# Master of Science in Cybersecurity Analytics and Operations One Year Curriculum Plan (30 credits)

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| **Fall Semester**  | **Courses\*** | **Credits** | **Notes** |
| **Required** | IST 815 – Foundations of Information Security and Assurance | 3 | Cybersecurity |
| **Required** | IST 554 – Network Management and Security | 3 | Cybersecurity |
| **Required** | IST 825 – Foundations of Web and E-Commerce Application Security | 3 | Cybersecurity |
| **Required** | IST 594– Research Topics (Scholarly Paper)  | 3 | Research |
| **Total Credits** |  | 12 |  |

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| **Spring Semester**  | **Courses\*** | **Credits** | **Notes** |
| **Required** | IST 543 – Foundations of Software Security  | 3 | Cybersecurity |
| **Required** | IST 820 – Cybersecurity Analytics | 3 | Cybersecurity |
| **Required** | IST 594 – Research Topics (Scholarly Paper) | 0-3 | Research |
| **Required** | Elective (choose from list) | 3 | Elective |
| **Total Credits** |  | 9-12 |  |

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| **Summer Semester**  | **Course\*** | **Credits** | **Notes** |
| **Required** | IST 594 – Research Topics (Scholarly Paper) | 0-3 | Research |
| **Required** | Elective (choose from list) | 3 | Elective |
| **Required** | Elective (choose from list) | 3 | Elective |
| **Total Credits** |  | 6-9 |  |

*\*Suggested curriculum plan with an aggressive 1-year completion goal. Course availability subject to change.*

* *At least 18 credits must be in the 500 or 600 series, combined.*
* ***Thesis Option:*** *Selecting the thesis option may require more than 1-year to complete. Also, IST 600 replaces IST 594 on the above plan.*
* *WC – World Campus, a maximum of 10 credits may be taken online*

**Cybersecurity Analytics and Operations Elective Course List**

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| **Course** | **Credits** |
| IST 504 – Foundations of Theories and Methods of Information Sciences and Technology Research | 3 |
| IST 511 – Information Management: Information and Technology | 3 |
| IST 555 – Intelligent Agents and Distributed Decision Making | 3 |
| IST 557 – Data Mining: Techniques and Applications | 3 |
| IST 558 – Data Mining II | 3 |
| IST 564 – Crisis, Disaster and Risk Management | 3 |
| IST 805 – Cybersecurity Forensics and Management | 3 |
| IST 841 – Search Engines & Information Retrieval | 3 |
| IST 868 – Topics in Visual Analytics for Security Intelligence | 3 |

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| **Scholarship and Research Integrity (SARI) Requirements** |  |
| Each student must complete the SARI training – prior to starting the program or by the end of August. | **Date completed & submitted to** **ISTgradprograms@psu.edu** |
| **Institutional Review Board (IRB) training** |  |
| **Responsible Conduct of Research (RCR) training** |  |