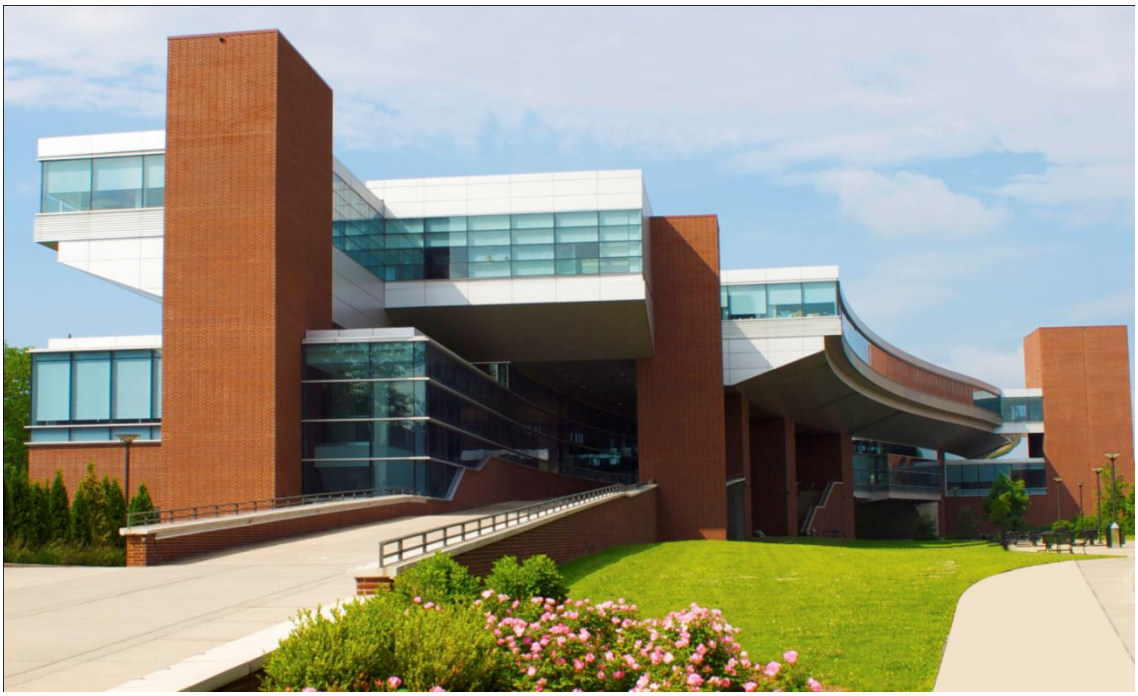
The Roadmap



A Bachelor's Degree Guide
2011-2012

PENNSTATE

1855

COLLEGE OF INFORMATION
SCIENCES AND TECHNOLOGY

Undergraduate Advising Center

104 Information Sciences and Technology Building
Phone: 814-865-8947; Toll Free (U.S. only): 866-225-8707
Fax: 814-865-7490

Person-to-Person Advising

Penn State's College of Information Sciences and Technology prides itself on a personal touch in all that we do. This is particularly true of finding your way through your degree requirements, making course decisions, working out career plans, and simply figuring out what is best for you.

How to make an appointment:
Office hours are Monday through Friday, 8:00 a.m. to 5:00 p.m. To better serve you, **appointments are preferred**. **Please call us at 814-865-8947 and a staff assistant will find a time that is mutually convenient to meet.**

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E-advising

Academic Advising (http://ist.psu.edu/advising)
The IST Advising Center provides information on IST and SRA curriculum, minors, and degree requirements.

Career Solutions (http://ist.psu.edu/currentstudents/careersolutions)
The office of Career Solutions provides information and strategies for internship and professional placement.

