

## Cybersecurity (BEng) – Co-Op Program September Entry

| Year 1: 30 credits |  |   | Year 2: 29 credits   |                        |  | Year 3: 31 credits  |   |                        | Year 4: 30 credits     |  |   |
|--------------------|--|---|--|------------------------|--|---|---|------------------------|------------------------|--|---|
| Summer             | Fall:<br>14.5 credits  | Winter:<br>15.5 credits   | Summer:<br>14.5 credits  | Fall                   | Winter:<br>14.5 credits  | Summer:<br>16 credits   | Fall:<br>15 credits   | Winter                 | Summer                 | Fall:<br>15 credits  | Winter:<br>15 credits   |
| <b>N/A</b>         | <b>ENGR 213</b><br>Applied Ordinary<br>Differential Equations<br>(3)<br>Pre-req: MATH 205;<br>Pre/Co req: MATH 204 | <b>ENGR 233</b><br>Applied Advanced<br>Calculus (3)<br>Pre-req: MATH 204,<br>MATH 205                                 | <b>ENGR 201</b><br>Professional Practice &<br>Responsibility (1.5)<br>Pre/Co req: None               | <b>Work<br/>Term 1</b> | <b>ENGR 202</b><br>Sustainable<br>Development &<br>Environmental<br>Stewardship (1.5)<br>Pre/Co req: None              | <b>INSE 331</b><br>Database Security<br>(3)<br>Pre-req: INSE 349;<br>COMP 352 or COEN<br>352                          | <b>ENGR 301</b><br>Engineering<br>Management Principles<br>& Economics (3)<br>Pre/Co req: None  | <b>Work<br/>Term 2</b> | <b>Work<br/>Term 3</b> | <b>INSE 441</b><br>Mobile Application<br>Security & Privacy (3)<br>Pre-req: INSE 349, INSE<br>445                    | <b>ENGR 392</b><br>Impact of Technology<br>on Society (3)<br>Pre-req: ENCS 282;<br>ENGR 201, ENGR 202 |
|                    | <b>INSE 201</b><br>Security Ethics, Laws,<br>Standards &<br>Compliance (1.5)<br>Pre/Co req: None                   | <b>General Elective</b><br>Course 1 (3)   | <b>ENGR 371</b><br>Probability & Statistics<br>in Engineering (3)<br>Pre-req: ENGR 213,<br>ENGR 233  |                        | <b>ENGR 391</b><br>Numerical Methods in<br>Engineering (3)<br>Pre-req: ENGR 213, 233;<br>COMP 248/COEN<br>243/MIAE 215 | <b>INSE 351</b><br>Operating System<br>Security (3)<br>Pre-req: INSE 349;<br>COMP 346 or COEN<br>346                  | <b>INSE 390</b><br>Cybersecurity<br>Engineering Team<br>Design Project (3)<br>Pre-req: ENCS 282; INSE<br>331, 351, ENGR 371<br>Pre/Co req: INSE 445 |                        |                        | <b>INSE 412</b><br>Cybercrime & Digital<br>Forensics (3)<br>Pre-req: INSE 401, INSE<br>442                           | <b>INSE 452</b><br>Penetration Testing &<br>Ethical Hacking (3)<br>Pre-req: INSE 442, INSE<br>445     |
|                    | <b>COMP 232</b><br>Mathematics for<br>Computer Science (3)<br>pre: MATH 203, 204                                   | <b>INSE 221</b><br>Cryptography I (3)<br>Pre-req: COMP 232 or<br>COEN 231   | <b>INSE 349</b><br>Secure Programming<br>and Software Design (3)<br>Pre-req: INSE 221                |                        | <b>COMP 346</b><br>Operating Systems (4)<br>Pre-req: COMP 352;<br>COMP 228 or SOEN 228                                 | <b>INSE 387</b><br>Introduction to AI &<br>Machine Learning in<br>Cybersecurity (3)<br>Pre-req: ENGR 371,<br>ENGR 391 | <b>INSE 445</b><br>Network Security (3)<br>Pre-req: INSE 221*, INSE<br>349; COMP 445 or ELEC<br>366 or COEN 366                                     |                        |                        | <b>INSE 48x</b><br>Cybersecurity<br>Engineering Elective<br>Course 1 (3)   | <b>INSE 48x</b><br>Cybersecurity<br>Engineering Elective<br>Course 3 (3)                              |
|                    | <b>COMP 248</b><br>Object-Oriented<br>Programming I (3.5)<br>Pre/Co req: MATH 204                                  | <b>COMP 249</b><br>Object-Oriented<br>Programming II (3.5)<br>Pre-req: COMP 248,<br>MATH 203;<br>Pre/Co req: MATH 205 | <b>COMP 352</b><br>Data Structures &<br>Algorithms (3)<br>Pre-req: COMP 249;<br>Pre/Co req: COMP 232 |                        | <b>INSE 386</b><br>Introduction to<br>Cybersecurity<br>Management &<br>Governance (3)<br>Pre-req: INSE 201             | <b>INSE 401</b><br>Usability & Human<br>Aspects of Security<br>(3)<br>Pre-req: INSE 221*                              | <b>INSE 442</b><br>Reverse Engineering,<br>Application & Malware<br>Analysis (3)<br>Pre-req: INSE 331, INSE<br>351                                  |                        |                        | <b>INSE 48x</b><br>Cybersecurity<br>Engineering Elective<br>Course 2 (3)   | <b>INSE 48x</b><br>Cybersecurity<br>Engineering Elective<br>Course 4 (3)                              |
|                    | <b>ELEC 275</b><br>Principles of Electrical<br>Engineering (3.5)<br>Pre-req: PHYS 205;<br>Pre/Co req: ENGR 213     | <b>Engineering &amp; Natural<br/>Science Group:<br/>Cybersecurity<br/>Engineering<br/>Course 1 (3)</b>                | <b>SOEN 228</b><br>System Hardware (4)<br>Pre-req: MATH 203,<br>MATH 204                             |                        | <b>ENCS 282</b><br>Technical Writing &<br>Communication (3)<br>Pre-req: EWT/ENCS 272                                   | <b>COMP 445</b><br>Data Communication &<br>Computer Networks (4)<br>Pre-req: COMP 346                                 | <b>INSE 413</b><br>Security Auditing &<br>Compliance (3)<br>Pre-req: INSE 331, INSE<br>351<br>Co-req: INSE 445                                      |                        |                        | <b>INSE 490</b><br>Capstone Cybersecurity Engineering Design<br>Project (6)<br>Pre-req: INSE 390; ENGR 301, ENGR 391 |   |