systems | Course | Credits | Completed? |
| Computer Systems Architecture | CMSC 411 | 3 |  |
| Operating Systems * | CMSC 412 | 4 |  |
| Computer and Network Security | CMSC 414 | 3 |  |
| Introduction to Paralle Computing | CMSC 416 | 3 |  |
| Computer Networks | CMSC 417 | 3 |  |


| Requirement | Course | Credits | Completed? |
| :--- | :---: | :---: | :---: |
| UP Understanding Plural Societies |  |  |  |
| UP or Understanding Plural Societies or Cultural <br> CC Competence |  |  |  |


| Upper Level Concentration |  |  |  |
| :--- | :--- | :--- | :---: |
|  |  |  |  |
| Students must complete a minimum of 12 credit hours of $300-400$ level courses in one <br> discipline outside of Computer Science. No course that is in, or cross-listed as, CMSC may be <br> counted in this requirement. Only 1 independent study or experiential learning course may be <br> used. Students who are pursuing a minor or a second major can use those creditin this area. <br> Consult with your academic advisor to ensure each course you plan to take will satisfy this area. |  |  |  |
| Course |  |  |  |
|  | Credits | Completed? |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |


| Elective Credits |  |  |
| :--- | :--- | :--- |
| Students must take enough elective courses in any discipline(s) they choose to reach the total <br> number of 120 credits required for graduation. Students who are pursuing a minor or a second <br> major can use those credits in this area. |  |  |
| Course | Credits | Completed? |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
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| Area 2: Information Processing | Course | Creadis | Completed? |
| :--- | :---: | :---: | :--- |
| Data Structures | CMSC 420 | 3 |  |
| Introduction to Artificial Intelligence | CMSC 421 | 3 |  |
| Introduction to Machine Learning * | CMSC 422 | 3 |  |
| Bioinformatic Algorithms, Databases and Tools | CMSC 423 | 3 |  |
| Database Design | CMSC 424 | 3 |  |
| Computer Vision * | CMSC 426 | 3 |  |
| Computer Graphics * | CMSC 427 | 3 |  |
| Introduction to Natural Language Processing * | CMSC 470 | 3 |  |
| Introduction to Data Visualization (Area 2 OR Area 3) | CMSC 471 | 3 |  |
| Introduction to Deep Learning * | CMSC 472 | 3 |  |


| Area 3: Software Engineering and Programming Languages | Course | Creatis | Completed? |
| :--- | :---: | :---: | :---: |
| Introduction to Compilers | CMSC 430 | 3 |  |
| Programming Language Technologies and Paradigms | CMSC 433 | 3 |  |
| Introduction to Human-Computer Interaction | CMSC 434 | 3 |  |
| Software Engineering * | CMSC 435 | 3 |  |
| Programming Handheld Systems | CMSC 436 | 3 |  |
| Introduction to Data Visualization (Area 2 OR Area 3) | CMSC 471 | 3 |  |


| Area 4: Theory | Course | Credits | Completed? |
| :--- | :---: | :---: | :---: |
| Design and Analysis of Computer Algorithms | CMSC 451 | 3 |  |
| Elementary Theory of Computation | CMSC 452 | 3 |  |
| Algorithms for Data Science | CMSC 454 | 3 |  |
| Cryptology | CMSC 456 | 3 |  |
| Introduction to Quantum Computing | CMSC 457 | 3 |  |
| Introduction to Computational Game Theory | CMSC 474 | 3 |  |


| Area 5: Numerical Analysis | Course | Creatis | Completed? |
| :--- | :---: | :---: | :---: |
| Computational Methods * | CMSC 460 or <br> CMSC 466 | 3 |  |
| Introduction to Numerical Analysis * |  |  |  |



College of Computer, Mathematical and Natural Sciences
Computer Science - General Track Effective Fall 2024
This is a generalized academic plan, not an official audit

| Year 1 | Fall |  |  |
| :--- | :--- | :--- | :--- |
| Gateway \& Benchmark 1 <br> Requirements: CMSC131, <br> CMSC132, and MATH140 <br> must be completed with a C- <br> or higher by 45 credits (AP/IB <br> credits excluded) | Course | OnGL101 (FSAW) | Comm (FSOC) |


| Spring |  |  |
| :--- | :--- | :--- |
|  | Credit |  |
| Course | Grade |  |
| CMSC132 or CMSC142 | 4 |  |
| MATH141 |  | 4 |
| Natural Science w/ Lab (DSNL) |  | 4 |
| History \& Social Science (DSHS)* |  |  |
|  | 3 |  |
|  |  |  |
| Total |  |  |


| Year 2 | Fall |  |  |
| :--- | :--- | :--- | :--- |
| Benchmark 2 Requirements: <br> CMSC330, CMSC351, and <br> MATH or STAT must be <br> completed with a C- or higher <br> by 75 credits (AP/IB credits <br> excluded) | Course | CMSC250 | Credit |


| Spring |  |  |
| :--- | :--- | :--- |
|  | Credit | Grade |
| Course |  | 3 |
| CMSC330 |  | 3 |
| CMSC351 | 3 |  |
| STAT4XX | 3 |  |
| Natural Science (DSNS) | 3 |  |
| Humanities (DSHU)* |  |  |
|  |  | 15 |
| Total |  |  |


| Year 3 | Fall |  |  |
| :---: | :---: | :---: | :---: |
|  | Course | Credit | Grade |
|  | CMSC4XX | 3 |  |
|  | CMSC4XX | 3 |  |
|  | History \& Social Sciences (DSHS)* | 3 |  |
|  | Humanities (DSHU)* | 3 |  |
|  | Big Question (SCIS) | 3 |  |
|  | Total | 15 |  |


| Spring |  |  |
| :--- | :--- | :--- |
|  | Credit | Grade |
| Course |  | 3 |
| CMSC4XX |  | 3 |
| CMSC4XX | 3 |  |
| ENGL39X (FSPW)** | 3 |  |
| Scholarship in Practice (DSSP)* | 3 |  |
| Big Question (SCIS) |  | 3 |
|  |  |  |
| Total |  | 15 |


| Year 4 | Fall |  |  |
| :---: | :---: | :---: | :---: |
|  | Course | Credit | Grade |
|  | CMSC4XX | 3 |  |
|  | CMSC Elective | 3 |  |
|  | UL Concentration | 3 |  |
|  | UL Concentration | 3 |  |
|  | Plural Societies (DVUP)* | 3 |  |
|  |  |  |  |
|  | Total | 15 |  |


| Spring |  |  |
| :--- | ---: | :--- |
|  | Credit | Grade |
| Course | 3 |  |
| CMSC Elective | 3 |  |
| UL Concentration | 3 |  |
| UL Concentration | 3 |  |
| Plural Societies (DVUP) or <br> Cultural Competence (DVCC)* | 3 or 4 |  |
| Elective |  |  |
|  | 15 or 16 |  |
| Total |  |  |

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[^0]:    *All students must complete two Distributive Studies courses that are approved for Big Question courses. The Understanding Plural Societies (UP) and Cultural Competence (CC) courses may also fulfill Distributive Studies categories.
    ${ }^{* *}$ Students may take any Professional Writing course to fulfill this requirement.