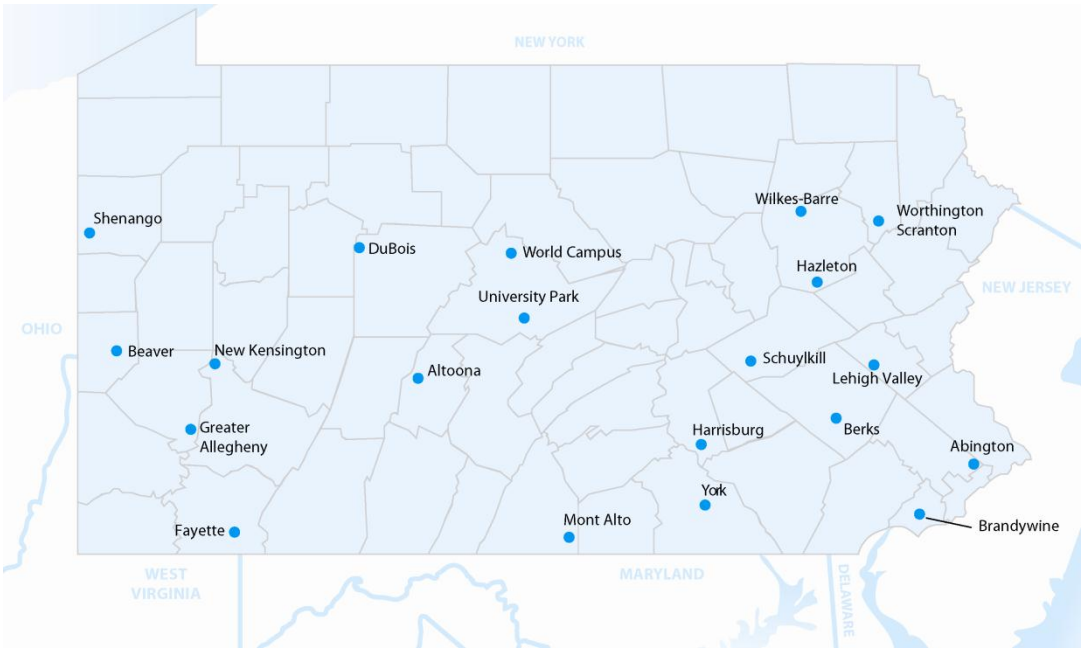
eLion (https://elion.psu.edu/)
The University also offers a convenient and secure on-line method to answer many basic academic questions and to prepare you for a face-to-face visit with your academic adviser. eLion's web-based service not only gives you real-time access to academic records, but has many additional features to assist you in achieving your academic goals. eLion is typically operational twenty-four hours a day, seven days a week. Follow the "STUDENTS" category for information about specific features and available times.

Table of Contents

The* Roadmap *was accurate at press time. The College of IST may make changes after initial publication. Please check the IST current students' web pages for the latest news, course information, and more:

http://ist.psu.edu

Penn State Campuses Offering
College of Information Sciences and Technology
Programs and Courses



Campus Colleges Offering the Bachelor of Science Degree in Information Sciences and Technology

Penn State Abington (ISSAB)
Penn State Berks (ISSBL)
Penn State Harrisburg (ISSCA)
Penn State World Campus (ISTBS)
University Park, College of Information Sciences and Technology (ISTBS)

University College (ISSCC)

Penn State Beaver
Penn State Brandywine
Penn State Greater Allegheny
Penn State Hazleton
Penn State Lehigh Valley
Penn State Mont Alto
Penn State New Kensington
Penn State Schuylkill
Penn State Wilkes-Barre
Penn State Worthington Scranton
Penn State York

Campus Colleges Offering the Bachelor of Arts Degree in Information Sciences and Technology

University Park, College of Information Sciences and Technology (ISTBA)

Campus Colleges Offering the Bachelor of Science Degree in Security and Risk Analysis

Penn State Altoona (SRAAL)
Penn State Berks (SRABL)
Penn State Harrisburg (SRACA)
University Park, College of Information Sciences and Technology (SRA)

Penn State's 2 + 2 Plan

This plan allows students the opportunity of beginning their education at one campus then transitioning to another campus to complete their degree. You can tailor your educational experience to meet your academic and personal goals.

Not all courses are offered at every campus each semester. Check the *Schedule of Courses* to determine the availability of specific courses.

Information Sciences and Technology (ISTBS)
Bachelor of Science Degree Options

The ISTBS major within the College of Information Sciences and Technology offers three options.

Information Systems: Design and Development (ISDEV)

This option focuses on expanding the skills needed to develop advanced information technology systems using state-of-the-art tools and techniques. The emphasis is on providing you with both knowledge in the design, implementation, testing, and evolution of complex software systems, and a set of project-oriented, team-programming experiences.

Information Technology: Integration and Application (ITINT)

This option is designed to prepare you to use information technology to realize a variety of system-based goals (such as reliability, accessibility, and efficiency). The option is focused on developing a theoretical foundation and the skill set needed for integrating information technology into different systems to improve their performance. The emphasis is on providing you with both the theoretical frameworks needed to use information technology as a system attribute as well as a set of application-oriented experiences and skills.

Information Context: People, Organizations, and Society (ISPP)

This option focuses on how information technology affects social change and the delivery of information to the consumer. This includes the human-machine interface; organization and retrieval of information; digital libraries; information and telecommunications services; information and media industry structures; software services and intermediaries; telecommunications and information law and policy; sociological aspects of technology change; multimedia; and art, design, and aesthetics.

ISTBS Major Requirements

To earn your Bachelor of Science degree in Information Sciences and Technology, you must complete at least 125 credits. For suggestions on fulfilling your requirements, see the semester-by-semester *Recommended Academic Plans* in this book. You may wish to speak to your academic adviser because completion of some major requirements may also satisfy general education requirements. To keep track of your academic progress, check the online degree audit available through eLion. If you have any questions, make an appointment with your academic adviser.

GENERAL EDUCATION: 45 credits
Twelve of these credits are included in the requirements for the major (see below). For further details on general education requirements, please see the *University Bulletin*, online at http://bulletins.psu.edu/bulletins/bluebook/.

ELECTIVES: 7 credits
Depending on how you satisfy your foreign language requirement, this number could change. See your academic adviser for details.

