SECURITY AND RISK ANALYSIS, B.S. (HARRISBURG)

Begin Campus: Any Penn State Campus
End Campus: Harrisburg

Program Description
Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Bachelor of Science in Security and Risk Analysis (SRA) in the College of Information Sciences and Technology is intended to familiarize students with the general frameworks and multidisciplinary theories that define the area of security and related risk analyses. Courses in the major will engage students in the challenges and problems associated with assuring information confidentiality and integrity (e.g., social, economic, technology-related, and policy issues), as well as the strengths and weaknesses of various methods for assessing and mitigating associated risk.

The major provides a grounding in the analysis and modeling efforts used in information search, visualization, and creative problem solving. This knowledge is supplemented through an examination of the legal, ethical, and regulatory issues related to security that includes analyzing privacy laws, internal control and regulatory policies, as well as basic investigative processes and principles. Such understanding is applied to venues that include transnational terrorism, cyber crimes, financial fraud, risk mitigation, and security and crisis management. It also includes overviews of the information technology that plays a critical role in identifying, preventing and responding to security-related events.

Advisory groups from within and outside the University involved in the design of the major have agreed that graduates who can understand the cognitive, social, economic, and policy issues involved in security and risk management as well as the basics of the information technology and analytics that are included in the security/risk arena will be very successful. These observations drove the design and objectives of the SRA major.

SRA majors will choose one of the following options:

Intelligence Analysis and Modeling Option
This option focuses on developing a more thorough knowledge of the strategic and tactical levels of intelligence collection, analysis, and decision-making. This includes examining the foundations of decision analysis, economic theory, statistics, data mining, and knowledge management, as well as the security-specific contexts in which such knowledge is applied.

Information and Cyber Security Option
This option includes a set of courses that provides an understanding of the theories, skills, and technologies associated with network security, cyber threat defense, information warfare, and critical infrastructure protection across multiple venues.

What is Security and Risk Analysis?
Security and risk analysis is a field that explores the integrated processes conducted to provide decision-makers with the information needed to understand factors that can negatively influence operations and outcomes, and make informed judgments concerning the extent of actions needed to reduce vulnerabilities, protect resources, and optimize investments. Security and risk analysis is a field of practice with two blended concentration areas: 1) security, which seeks to identify, understand, and analyze critical local, national and international security issues, and 2) risk, which includes risk assessment, risk characterization, risk communication, risk management, and the formulation of risk policy. In practice, the issues and processes for conducting of security and risk analytics are neither separate nor sequential. To be effective, the issues of security and risk must be addressed concurrently and synergistically.

MORE INFORMATION (https://ist.psu.edu/students/undergrad/majors/sra)

You Might Like This Program If...
- You want to protect people, information, and assets from manmade and natural threats.
- You want to understand the role of data in protecting individuals, organizations and our nation.
- You are mission oriented, a good critical thinker and wish to put your problem-solving skills to work to make the world a safer place.
- You want to make informed strategic decisions that help to defend critical infrastructures that support our daily lives.

MORE INFORMATION (https://issuu.com/istpsu/docs/sra-major)

Entrance to Major
To be eligible for entrance to the Security and Risk Analysis (SRA) major, students must:

1. have completed the following entrance-to-major requirements with grades of C or better in each: IST 140 (or equivalent CMPSC 101 or CMPSC 121), IST 210, SRA 111; and SRA 211.
2. have achieved a minimum cumulative grade point average of 2.00 prior to and through the end of the semester during which the entrance-to-major procedure is carried out.

