

# BACHELOR OF SCIENCE IN CYBERSECURITY WITH ARTIFICIAL INTELLIGENCE\*

\* Indicates that this program is an Incubator Program. Please visit Incubator Programs for more information.

## Required Courses

| Code                                                 | Title                                                                        | Credit Hours |
|------------------------------------------------------|------------------------------------------------------------------------------|--------------|
| <b>Information Technology Core Requirements (36)</b> |                                                                              |              |
| ITM 301                                              | Introduction to Contemporary Operating Systems and Hardware I                | 3            |
| ITM 303                                              | Introduction to Contemporary Operating Systems and Hardware II               | 3            |
| ITM 311                                              | Introduction to Software Development                                         | 3            |
| ITM 313                                              | Introduction to Open Source Application Development                          | 3            |
| ITMD 321                                             | Data Modeling and Applications                                               | 3            |
| ITMD 361                                             | Fundamentals of Web Development                                              | 3            |
| ITMD 362                                             | Human-Computer Interaction and Web Design                                    | 3            |
| ITMD 411                                             | Intermediate Software Development                                            | 3            |
| ITMM 471                                             | Project Management for Information Technology and Management                 | 3            |
| ITMO 340                                             | Introduction to Data Networks and the Internet                               | 3            |
| ITMO 356                                             | Introduction to Open Source Operating Systems                                | 3            |
| ITMT 330                                             | Introduction to Information Systems and the IT Profession                    | 3            |
| <b>Cybersecurity Core Requirements (33)</b>          |                                                                              |              |
| ITMM 485                                             | Legal and Ethical Issues in Information Technology                           | 3            |
| ITMS 416                                             | Foundations of Secure AI Systems                                             | 3            |
| ITMS 418                                             | Coding Security                                                              | 3            |
| ITMS 443                                             | Vulnerability Analysis and Control                                           | 3            |
| ITMS 448                                             | Cyber Security Technologies                                                  | 3            |
| ITMS 458                                             | Operating System Security                                                    | 3            |
| ITMS 460                                             | Secure AI Systems Engineering and Defense                                    | 3            |
| ITMS 483                                             | Digital Evidence                                                             | 3            |
| ITMT 430                                             | System Integration                                                           | 3            |
| ITMS 484                                             | Governance, Risk, and Compliance                                             | 3            |
| DS 151                                               | Introduction to Data Science                                                 | 3            |
| <b>Mathematics Requirements (9)</b>                  |                                                                              |              |
| MATH 180                                             | Fundamentals of Discrete Mathematics (Select one course from the following:) | 3            |
| or MATH 230                                          | Introduction to Discrete Math                                                |              |
| MATH 192                                             | Linear Mathematics                                                           | 3            |
| Select one course from the following:                |                                                                              | 3            |
| STAT 225                                             | Introductory Statistics (Select one course from the following:)              | 3            |

|                                                          |                                                               |            |
|----------------------------------------------------------|---------------------------------------------------------------|------------|
| BUS 221                                                  | Business Statistics (Select one course 3 from the following:) |            |
| PSYC 203                                                 | Undergraduate Statistics for the Behavioral Sciences          | 4          |
| <b>Natural Science and Engineering Requirements (10)</b> |                                                               |            |
| PHYS 200 is recommended                                  |                                                               |            |
| See Illinois Tech Core Curriculum, section D             |                                                               | 10         |
| <b>Humanities and Social Sciences Requirements (21)</b>  |                                                               |            |
| PSYC 211 is recommended                                  |                                                               |            |
| See Illinois Tech Core Curriculum, sections B and C      |                                                               | 21         |
| <b>Interprofessional Projects (IPRO) (6)</b>             |                                                               |            |
| See Illinois Tech Core Curriculum, section E             |                                                               | 6          |
| <b>Free Electives (6)</b>                                |                                                               |            |
| Select six credit hours                                  |                                                               | 6          |
| <b>Total Credit Hours</b>                                |                                                               | <b>121</b> |

## Bachelor of Science in Cybersecurity and AI

|                               |              |                                                   |              | Year 1    |
|-------------------------------|--------------|---------------------------------------------------|--------------|-----------|
| Semester 1                    | Credit Hours | Semester 2                                        | Credit Hours |           |
| ITM 301                       | 3            | ITM 303                                           | 3            |           |
| ITMT 330                      | 3            | ITMO 340                                          | 3            |           |
| Natural Science Elective      | 4            | ITMO 356                                          | 3            |           |
| Humanities 100-level Elective | 3            | MATH 180 or 230                                   | 3            |           |
|                               |              | Natural Science Elective                          | 3            |           |
|                               | <b>13</b>    |                                                   |              | <b>15</b> |
|                               |              |                                                   |              | Year 2    |
| Semester 1                    | Credit Hours | Semester 2                                        | Credit Hours |           |
| ITMD 361                      | 3            | ITMD 362                                          | 3            |           |
| ITMD 321                      | 3            | ITMS 448                                          | 3            |           |
| ITM 311                       | 3            | ITM 313                                           | 3            |           |
| MATH 192                      | 3            | Statistics Elective (STAT 225, BUS 221, PSYC 203) | 3            |           |
| Natural Science Elective      | 3            | Social Science 100-level Elective                 | 3            |           |
|                               |              | Minor, Technical, or Free Elective                | 3            |           |
|                               | <b>15</b>    |                                                   |              | <b>18</b> |
|                               |              |                                                   |              | Year 3    |
| Semester 1                    | Credit Hours | Semester 2                                        | Credit Hours |           |
| ITMD 411                      | 3            | ITMS 416                                          | 3            |           |

|                            |   |                                        |        |
|----------------------------|---|----------------------------------------|--------|
| ITMM 485                   | 3 | ITMS 483                               | 3      |
| ITMS 484                   | 3 | ITMS 418                               | 3      |
| DS 151                     | 3 | ITMS 443                               | 3      |
| Humanities Elective (200+) | 3 | Social Sciences Elective (200+)        | 3      |
| 15                         |   | 15                                     |        |
| Semester 1                 |   | Credit Hours                           | Year 4 |
| Semester 2                 |   | Credit Hours                           |        |
| ITMM 471                   | 3 | ITMT 430                               | 3      |
| ITMS 458                   | 3 | I PRO Elective II                      | 3      |
| ITMS 460                   | 3 | Minor, Technical, or Free Elective     | 3      |
| Humanities Elective (200+) | 3 | Social Sciences Elective (200+)        | 3      |
| I PRO ELECTIVE 1           | 3 | Humanities or Social Sciences Elective | 3      |
| 15                         |   | 15                                     |        |
| Total Credit Hours: 121    |   |                                        |        |