REQUIREMENTS FOR THE ISTBS MAJOR: 85 credits

COMMON REQUIREMENTS FOR ALL OPTIONS: 64 credits

PRESCRIBED COURSES: 33 credits
CMPSC 101***** (3), IST 110/110S***** (3), IST 210***** (4), IST 220***** (3), IST 230***** (3), IST 240***** (3), (Sem: 1-4)
STAT 200 GQ (4) (Sem: 3-6)
IST 495***** (1), (Sem: 3-8)
IST 301***** (3), IST 331***** (3), (Sem: 5-8)
IST 440W***** (3) (Sem: 8),

ADDITIONAL COURSES: 10 credits
ECON 102 GS (3) or ECON 104 GS (3) or ECON 014 GS (3) (Sem: 1-4)
ENGL 202C GWS (3) or ENGL 202D GWS (3) (Sem: 5-7)
MATH 110 GQ (4) or MATH 140 GQ (4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS: 18 credits

- Attainment of third-level proficiency in a single foreign language (0-12 credits). The amount of foreign language you completed in high school, results of advanced placement exams, and results of proficiency exams determine what level of language you will take. See your academic adviser for details.
- Select 6 credits of international courses in foreign culture. (Sem: 5-8)
- Select 3 credits***** at the 400 level in emerging issues and technologies from College-approved list. (Sem: 5-8)

REQUIREMENTS FOR THE ISTBS OPTIONS: 21 credits
INFORMATION SYSTEMS: DESIGN AND DEVELOPMENT OPTION: 21 credits
PRESCRIBED COURSES: 3 credits*****
IST 311(3) (Sem: 5-8)
ADDITIONAL COURSES
Select 6 credits***** from IST 411(3), 412 (3), or 413 (3) (Sem: 5-8)
SUPPORTING COURSES AND RELATED AREAS: 12 credits
Select 12 credits from the Support of Option list (Sem: 5-8)

INFORMATION TECHNOLOGY: INTEGRATION AND APPLICATION OPTION: 21 credits
PRESCRIBED COURSES: 9 credits*****
IST 302 (3), 420 (3) and 421 (3) (Sem: 5-8)
SUPPORTING COURSES AND RELATED AREAS: 12 credits
Select 12 credits from the Support of Option list (Sem: 5-8)

INFORMATION CONTEXT: PEOPLE, ORGANIZATIONS, AND SOCIETY OPTION: 21 credits
PRESCRIBED COURSES: 6 credits*****
IST 431(3) and 432 (3) (Sem: 5-8)
ADDITIONAL COURSES
Select 3 credits***** from IST 302 (3) or 413 (3) (Sem: 5-8)
SUPPORTING COURSES AND RELATED AREAS: 12 credits
Select 12 credits from the Support of Option list (Sem: 5-8)

**** Note*: *The courses marked with an asterisk (*) must be completed with a grade of C or better.***

ISTBS Common Required Courses

Common Required Courses are taken by all students majoring in the B.S. in Information Sciences and Technology independent of their option. **All common required courses must be completed with a grade of C or better.**

IST 110 or IST 110S	**Information, People and Technology (3)** The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises. *IST 110/110S is a requirement for the IST major, and **cannot** double-count as a GS.*
IST 210	**Organization of Data (4)** Introduction to the concept of databases including the storage, manipulation, evaluation, and display of data and related issues. Prerequisite: IST 110/110S
IST 220	**Networking and Telecommunications (3)** Introduction to digital network topologies, transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security. Prerequisite: IST 110/110S.
IST 230	**Language, Logic, and Discrete Mathematics (3)** Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology. Prerequisite: MATH 110 or MATH 140
IST 240	**Introduction to Computer Languages (3)** Introduction to the specification and application of languages and language paradigms which interact with computers. Prerequisite: CMPSC 101 or IST 297D; prerequisite or concurrent: IST 230
IST 297D	**Introduction to Application Programming (3)** The focus of the course is on beginning programming principles as experienced in the context of object-oriented application development. *Temporary substitution for CMPSC 101 for IST/SRA students.*
IST 301	**Information and Organizations (3**) Overview of organizational structures and functions. Includes information processing and analytic perspectives of organizations. Prerequisite: IST 210, IST 220
IST 331	**Organization and Design of Information Systems: User and System Principles (3)** Interdisciplinary survey of topics related to the use and usability of information systems. Prerequisite: IST 230
IST 402	**Emerging Issues and Technologies (3)** Introduction to technology forecasting and analysis; overview of leading technologies in IST and how they impact information systems and users. College approved list includes: IST 441, IST 446, IST 451, IST 452, IST 453, IST 454, IST 461, and IST 462. Prerequisite: IST 210, IST 220
IST 440W	**Information Sciences and Technology Integration and Problem Solving (3)** Problem-based approach to technology integration by focusing on real-life problems faced by an organization. Prerequisite: Seventh semester standing; five common course requirements; three of the required courses in an option; ENGL 202C or 202D
IST 495	**Internship (1)** Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required. Prerequisite: prior approval of proposed assignment by instructor

Other IST Courses

Additional courses offered by the College of Information Sciences and Technology. Not all courses are offered every semester.