The Integrated Undergraduate Graduate (IUG) program is available for strong undergraduate students who wish to pursue a bachelor's and master's degree in a shorter period of time than would be necessary if the degrees were pursued separately. Security and Risk Analysis undergraduates may apply for admission to the SRABS/ISTMS IUG program as early as the end of their sophomore year but no later than the end of their junior year after completing a minimum of 60 credits, if they meet the following admission requirements:

1. Must apply to the IUG program by the end of their junior year.
2. Must be enrolled in the SRABS undergraduate degree program.
3. Must have completed 60 credits of an SRABS undergraduate degree program.
4. Must apply to and be accepted without reservation into the Graduate School and M.S. program in IST. Students must complete the Graduate School application (http://www.gradschool.psu.edu/apply/?CFID=4347157&CFTOKEN=809212809140639-22E9BF85-AF21-D9DA-933F35E90FB10EAB&jsessionid=84304e7b7ae285ec9a524e5b1e591250183e).

MORE INFORMATION (https://issuu.com/istpsu/docs/sra-major)
5. Must have an overall GPA of 3.5 (on a 4.0 scale) in undergraduate coursework and a minimum GPA of 3.5 in all coursework completed for the major.
6. Must present an approved plan of study. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser.
7. Must present two letters of recommendation from faculty members. (Note: For Schreyer Honors College students, these can be the same two letters required by the Schreyer Honors College.)
8. Must meet with both the Director of Undergraduate Academic Affairs and the Graduate Program Coordinator to declare interest and receive information about the IUG program.

For Schreyer Honors College students, students admitted to the IUG program may double-count a maximum of 12 credits toward their graduate and undergraduate degrees in Information Sciences and Technology. Thesis or scholarly paper credits may not double-count.

### Degree Requirements

For the Bachelor of Science degree in Security and Risk Analysis, a minimum of 120 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>92</td>
</tr>
</tbody>
</table>

#### General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (http://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**Foundations (grade of C or better is required.)**

- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

**Knowledge Domains**

- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

**Integrative Studies (may also complete a Knowledge Domain requirement)**

- Inter-Domain or Approved Linked Courses: 6 credits

21 credits are included in the Requirements for the Major.

### University Degree Requirements

#### First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

#### Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

#### Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

#### Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

#### Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

#### Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

### Requirements for the Major

This includes 21 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses; 3 credits of GH, and 3 credits of GN courses.

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

#### Common Requirements for the Major (All Options)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>CMPSC 101</td>
<td>Introduction to C++ Programming</td>
<td>3</td>
</tr>
<tr>
<td>SRA 111</td>
<td>Introduction to Security and Risk Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>
Information Analysis and Modeling Option (21 credits)

Requirements for the Option

Select 9 credits from College-approved list (at least 3 credits must be at the 400-level)

Supporting Courses and Related Areas

SRA 433
ECON 302

Prescribed Courses: Require a grade of C or better

IST 495
IST 432
SRA 311
IST 440

Additional Courses

AGBM 101
ECON 102

or ENGL 202C

PLSC 1
PLSC 14
GEOG 40
PSYCH 100

or SOC 5
ENGL 202C

or ENGL 202D

Additional Courses: Require a grade of C or better

SRA 365
STAT 460

Supporting Courses and Related Areas

Attainment of third-level proficiency in a single foreign language

Select 6 credits of international courses from College-approved list or other courses approved by adviser

Requirements for the Option

Select an option

Intelligence Analysis and Modeling Option (21 credits)

Code      Title                                      Credits
IST 110  Information, People and Technology       3
IST 210  Organization of Data                      3
SRA 211  Threat of Terrorism and Crime            3
SRA 221  Overview of Information Security          3
SRA 231  Decision Theory and Analysis             3
IST 495  Internship                               1-18
IST 432  Legal and Regulatory Environment of       3
          Information Science and Technology
SRA 311  Risk Analysis in a Security Context      3
IST 440  Information Sciences and Technology      3

Supporting Courses and Related Areas

Select 3 credits from College-approved list (at least 3 credits must be at the 400-level)

Integrated B.S. in Security and Risk Analysis / M.S. in Information Sciences and Technology

The College of Information Sciences and Technology offers an integrated B.S./M.S. (IUG) program designed to allow academically superior students in the Security and Risk Analysis major to obtain both the Bachelor's in Security and Risk Analysis and the M.S. degree in Information Sciences and Technology in a shorter period of time than would be necessary if the degrees were pursued separately. The first two to three years of undergraduate coursework follow the same undergraduate curriculum that other students follow in the Security and Risk Analysis major. Interested students may apply for admission to the IUG program no earlier than February 15 of their sophomore year and no later than February 15 of their junior year after completing a minimum of 60 credits. If admitted to the IUG, the final years of study include two graduate courses, IST 504 in the fall and IST 505 in the spring, plus six credits of research methods courses, twelve credits of graduate specialty courses, and six credits of graduate thesis (IST 600) or scholarly paper (IST 594).

