# Bachelor of Science in Computer Science
# Advanced Computing
# Checklist

| Required Course | When Taken | Grade | Notes |
|---|---|---|---|
| **Computer Science Core (33 Credit hours)** | | | |
| CSIT  121 Computer Science I | | | |
| CSIT  221Computer Science II | | | |
| CSIT 324 Object Oriented Programming | | | |
| CSIT 231 Systems Programming | | | |
| CSIT 241Discrete Math for CS I  / *MATH 231 Linear Algebra,* | | | |
| CSIT 311 Assembly Language/Computer Organization | | | |
| CSIT 321 Paradigms of Programming Languages | | | |
| CSIT 341 Data Structures | | | |
| CSIT 425 Software  Engineering | | | |
| CSIT 431 Introduction to Operating Systems | | | |
| CSIT 455 Relational and Object Databases | | | |
| **Advanced Computing Requirements and Electives** | | | |
| MATH 122 University Calculus I | | | |
| MATH 123 University Calculus II | | | |
| CSIT 242 Discrete Math for Computer Science II | | | |
| CSIT 441 Analysis and Design of Algorithms | | | |
| CS Elective | | | |
| CS Elective (400 level)* | | | |
| CS Elective (400 level)* | | | |

**\*Three additional computer science courses** must be taken from the list below; At **least two courses must be at the 400 level**:
CSIT 307 Web Development with Ruby on Rails , CSIT 411 Programming for Embedded Microcontrollers, CSIT 413 Computer Architecture,  CSIT 435 Data Communications and Networks, CSIT 456 Information and Decision Support Systems, CSIT 433 Compiler Construction,  CSIT 443 Theory of Computation, CSIT 461 Introduction to AI and Knowledge Engineering, CSIT 462 Computer Graphics, CSIT 463 Introduction to Digital Image Processing and Computer Vision, CSIT 473 Data Warehousing and Mining, CSIT 475 Electronic Commerce.

One course from the following list may be taken as an  elective; CSIT 490 Seminar on Selected Topics, CSIT 496 Special Topics, CSIT497 Thesis, CSIT 499 Senior Project, CSIT 300 Internship, CSIT 291 Special Topics, CSIT 390 Directed Study, CSIT 201 Computer and Ethics, CSIT 400 Directed Independent Study.

**Additional Requirements:**  Students must complete a minimum of **30 credit hours in Natural Sciences (BIOL, CHEM, GEO, PHYS) and Mathematics/Statistics (MATH/STAT).**  Of these, at least **3 credits must be in Mathematics/Statistics** (in addition to CSIT 241, CSIT 242, MATH 122, and MATH 123) and must come from the following list, by advisement:  * MATH 223 University Calculus III, MATH 231 Linear Algebra, MATH 325 Numerical Analysis, MATH 335 Number Theory, MATH 337 Combinatorics, MATH 341 Geometry, STAT 250 Statistics for Scientists, STAT 350 Probability and Statistics.

**At least 7 credits must be in Biology, Chemistry, Geosciences, or Physics, and at least one of these 7 credits must be a laboratory course.**  (The above requirements may also be used to fulfill general education requirements, or requirements for a minor or second major.)

## Additional Requirements (30 credits)

| | When Taken | Grade | Notes |
|---|---|---|---|
| MATH/STAT elective from the above list * (3 credits) | | | |
| BIOL.CHEM GEO OR PHYS (3 credits) | | | |
| BIOL, CHEM, GEO OR PHYS *Must be a lab course (4 credits) | | | |
| BIOL, CHEM, GEO, PHYS OR MATH/STAT COURSE | | | |
| BIOL, CHEM, GEO, PHYS OR MATH/STAT COURSE | | | |
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| BIOL, CHEM, GEO, PHYS OR MATH/STAT COURSE | | | |

**Students must complete a minimum of 66 credits of non-CIS courses.  Students must have GPA of at least 2.0, both overall and in the courses listed in the above checklist. Students must complete a minimum of 120 total credit hours  All students WHO STARTED IN FALL 2015 OR AFTER seeking an undergraduate degree must complete 45 credit hours as the upper-level (300 and above)**

**Students may double major in Computer Science and Computer Information Systems by completing all requirements for both majors; the student is required to take at least 15 additional credit hours in the second major (credit hours from courses within the list of courses of the second major not used to satisfy requirements in the first major).**

**College Core Curriculum**:        **MISSING:**

Student: _____

Advisor: _____

Anticipated Date
Of Completion: _____

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