IST 130	**Emerging Technologies in Popular Culture (3)** (GA) A survey course that explores emerging technologies used to produce and consume popular cultural artifacts. ***Cannot** be used as GA for students in the ISTBS or ISTBA program.*
IST 297B	**Supervised Experience in Instructional Support** (1) Introduction to best practices in and supervision of instructional support activities such as coaching, team facilitation, grading, and learning assessment.
IST 302	**IT Project Management (3)** Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology. Prerequisite: IST 210, IST 220
IST 311	**Object-Oriented Design and Software Applications (3)** Introduction to object-oriented applications including applications in an OOD language. Prerequisite: CMPSC 101 or IST 297D; IST 240

IST 341	**Human Diversity in the Global Information Economy (3)** (US; IL) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general. Prerequisite: IST 110/110S
IST 390	**Professional Development (1)** Interdisciplinary course to introduce students to the issues, concepts and skills involved in successfully transitioning into professional life.
IST 411	**Distributed-Object Computing (3)** Introduction to distributed-object computing and its use in client/server and real-world computing applications. Prerequisite: IST 311 *IST 411 is offered spring semester only.*
IST 412	**The Engineering of Complex Software Systems (3)** Introduction to the engineering of complex software systems including software system specification, design and implementation, integration and test, and evolution. Prerequisite: IST 311 *IST 412 is offered fall semester only.*
IST 413	**Usability Engineering (3)** This course addresses activities in the system development process that ensure usability. It considers the emerging concept of usability, requirements gathering and analysis, activity design, information design, interaction design, documentation design, user testing and usability evaluation. Prerequisite: IST 331 *IST 413 is offered spring semester only.*
IST 420	**Fundamentals of Systems and Enterprise Integration (3)** Introductory course on integration of information technology into different venues, including the planning, development, and implementation of the integration. Prerequisite: IST 240, IST 301, IST 302
IST 421	**Advanced Enterprise Integration: Technologies and Applications (3)** Advanced course on the integration of information technology into systems applications. Prerequisite: IST 420
IST 425	**New Venture Creation (3)** Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors. Prerequisite: ECON 102 or ECON 104 or ECON 014; CAS 100
IST 426	**Invention Commercialization (3)** Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path for each technology. Prerequisite: ECON 102 or ECON 104 or ECON 014; CAS 100
IST 431	**The Information Environment (3)** Survey of social environment of information technology themes: Community, sovereignty, privacy, ethics, economics, and knowledge management. Prerequisite: IST 210, IST 220
IST 432	**Legal and Regulatory Environment of Information Science and Technology (3)** Legal environment of information technology, constitutional/political issues, intellectual property, management, e-commerce, privacy, access, computer contracting, cyberspace regulation. Prerequisite: IST 301 or SRA 231 or equivalent
IST 441	**Information Retrieval and Organization (3)** Introductory course for seniors and graduate students covering the practices, issues, and theoretical foundations of organizing and analyzing information and information content for the purpose of providing access to textual and nontextual information resources. Introduces students to the principles of information storage and retrieval systems and databases. Prerequisite: IST 210, IST 240
IST 442	**Information Technology in an International Context (3)** (IL) International concepts to improve strategies for the design, dissemination, and use of information technology. Prerequisite: IST 110/110S
IST 443	**Information Technology Professional Services Theory and Practice (3)** Explores and applies the basic concepts, methodologies, tools, and techniques of consulting and professional service organizations in information sciences and technology. Prerequisite: IST 210, 220, Pre-requisite or concurrent: IST 302 or IST 412
IST 444	**Advanced IT Professional Services (3)** Explores advanced IT professional services topics, and the unique application of consulting methods in various industry sectors. Prerequisite: IST 443
IST 445H	**Globalization Trends and World Issues (3)** This course covers trends in globalization and their influence on U.S. policy making as well as the role of the U.S. in international issues. Prerequisite: 6 credits of honors courses
IST 446	**An Introduction to Building Computer/Video Games (3)** An interdisciplinary course that introduces students to process and techniques involved in developing a video or computer game. Prerequisite: IST 311, IST 331 or approval of program

IST 451	**Network Security (3)** Fundamental issues and concepts of network security, network security technologies and protocols, and emerging technologies in network security. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221
IST 452	**Legal and Regulatory Environment of Privacy and Security (3)** Exploration of legal, regulatory, public policy, and ethical issues related to security and privacy for information technology professionals in public institutions, private enterprise, and IT services. Prerequisite: IST 301 or SRA 231 or equivalent; Effective spring 2012: Prerequisite: IST 432
IST 453	**Legal, Regulatory, Policy Environment of Cyber Forensics (3)** Legal, regulatory and public policy environment of computer and network forensics that constrain investigatory and monitoring activities in computer and network environments. Prerequisite: IST 110/110S and 6th-semester standing or higher. *IST 453 is offered fall semester only.*
IST 454	**Computer and Cyber Forensics (3)** Fundamental issues and concepts of computer forensics; aspects of computer and cyber crime; methods to uncover, protect, exploit, and document digital evidence; tools, techniques, and procedure to perform computer and cyber crime investigation. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221
IST 456	**Security and Risk Management (3)** Contemporary Security Issues; security management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; and security standards and certification processes. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221
IST 461	**Database Management and Administration (3)** Introduces advanced topics in database management systems that are fundamental to effective administration of enterprise information systems. Prerequisite: IST 210, IST 240
IST 462	**Database Modeling and Applications (3)** This course introduces advanced topics in database modeling and applications. Prerequisite: IST 210, IST 240
IST 489H	**Research Methods for the Information Sciences and Technology (3)** Seminar course focused on approaches to studying information and communication technologies and writing theses and other research reports. Prerequisite: IST 110, honors standing or permission of program