(Note: For Schreyer Honors College students, those who complete the graduate thesis for the Master’s requirement may use the graduate thesis, itself, to fulfill the undergraduate honors thesis requirement, as well. Honors students who opt for the Master’s scholarly paper must also complete an undergraduate honors thesis.)

The integrated B.S. in Security and Risk Analysis / M.S. in Information Sciences and Technology (IUG) degree meets the needs of the most academically talented students in the Security and Risk Analysis undergraduate major. A proportion of these successful students wish to pursue graduate studies sometime after graduation. Offering the IUG benefits these students by offering an accelerated path to a graduate degree. Additionally, the IUG program can provide these students with a more cohesive program of study with opportunities to engage in more comprehensive research leading to both the bachelor's and master’s degree.

For the B.S. in Security and Risk Analysis / M.S. in Information Sciences and Technology IUG program, a minimum of 120 credits is required for the bachelor’s degree and 30 credits for the M.S. degree. Students admitted to the IUG program may double-count a maximum of 12 credits to their graduate and undergraduate degrees. The required 6 credits of IST 504 and IST 505 will apply to both the graduate program and the undergraduate program. Students may choose an additional 6 credits to double-count for both the undergraduate and graduate degrees from the following:

Information and Cyber Security Option (21 credits)

Code      Title                                      Credits
Prescribed Courses: Require a grade of C or better
IST 220  Networking and Telecommunications         3
IST 451  Network Security                          3
IST 454  Computer and Cyber Forensics              3
IST 456  Information Security Management           3

Supporting Courses and Related Areas

Select 9 credits from College-approved list (at least 3 credits must be at the 400-level)

Requirements for the Option

Intelligence Analysis and Modeling Option (21 credits)

Code      Title                                      Credits
Prescribed Courses: Require a grade of C or better
ECON 302  Intermediate Microeconomic Analysis       3
SRA 421  The Intelligence Environment               3
SRA 433  Deception and Counterdeception             3
SRA 468  Visual Analytics for Security Intelligence  3

Supporting Courses and Related Areas

Select 9 credits from College-approved list (at least 3 credits must be at the 400-level)
they meet the following admission requirements:

1. To offer highly qualified students the opportunity to earn two degrees in less time than it would take to do two sequential degrees. In particular, IUG students may count up to 12 credits towards both their B.S. and M.S. degree requirements.
2. To permit coherent planning of studies through the graduate degree, with advising informed by not only the requirements of the baccalaureate program, but also the longer-range goals of the graduate degree.
3. To introduce undergraduate students to the rigors of both graduate study and graduate faculty.
4. To make the resources of the Graduate School available to IUG students.
5. To allow students with IUG status to benefit from their association with graduate students whose level of work and whose intensity of interest and commitment parallel their own.

**Admission Requirements**

To initiate the application process, students must submit an Integrated Undergraduate-Graduate (IUG) Degree in Security and Risk Analysis Form, a transcript, and two letters of recommendation (both from faculty members) to the IST Graduate Programs Office. The Director of Undergraduate Academic Affairs, in consultation with the Graduate Program Coordinator, will help undergraduate candidates determine a proposed sequence of courses that will prepare them for acceptance into the Integrated Undergraduate-Graduate (IUG) degree program. Acceptance into the IST IUG program will be determined by the Graduate Recruitment Committee.

