# Master of Science in Informatics

# Two Year Curriculum Plan (30 credits)

**First Year Courses**

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| **Fall Semester** | **Courses** | **Credits** |
| **Required Foundation Course** | IST 504 – Foundations of Theories and Methods of Information Sciences and Technology | 3 |
| **Specialization Course** | IST 520 | 3 |
| **Research Methods** | IST 530 | 3 |
| **Total Semester Credits** | | 9 |
| **Spring Semester** | **Courses** | **Credits** |
| **Specialization Course** | IST 597 | 3 |
| **Specialization Course** | IST 521 | 3 |
| **Research Methods** | IST 525 | 3 |
| **Total Semester Credits** | | 9 |

**Second Year Courses**

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| **Fall Semester** | **Courses** | **Credits** | |
| **Specialization Course** | IST 597 | 3 | |
| **Specialization Course** | Choose one of the specialization courses in an area of your choice | 3 | |
| **Thesis/Scholarly Paper** | IST 594/IST 600\*\* | 3 | |
| **Total Semester Credits** | | 9 | |
| **Spring Semester** | **Courses** | | **Credits** |
| **Thesis/Scholarly Paper** | IST 594/IST 600\*\* | | 3 |
| **Total Semester Credits** | | | 3 |

* *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.*
* *WC – World Campus, a maximum of 10 credits may be taken online*
* *Research Methods Course List* [*https://ist.psu.edu/sites/default/files/current-grad/methods-course-list.docx*](https://ist.psu.edu/sites/default/files/current-grad/methods-course-list.docx)

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| **Specialization Courses – These are the standard course offerings by area and the semester they are offered. Additional courses offerings are sent out each semester, please refer to the specific semester lists for the most up to date offering information.** | | | | | |
| **Cybersecurity Courses** | **Semester**  **Offered** | **Data Sciences Courses** | **Semester Offered** | **Human-Centered Design Courses** | **Semester**  **Offered** |
| IST 543: Foundations of Software Security | Fall | IST 557: Data Mining: Techniques and Applications | Fall | IST 520: Foundations in Human-Centered Design | Fall |
| IST 554: Network Management and Security | Spring | IST 558: Data Mining II | Spring | IST 521: Human-Computer Interaction: The User and Technology | Spring |
| IST 564: Crisis, Disaster and Risk Management | Spring | IST 597: Special Topics: Machine Learning | Spring | IST 525: Computer-Supported Cooperative Work | Spring |
| IST 815: Foundations of Information Security and Assurance | Fall | STAT 500: Applied Statistics | Fall  Spring  Summer | IST 526: Development Tools and Visualizations for Human-Computer Interactions | Spring |
| IST 820: Cybersecurity Foundations | Spring |

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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**](mailto:ISTgradprograms@psu.edu) |
| **Institutional Review Board (IRB) training** |  |
| **Responsible Conduct of Research (RCR) training** |  |

**\*\*Culminating Experience – Thesis or Scholarly paper (3-6 credits)**

Students may choose athesis or scholarly paper to fulfill the culminating experience.

**Thesis**

Students who choose the thesis option must register for 6 credits of IST 600, write a satisfactory thesis accepted by the master’s committee, the head of the graduate program, and the Graduate School, and pass a thesis defense. Selecting the thesis option may require more than 1-year to complete. Students who choose the thesis option must also complete IST 505.

**Scholarly Paper**

Students who choose the scholarly paper option must register for 3 credits of IST 594 and complete the scholarly paper. The scholarly paper will be a focused piece of technical work that applies the student’s expertise and knowledge base, and that is documented and presented as a scholarly paper report.

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| **Typical Course Offerings\*** | |
| **Fall Offerings** | **Spring Offerings** |
| IST 504 – Foundations of Theories and Methods | DS 560 E/O |
| IST 520 – Foundations in Human-Centered Design | IST 503 – Foundations of IST Research |
| IST 530 – Foundations in Social Informatics | IST 505 – Foundations of Research Design |
| IST 543 – Foundations of Software Security | IST 510 – Foundations in Computational Informatics |
| IST 557 – Data Mining: Techniques and Applications | IST 521 – Human-Computer Interaction: The User and Technology |
| IST 577 – Human Factors of Security & Privacy | IST 525 – Computer-Supported Cooperative Work |
| IST 597 – Topics Vary | IST 526 – Development Tools and Visualizations for Human-Computer Interactions |
| IST 815 – Foundations of Information Security and Assurance | IST 541 – Qualitative Research in IST |
| IST 830 E/O – Cybersecurity Project Management – next offerings Fall 2025, Fall 2027, Fall 2029. | IST 554 – Network Management and Security |
|  | IST 558 – Data Mining II |
|  | IST 561 – Data Mining Driven Design |
|  | IST 564 – Crisis, Disaster, Risk Management |
|  | IST 584 (also summer) – Cyber Simulation Event |
|  | IST 594 (also summer) – Research (Scholarly Paper) |
|  | IST 597 – Topics Vary |
|  | IST 820 – Cybersecurity Analytics |
|  | IST 825 – Technologies for Web and E-Commerce Application Security |

#### \*Course offerings subject to change