ISTBS Option Courses

Each option in the ISTBS curriculum has 9 credits of prescribed coursework that distinguishes the focus of study. **All prescribed courses must be completed with a grade of C or better.**

Information Systems: Design and Development Option

IST 311 is a required course; select 6 credits from IST 411, 412 and 413

IST 311	**Object-Oriented Design and Software Applications (3)** Introduction to object-oriented applications including applications in an OOD language. Prerequisite: CMPSC 101; IST 240
IST 411	**Distributed-Object Computing (3)** Introduction to distributed-object computing and its use in client/server and real-world computing applications. Prerequisite: IST 311 *IST 411 is offered spring semester only.*
IST 412	**The Engineering of Complex Software Systems (3)** Introduction to the engineering of complex software systems including software system specification, design and implementation, integration and test, and evolution. Prerequisite: IST 311 *IST 412 is offered fall semester only.*
IST 413	**Usability Engineering (3)** This course addresses activities in the system development process that ensure usability. It considers the emerging concept of usability, requirements gathering and analysis, activity design, information design, interaction design, documentation design, user testing and usability evaluation. Prerequisite: IST 331 *IST 413 is offered spring semester only.*

Information Technology: Integration and Application

IST 302, 420 and 421 are all required courses

IST 302	**IT Project Management (3)** Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology. Prerequisite: IST 210, IST 220
IST 420	**Fundamentals of Systems and Enterprise Integration (3)** Introductory course on integration of information technology into different venues, including the planning, development, and implementation of the integration. Prerequisite: IST 240, IST 301, IST 302
IST 421	**Advanced Enterprise Integration: Technologies and Applications (3)** Advanced course on the integration of information technology into systems applications. Prerequisite: IST 420

Information Context: People, Organizations, and Society

IST 431 and 432 are required courses; select between IST 302 and 413

IST 302	**IT Project Management (3)** Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology. Prerequisite: IST 210, IST 220
IST 413	**Usability Engineering (3)** This course addresses activities in the system development process that ensure usability. It considers the emerging concept of usability, requirements gathering and analysis, activity design, information design, interaction design, documentation design, user testing and usability evaluation. Prerequisite: IST 331 *IST 413 is offered spring semester only.*
IST 431	**The Information Environment (3)** Survey of social environment of information technology themes: Community, sovereignty, privacy, ethics, economics, and knowledge management. Prerequisite: IST 210, IST 220
IST 432	**Legal and Regulatory Environment of Information Science and Technology (3)** Legal environment of information technology, constitutional/political issues, intellectual property, management, e-commerce, privacy, access, computer contracting, cyberspace regulation. Prerequisite: IST 301 or SRA 231 or equivalent

Courses to Support the ISTBS Options

What are Support of Option courses?

Support of Option selections (12 credits) are meant to help you acquire knowledge of an application domain (i.e., the environment in which you eventually hope to work) and to help you develop supplemental knowledge and competencies related to your option. Areas of focus could include business, manufacturing, health care, hospitality, art, telecommunications, geographic information systems, government, or anywhere else information technology is used.

Am I permitted to use IST or SRA courses to satisfy my Support of Option requirement?

Yes, you may take 12 credits of IST or SRA courses to meet this requirement. It is recommended that you choose courses in consultation with your academic adviser.

What else should I know about Support of Option courses?

- Think about how you can add value to your degree or educational experience. There are many options for you including improving your skills in another language, or completing a minor in an interest area that compliments your IST or SRA coursework.
- Support of Option should NOT be a group of lower level introductory courses.
- As mentioned above, courses taken as part of a minor may be used to meet the Support of Option requirement.
- See your assigned academic adviser for more information.

Courses to Meet the Foreign Culture Requirement for the ISTBS Major

What are Foreign Culture courses?

- These are courses that focus on a cultural aspect (e.g., history, literature, political systems, art, etc.) of other countries or geographic regions outside the borders of the United States. This requirement is separate from the college requirement for Foreign Language proficiency.
- The Foreign Culture requirement is for students in the ISTBS major and is separate from the US/IL General Education requirement for all Penn State students.
- A course that fulfills the General Education International Cultures (IL) requirement will be accepted as satisfying 3cr of the ISTBS Foreign Culture requirement.
- An advanced search on the Schedule of Courses, using the Additional Search Criteria, will produce a listing of all IL courses offered for a specific semester.