Security and Risk Analysis undergraduate majors may apply for admission as early as the end of their sophomore year but no later than the end of their junior year after completing a minimum of 60 credits, if they meet the following admission requirements:

1. Must be enrolled in the SRA (BS) undergraduate degree program.
2. Must have completed 60 credits of an SRABS undergraduate degree program.
3. Must apply to the IUG program by February 15 of their junior year.
4. Must apply to and be accepted without reservation into the Graduate School and M.S. program in IST. Students must complete the Graduate School application (http://www.gradschool.psu.edu/apply/?CFID=4347157&CFTOKEN=80921289140639-22E9BF85-AF21-D9DA-933F35E90FB10EAB&jsessionid=84304e7b7ae255ec9a524e5b1e58d123018390F).
5. Must have an overall GPA of 3.5 (on a 4.0 scale) in undergraduate coursework and a minimum GPA of 3.5 in all coursework completed for the major.
6. Must present an approved plan of study. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser.
7. Must present two letters of recommendation from faculty members. (Note: For Schreyer Honors College students, these can be the same two letters required by the Schreyer Honors College.)
8. Must meet with both the Director of Undergraduate Academic Affairs and the Graduate Program Coordinator to declare interest and receive information about the IUG program.

For Schreyer Honors College students, students must also follow guidelines and procedures for applying for IUG in the Schreyer Honors College (http://www.shc.psu.edu/students/iug/program).

In addition, applicants must apply to and be admitted to the Graduate School of the Pennsylvania State University at the time of their application to the IUG degree program.

These admission standards are high, as it is thought the program will only be appropriate for students with high levels of academic skills. The program area does have discretion in admitting Security and Risk Analysis majors into the integrated program, and extenuating circumstances can always be considered in terms of possible admission. Individuals who are unable to be admitted into the integrated program of study can apply for regular admission to the graduate program when they complete their undergraduate program of study.

**Sample Sequence of Graduate Coursework in Addition to Undergraduate Courses**

Students admitted to the IUG program may double-count a maximum of 12 credits toward their graduate and undergraduate degrees in Information Sciences and Technology. In their senior year, IUG students will take 6 credits of specified graduate work, courses IST 504 and IST 505, and 6 credits of methods courses. These 6 credits of IST 504 and IST 505 will apply to both the graduate program and the undergraduate IST/SRA support option requirement. In their super senior year, students may choose an additional 6 credits to double-count for both the undergraduate and graduate degrees. These courses must be at the 400-level or above. Students may choose any 400-level undergraduate option course that they are using to fulfill an undergraduate option requirement and apply the credits to both the undergraduate option requirement and the graduate specialty course requirement.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRA 433</td>
<td>Deception and Counterdeception</td>
<td>3</td>
</tr>
<tr>
<td>SRA 468</td>
<td>Visual Analytics for Security Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>SRA 471</td>
<td>Informatics, Risk, and the Post-Modern World</td>
<td>3</td>
</tr>
<tr>
<td>IST 451</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>IST 452</td>
<td>Legal and Regulatory Environment of Privacy and Security</td>
<td>3</td>
</tr>
<tr>
<td>IST 454</td>
<td>Computer and Cyber Forensics</td>
<td>3</td>
</tr>
<tr>
<td>IST 456</td>
<td>Information Security Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Credits associated with the thesis or culminating scholarly paper, i.e., IST 600 and IST 594, may not be double-counted. However, for Schreyer
Honors College students, the Master’s thesis deliverable, itself, may double-count for the undergraduate thesis deliverable requirement.

### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 504</td>
<td>3</td>
<td>IST 505</td>
<td>3</td>
</tr>
<tr>
<td>Methods course(^1)</td>
<td>3</td>
<td>Methods course(^1)</td>
<td>3</td>
</tr>
<tr>
<td>IST 600 or 594</td>
<td>1-15</td>
<td>IST 600 or 594</td>
<td>1-15</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>7-21</td>
<td><strong>Total Credits</strong></td>
<td>7-21</td>
</tr>
</tbody>
</table>

1. Choose graduate level methods course after consultation in advance with the student’s faculty adviser.

2. Choose any 400 or 500 level course that contributes to the student’s chosen area of specialty with a maximum of six credits at the 400 level.

