The fourth cyber-defense skill is on implementing a network intrusion detection software tool which can detect suspicious network flows. This module provides the students with a practical exercise applying their programming skills to do penetration testing. The fourth cyber-defense skill is on implementing a network intrusion detection software tool which can detect suspicious network flows. This module provides the students with a practical exercise applying their programming skills to do penetration testing.
Malware analysis and analytics. Through this course, the students will gain concrete understandings on principles and practices of malware analysis and defense.

**Enforced Prerequisite at Enrollment:** IST 242 and IST 261 and CYBER 262

**CYBER 399:** Foreign Studies

1-12 Credits/Maximum of 12

Courses offered in foreign countries by individual or group instruction.

International Cultures (IL)

**CYBER 440:** Cybersecurity Capstone

3 Credits

Cybersecurity Capstone is an advanced, culminating course for students who are majoring in Cybersecurity. This course provides the student with a practical exercise, designed by the instructor. The initial weeks of the semester provide the student with an overview of several analytic frameworks that are used in cybersecurity shops and organizations. Then, the student reviews specific technical analysis methods in malware, static and dynamic analysis, file system exploration, security log file analysis and network analysis. The findings from these analyses are then integrated into the analytic framework, gaps are identified, further analysis is conducted to fill the gaps. In the final weeks of the semester, students construct a high level briefing that supplies appropriate levels of technical detail to top level executives.

**Enforced Prerequisite at Enrollment:** CYBER 342W and ENGL 202 and 7th semester standing.

**CYBER 494:** Research Project

1-12 Credits/Maximum of 12

Supervised student activities on research projects identified on an individual or small-group basis.

**CYBER 496:** Independent Studies

1-18 Credits/Maximum of 18

Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

**CYBER 497:** Special Topics

1-9 Credits/Maximum of 9

Formal courses offered infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

**CYBER 499:** Foreign Studies

1-12 Credits/Maximum of 12

Courses offered in foreign countries by individual or group instruction.

International Cultures (IL)