How do I choose Foreign Culture courses?

- You should choose Foreign Culture courses on the basis of your interest in learning more about a particular country or region of the world. An IL course must strive to increase student knowledge of the variety of international societies and may deal to some extent with U.S. culture in its international connections.
- See your assigned academic adviser for more information.

RECOMMENDED ACADEMIC PLANS

These academic plans are a general guide but can vary depending on option, course availability, and previous coursework. This "guide" is a tool that should be used in combination with your academic adviser and your degree audit.

Information Sciences and Technology (ISTBS)
Information Systems: Design and Development (ISDEV) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
IST 110/110S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data **ETM Course**	4
MATH 110 or 140 (GQ)	4	Natural Sciences (GN)	3
CMPSC 101 Intro to C++ Programming, or IST 297D Intro to Application Programming	3	Foreign Language 002	4
Foreign Language 001	4	ECON 102 (GS) or ECON 104 (GS) or ECON 014 (GS)	3
		ENGL 015 or ENGL 030 (GWS)	3
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications **ETM Course**	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	STAT 200 (GQ)	4
Foreign Language 003	4	CAS 100 (GWS)	3
Humanities (GH)	3	Social and Behavioral Sciences (GS)	3
Arts (GA)	3	Natural Sciences (GN)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
IST 311 Object-Oriented Design and Software Applications	3	IST 301 Information and Organizations	3
IST 331 Organization and Design of Information Systems	3	IST 411 Distributed Object Computing or IST 412 The Engineering of Complex Software Systems or IST 413 Usability Engineering	3
Support of Option	3	Support of Option	3
Humanities (GH)	3	Foreign Culture	3
Health and Physical Activity (GHA)	3	ENGL 202C or ENGL 202D (GWS)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 4xx Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
IST 411 or IST 412 or IST 413	3	Support of Option	3
Support of Option	3	Natural Sciences (GN)	3
Foreign Culture	3	Elective	4
Arts (GA)	3	Elective	3
Total Credits:	15	Total Credits:	16

Recommended Academic Plan

Information Sciences and Technology (ISTBS)
Information Technology: Integration & Application (ITINT) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
IST 110/110S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data **ETM Course**	4
MATH 110 or 140 (GQ)	4	Natural Sciences (GN)	3
CMPSC 101 Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS) or ECON 104 (GS) or ECON 014 (GS)	4
Foreign Language 001	4	Foreign Language 002	3
		ENGL 015 or ENGL 030 (GWS)	3
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications **ETM Course**	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	STAT 200 (GQ)	4
Foreign Language 003	4	CAS 100 (GWS)	3
Humanities (GH)	3	Social and Behavioral Sciences (GS)	3
Arts (GA)	3	Natural Sciences (GN)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
IST 301 Information and Organizations	3	IST 331 Organization and Design of Information Systems	3
IST 302 IT Project Management	3	IST 420 Fundamentals of Systems and Enterprise	3
Support of Option	3	Support of Option	3
Humanities (GH)	3	Foreign Culture	3
Health and Physical Activity (GHA)	3	ENGL 202C or ENGL 202D (GWS)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 4xx Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
IST 421 Advanced Enterprise Integration: Technologies and Applications	3	Support of Option	3
Support of Option	3	Natural Sciences (GN)	3
Foreign Culture	3	Elective	4
Arts (GA)	3	Elective	3
Total Credits:	15	Total Credits:	16

Recommended Academic Plan

Information Sciences and Technology (ISTBS)
Information Context: People, Organizations, and Society (ISPP) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
IST 110/110 S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data **ETM Course**	4
MATH 110 or 140 (GQ)	4	Natural Sciences (GN)	3
CMPSC 101 Intro to C++ Programming or IST 297D Intro to Application Programming	3	Foreign Language 002	4
Foreign Language 001	4	ECON 102 (GS) or ECON 104 (GS) or ECON 014 (GS)	3
		ENGL 015 or ENGL 030 (GWS)	3
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications **ETM Course**	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	STAT 200 (GQ)	4
Foreign Language 003	4	CAS 100 (GWS)	3
Humanities (GH)	3	Social and Behavioral Sciences (GS)	3
Arts (GA)	3	Natural Sciences (GN)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
IST 301 Information and Organizations	3	IST 431 The Information Environment	3
IST 331 Organization and Design of Information Systems	3	IST 302 IT Project Management or IST 413 Usability Engineering	3
Support of Option	3	Support of Option	3
Humanities (GH)	3	Foreign Culture	3
Health and Physical Activity (GHA)	3	ENGL 202C or ENGL 202D (GWS)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 4xx Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
IST 432 Legal and Regulatory Environment of Information Science and Technology	3	Support of Option	3
Support of Option	3	Natural Sciences (GN)	3
Foreign Culture	3	Elective	4
Arts (GA)	3	Elective	3
Total Credits:	15	Total Credits:	16

Recommended Academic Plan
Concurrent Major

The concurrent major program allows students to earn degrees in more than one major. When completing concurrent majors, the student simultaneously completes all academic requirements for his/her majors and graduates with two degrees in the same semester. Working in conjunction with your academic adviser, this sample semester-by-semester plan can serve as a guide, but your personal plan may look different.