The total resulting credits will be a minimum of 150 credits, with 120 credits completed for the undergraduate SRA degree. Twelve graduate credits will be completed in the senior year, and the remaining 18 graduate credits will be completed in the super senior year.

If for any reason a student admitted to the B.S./M.S. program is unable to complete the requirement for the Master of Science degree program in Information Sciences and Technology, the student will be permitted to receive the SRA bachelor’s degree assuming all degree requirements have been satisfactorily completed.

Student performance will be monitored on an on-going basis by the student’s adviser and Graduate Programs. Students admitted to the integrated program must maintain a minimum cumulative GPA of 3.3 overall and a minimum 3.0 GPA in all courses used toward the M.S. degree in order to maintain good academic standing and meet graduation requirements. (See information on Grade-Point Average in the Graduate Bulletin: http://bulletins.psu.edu/graduate/degree requirements/masters#) For SHC students in the IUG program, students must maintain a minimum cumulative GPA of 3.4 overall and a minimum 3.0 GPA in all courses used toward the M.S. degree in order to maintain good academic standing and meet graduation requirements. Successful completion of a Schreyer Scholar’s Master’s thesis will be accepted as completion of the honors thesis requirement.

### Program Learning Objectives

#### Knowledge/Application:

1. Understand and apply the interdisciplinary, theoretical knowledge of the information sciences or security sciences.
   a. Define and explain the core concepts, principles, processes, and theories within the academic majors of IST and/or SRA.
   b. Apply the core concepts of the academic majors of IST and/or SRA to real-world problems.

#### Problem-Solving:

1. Understand, apply and adapt various problem solving strategies, using appropriate technology and methods.
   a. Identify information problems and/or opportunities in terms of the human, informational and technology dimensions.
   b. Analyze issues surrounding the problem and/or opportunity in terms of the human, informational, and technology dimensions; and determine the requirements appropriate to understanding the situation.
   c. Design systems, architectures, processes, components, or programs to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world).
   d. Deploy up-to-date and appropriate techniques, methodologies, and/or tools necessary for understanding opportunities and constraints and/or the optimal design, implementation and continuance of an information based solution.
   e. Evaluate the success of systems, architecture, processes, components, or programs intended to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world).

#### Communication (Individual and Team):

1. Communicate and work effectively (both individually and in teams) with a range of perspectives and audiences through a variety of media.
   a. Participate effectively on teams in order to accomplish a common goal.
   b. Communicate effectively with a range of audiences, formally or informally, through writing and the spoken word.
   c. Seek out, analyze, and incorporate diverse ideas and broader perspectives represented in the diversity of people.
   d. Make respectful and inclusive choices in interacting with customers, peers, supervisors, and/or subordinates with a diversity of identity characteristics (e.g., age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status).

#### Professional Responsibilities:

1. Understand professional responsibilities in terms of the ethical, legal, security and social aspects of any given problem and its solution.
   a. Demonstrate an understanding of the cognitive, social, legal, ethical, diversity, and security perspectives surrounding a given problem.
   b. Assess the impact of information, computing and technology on individuals, groups, organizations, society, and the world for the purpose of making informed decisions from a sociological, governmental, legal, and/or security perspective.

#### Lifelong Learning:

1. Commit to the continuous acquisition of relevant knowledge for professional development by self-teaching and/or on-going education and learning.
   a. Employ information-seeking strategies and self-directed learning in pursuit of current knowledge.
   b. Enroll in professional development and tutoring opportunities.
Academic Advising

The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary academic adviser, the information need to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy)

