



## M.S. in Computer Science Program Planning Guide

July 2021

### NOTES

1. Program requirements to completion: 33 credits beyond the Foundation courses. Foundation courses are not eligible to be used as electives.
2. All degree requirements must be met within seven (7) years of enrolling in the first course applied towards the program. International students may be required to complete *EAP 500 English for Academic Purposes*.
3. It is the student's responsibility to: (a) know and follow the program requirements and fulfil them, (b) plan their semester course schedules to remain compliant with external requirements (e.g. visa, scholarship) using the projected schedule below (schedule subject to adjustment), and, (c) request written approval for any course substitutions from your academic adviser or program director prior to enrollment. Failure to receive approval for course substitutions prior to enrollment may result in a delay in program completion.

Student Name: \_\_\_\_\_

Term/Year of first course: \_\_\_\_\_

| REQUIREMENTS   | CREDITS     | WAIVED | SEMESTER OFFERED | PREREQUISITES      | SEMESTER | GRADE |
|--|-------------|--------|------------------|--------------------|----------|-------|
| <b>FOUNDATION COURSES</b>  |             |        |                  |                    |          |       |
| EAP 500 English for Academic Purposes  | (3)         |        | FALL, SPRING     | None               |          |       |
| MATH 505 - Discrete Math   | 3           |        | FALL             | None               |          |       |
| CSIT 512 Elements of Computer Programming  | 3           |        | FALL, SPRING     | None               |          |       |
| CS 508 Computer Organization & Design  | 3           |        | FALL, SPRING     | CSIT 512, MATH 505 |          |       |
| CS 519 Advanced Data Structures  | 3           |        | FALL, SPRING     | CSIT 512           |          |       |
| <b>Foundation Total:</b>   | <b>3-18</b> |        |                  |                    |          |       |
| <b>CS CORE - REQUIRED COURSES</b>  |             |        |                  |                    |          |       |
| CS 520 Algorithm Analysis  | 3           |        | SPRING           | MATH 505, CS 519   |          |       |
| CS 524 Principles of Software Engineering  | 3           |        | FALL             | CSIT 512           |          |       |
| CS 528 Artificial Intelligence   | 3           |        | FALL             | CSIT 512           |          |       |
| CS 564 Operating Systems   | 3           |        | SPRING           | CS 508, CS 519     |          |       |
| <b>Select <u>one</u> from the following:</b>   |             |        |                  |                    |          |       |
| CS 561 Computer Architecture   | 3           |        | FALL (even yrs)  | CS 508, CS 519     |          |       |
| CS 571 Programming Languages   | 3           |        | FALL (odd years) | CS 508, CS 519     |          |       |
| <b>CS ELECTIVES - COURSE OPTIONS (18.0 credits with no RESEARCH or 12.0 credits with RESEARCH)</b>         |             |        |                  |                    |          |       |
| CS Elective #1   | 3           |        |                  |                    |          |       |
| CS Elective #2   | 3           |        |                  |                    |          |       |
| CS Elective #3   | 3           |        |                  |                    |          |       |
| CS Elective #4   | 3           |        |                  |                    |          |       |
| CS Elective #5   | 3           |        |                  |                    |          |       |
| CS Elective #6   | 3           |        |                  |                    |          |       |
| <b>CS ELECTIVES - RESEARCH OPTIONS (Select <u>one</u> of the options below, advisor approval required)</b> |             |        |                  |                    |          |       |
| CS 580 Master's Thesis OR CS 585 Fieldwork Project OR CS 595 Software Engineering Project                  | 6           |        | ANY              | ALL COURSES        |          |       |
| <b>Program Total (Core+Electives):</b>   | <b>33</b>   |        |                  |                    |          |       |

**CONCENTRATIONS:** Students may use their electives to get a concentration in *Data Science* or *Cybersecurity* or take electives from either or both areas.

| DATA SCIENCE            | SEMESTER OFFERED | PREREQUISITES              |
|-------------------------|------------------|----------------------------|
| CS 527 Data Science     | SPRING           | CS 530                     |
| CS 522 Data Mining      | FALL             | MATH 505, CS 519           |
| CS 543 Machine Learning | SPRING           | CS 528                     |
| CS 565 Adv DBMS         | FALL             | (CS 519 or CS 564), CS 530 |

| CYBERSECURITY*                                   | SEMESTER OFFERED  | PREREQUISITES |
|--|-------------------|---------------|
| CSIT 555 Info Sys Security                       | FALL, SPRING      | None          |
| CSIT 548 Telecom & Networking                    | FALL, SPRING      | None          |
| CSIT 534 Net & Internet Sec                      | FALL, SPRING      | CYBR 555      |
| CSIT 532 Computer Forensics                      | SPRING            | CYBR 555      |
| <b>Select <u>one</u> from the options below:</b> |                   |               |
| CSIT 566 Ethical Hacking                         | FALL, SPRING      | CYBR 534      |
| CSIT/CYBR 537 Encr & Crypto                      | SPRING (even yrs) | CYBR 555      |

\*Completion of this concentration earns a Cybersecurity Certificate.

Advisor Signature & Date: \_\_\_\_\_