Information Sciences and Technology: Information Technology-Integration and Application
Security and Risk Analysis: Information and Cyber Security

ISTBS/ITINT and SRA/ICS

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
IST 110/110S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data **ETM Course**	4
SRA 111 Introduction to Security and Risk Analysis	3	SRA 211 Threat of Terrorism and Crime	3
MATH 110 or MATH 140 (GQ)	4	CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3
Foreign Language 001	4	ENGL 015 or ENGL 030 (GWS)	3
		Foreign Language 002	4
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications **ETM Course**	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	ECON 102 or AG BM 101 (GS)	3
SRA 221 Overview of Information Security	3	STAT 200 (GQ)	4
Foreign Language 003	4	PSYCH 100 or SOC 005	3
CAS 100 (GWS)	3	Natural Sciences with lab (GN)	4
Total Credits:	16	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
IST 301 Information and Organizations (SRA SOO)	3	SRA 311 Risk Mgmt Assessment & Mitigation	3
IST 331 Organization and Design of Info Systems	3	IST 302 IT Project Management (SRA SOO)	3
SRA 231 Decision Theory and Analysis	3	IST 451 Network Security	3
Natural Sciences (GN)	3	STAT 460 or SRA 497A	3
Foreign Culture (SRA Int'l Culture and GH)	3	GEOG 040 or PL SC 001 or PL SC 014 (GS)	3
Health and Physical Activity (GHA)	1.5	Support of Option (SRA)	3
Total Credits:	16.5	Total Credits	18
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 432 Legal and Regulatory Environment of IST	3	IST 440W IST Integration and Problem Solving	3
IST 420 Fundamentals of Systems and Enterprise Integration	3	IST 456 Security and Risk Management	3
IST 454 Computer and Cyber Forensics	3	IST 421 Advanced Enterprise Integration	3
ENGL 202C or ENGL 202D (GWS)	3	Natural Sciences (GN)	3
Foreign Culture (SRA Int'l Culture)	3	Humanities (GH)	3
Arts (GA)	3	Health and Physical Activity (GHA)	1.5
Total Credits:	18	Total Credits:	16.5

Recommended Academic Plan

Information Sciences and Technology (ISTBS)
with an Education Abroad Semester
Effective Summer 2011

The college encourages students to supplement their academic curriculum with a variety of enriching experiences, like studying in another country for a semester. Below is an academic plan that includes coursework which allows students to take advantage of all Penn State has to offer. Students work with their academic adviser to ensure they are meeting their academic goals.

Semester 1	Credits	Semester 2	Credits
IST 110/110S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data **ETM Course**	4
MATH 110 or 140 (GQ)	4	Natural Sciences (GN)	3
CMPSC 101 Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS) or ECON 104 (GS) or ECON 014 (GS)	4
Foreign Language 001	4	Foreign Language 002	3
		ENGL 015 or ENGL 030 (GWS)	3
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications **ETM Course**	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	STAT 200 (GQ)	4
Foreign Language 003	4	CAS 100 (GWS)	3
Humanities (GH)	3	Natural Sciences (GN)	3
Arts (GA)	3	IST 301 Information and Organizations	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 5-Education Abroad	Credits	Semester 6	Credits
Foreign Culture	3	IST 331 Organization and Design of Information Systems	3
Foreign Culture	3	Prescribed Option Course	3
Elective	3	Support of Option	3
Elective	4	Prescribed Option Course	3
Arts (GA)	3	Social/Behavioral Sciences (GS)	3
Total Credits:	16	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
4xx Emerging Issues and Technologies	3	IST 440W IST Integration and Problem Solving	3
Prescribed Option Course	3	Support of Option	3
Support of Option	3	Support of Option	3
ENGL 202C or ENGL 202D (GWS)	3	Humanities (GH)	3
Health and Physical Activity (GHA)	3	Natural Sciences (GN)	3
Total Credits:	15	Total Credits:	15

Information Sciences and Technology (ISTBA)
Bachelor of Arts Degree

Information Sciences and Technology (ISTBA)

The Bachelor of Arts in Information Sciences and Technology (ISTBA) will provide students who are inherently independent and creative with new avenues of study. This degree will be one which will provide them with a thorough grounding in information sciences and technology but also the flexibility to design a curriculum of study to fit their interests and aspirations. Whether these students wish to blend information sciences and technology with the arts, the humanities, or with the sciences, this degree will provide them with the breadth of experience that they need to accomplish their goals. The core of the B.A. program in IST will parallel that of the B.S. degree, thus the B.A. student will be equipped with the same core expertise and tools sets that they need to be able to navigate through the increasingly complex technology landscape. However the flexibility and interdisciplinary nature of the curriculum will give them the opportunity to learn how to apply IT creatively.

The BA in IST is suitable for students who have a particular career goal in mind early in their academic career that integrates a variety of different disciplines with information technology.