Suggested Academic Plan

Harrisburg Campus

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRA 111*#</td>
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<td>3</td>
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<tr>
<td>IST 110*</td>
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<tr>
<td>ENGL 15 or 30†</td>
<td>3</td>
<td>CAS 100‡</td>
<td>3</td>
<td></td>
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<tr>
<td>World Language level I</td>
<td>4 World Language level 2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IST 140 or CMPSC 101*#</td>
<td>3 General Education Course</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>SRA 221*</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
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<tr>
<td>STAT 200†</td>
<td>4</td>
<td>4</td>
<td>3</td>
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<tr>
<td>World Language level 3</td>
<td>4 PSYCH 100 or SOC 5</td>
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<tr>
<td>IST 220*</td>
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<td>3</td>
<td>3</td>
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</tr>
<tr>
<td>Elective</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Third Year</th>
<th>Credits</th>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRA 311*</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IST 432*</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SRA 365 or STAT 460*</td>
<td>3 IST 451, 454, or 456*</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>General Education Course</td>
<td>3 Support of Option</td>
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Total Credits 119

* Course requires a grade of C or better for the major
† Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
‡ Course satisfies General Education and degree requirement
IST 495 - Internship, supervised work experience where the student is employed in an information science and technology position in industry, government or academia. SRA Students are required to complete one internship but may complete three. For more information, contact IST Internship Coordinator, Jane Kochanov at jxs121@psu.edu.

IST 220 - Networking and Telecommunication
IST 210 - Organization of Data

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

Advising Notes

- 1 Credit of IST 495* - Internship is required.
- 30 Credits of GA, GH, GHW, GN, GS to include 6 Integrative Studies credits.
- 15 Credits of GQ, and GWS require a grade of "C" or better.

Program Notes

- SRA/IST courses are only offered once per year.
- SRA Internship: (1) Supervised work experience where the student is employed in an information science and technology position in industry, government or academia. SRA students are required to complete one internship, but may complete three. For more information, contact IST Internship Coordinator, Jane Kochanov at jxs121@psu.edu.
- Students must complete a 3-credit course in "United States Cultures (US)" and a 3-credit course in "International Cultures (IL)."

Supporting Courses List

Business: ACCTG 211*, IST 301*, IST 302*, MGMT 100

Communications: COMM 180, COMM 479*, COMM 484*, COMM 489W*, COMM 490*


Ethics: PHIL 103*, PHIL 119, PHIL 407*, PHIL 418*

Geography: GEOG 361*, GOEG 362*, GEOG 363*


Military Studies: AIR 151, AIR 351, AIR 352, AIR 451, ARMY 101, ARMY 102, ARMY 301, ARMY 402, NAVSC 101, NAVSC 204, NAVSC 311, NAVSC 402

Please be mindful of course prerequisites, as indicated with a single asterisk (*).

Courses taken to satisfy the SRA major requirements for GEOG/PL SC (GEOG 40 OR PLSC 001/014) and PSYCH/SOC (PSYCH 100 or soc 5) cannot be used as a Support of Option course as indicated with a double asterisk (**).

Contact

Harrisburg
DEPARTMENT OF SECURITY AND RISK ANALYSIS
Olmsted Building E355
Middletown, PA
717-948-6141
kms68@psu.edu


Altoona
DIVISION OF BUSINESS, ENGINEERING, AND INFORMATION SCIENCES AND TECHNOLOGY
Penn Building 212C, 3000 Ivyside Park
Altoona, PA 16601
814-949-5275
drb21@psu.edu

http://altoona.psu.edu/academics/bachelors-degrees/security-risk-analysis/request-information

Berks
EBC DIVISION
Gaige Building
Reading, PA
610-396-6349
tkc3@psu.edu

http://berks.psu.edu/bs-security-and-risk-analysis

University Park
OFFICE OF THE ASSOCIATE DEAN FOR GRADUATE AND UNDERGRADUATE STUDIES
E397F Westgate Building
University Park, PA 16802
814-863-3450
programs@ist.psu.edu

https://ist.psu.edu/directory/office/grad_undergrad_studies

World Campus
OFFICE OF THE ASSOCIATE DEAN FOR GRADUATE AND UNDERGRADUATE STUDIES
E397F Westgate Building
University Park, PA 16802
814-863-3450
programs@ist.psu.edu