ISTBA Major Requirements

To earn your Bachelor of Arts degree from Penn State's College of Information Sciences and Technology, you must complete at least 125 credits. For suggestions on fulfilling your requirements, see the semester-by-semester *Recommended Academic Plans* in this book. You may wish to speak to your adviser because completion of some major requirements may also satisfy general education requirements. To keep track of your academic progress, check the on-line degree audit available through eLion. If you have questions, make an appointment with your academic adviser.

GENERAL EDUCATION: 45 credits. For further details on general education requirements, please see the *University Bulletin*, online at www.psu.edu/bulletins/bluebook/.

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)

REQUIREMENTS FOR THE MAJOR: 41 credits

PRESCRIBED COURSES: 17 credits
IST 110***** (3), IST 130***** (3), IST 210***** (4), IST 220***** (3) (Sem: 1-4)
IST 495***** (1) (Sem: 3-8)
IST 440W***** (3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS: 24 credits*
Select 24 credits of IST and IST-related courses in consultation with academic adviser. (At least 12 credits must be at the 400 level.)

Note**: **The courses marked with an asterisk (*) must be completed with a grade of C or better

PROPOSAL

The ISTBA requires a proposal to be submitted by December 1 of your sophomore year. Therefore, it is important to begin work on your proposal prior to this deadline. Meeting with an IST academic adviser is critical in the early stages of your decision making process.

The proposal includes a written statement that explains your reasons for seeking the ISTBA and carefully outlines the theme or focus of your area of specialization, along with the professional, scholarly, or creative goals that you wish to achieve.

A semester by semester plan of the courses that will satisfy the 24 credits of required supporting coursework is also required.

Please refer to the ISTBA Student Guide for Proposal Guidelines and forms
(http://ist.psu.edu/documents/pdf/ISTBAStudentGuide1.pdf)

ISTBA Common Required Courses

Core Courses are required by all students majoring in the B.A. in Information Sciences and Technology independent of their Supporting Courses and related areas. **All core courses must be completed with a grade of C or better.**

IST 110 or IST 110S	**Information, People and Technology (3)** The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises. *Cannot be used as a GS for students in the ISTBA major*
IST 130	**Emerging Technologies in Popular Culture (3)** (GA) A survey course that explores emerging technologies used to produce and consume popular cultural artifacts. *Cannot be used as GA for students in the ISTBA program.*
IST 210	**Organization of Data (4)** Introduction to concept of databases including the storage, manipulation, evaluation, and display of data and related issues. Prerequisite: IST 110/110S
IST 220	**Networking and Telecommunications (3)** Introduction to digital network topologies, transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security. Prerequisite: IST 110/110S
IST 440W	**IST Integration and Problem Solving (3)** Problem-based approach to technology integration by focusing on real-life problems faced by an organization. Prerequisite: Seventh semester standing; five common course requirements; three of the required courses in an option; ENGL 202C or 202D.
IST 495	**Internship (1)** Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required. Prerequisite: prior approval of proposed assignment by instructor

The Bachelor of Arts degree requires 24 credits of supporting coursework; **at least 12 credits must be at the 400 level**. Additional courses in Information Sciences and Technology, along with minor courses may also be used as a base for this required body of coursework. Potential areas of focus could include, but are not limited to, the following:

Arts and Architecture
Biology
Communications
Design
Environmental Inquiry
History
Medical Informatics
Music Technology
Political Science
Pre-law
Supply Chain and Information Systems

Recommended Academic Plan
Bachelor of Arts in Information Sciences and Technology (ISTBA)

Effective Summer 2011

Semester 1 **Working on Academic Proposal**	Credits	Semester 2 **Working on Academic Proposal**	Credits
IST 110S/110 Information, People and Technology **ETM Course**	3	IST 130 Emerging Technologies in Popular Culture **ETM Course**	3
ENGL 015 or ENGL 030 (GWS)	3	CAS 100 (GWS)	3
Foreign Language 001	4	Foreign Language 002	4
Natural Sciences(GN)	3	Quantification(GQ)	3
Social & Behavioral Sciences (GS)	3	Social & Behavioral Sciences (GS)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 3 **Academic Program Proposal due Dec. 1**	Credits	Semester 4	Credits
IST 210 Organization of Data **ETM Course**	4	IST 220 Networking and Telecommunications **ETM Course**	3
Foreign Language 003	4	Natural Sciences (GN)	3
Quantification (GQ)	3	Humanities (GH)	3
Natural Sciences (GN)	3	Arts (GA)	3
Humanities(GH)	3	Health and Physical Activity (GHA)	3
Total Credits:	17	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
Supporting Course (any level)	3	Supporting Course (any level)	3
Supporting Course (any level)	3	Supporting Course (400-level)	3
Arts (GA)	3	Additional B.A. degree requirement	3
Other Cultures (IL)	3	Additional B.A. degree requirement	3
Additional B.A. degree requirement	3	Elective	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
ENGL 202 (GWS)	3	IST 440W IST Integration and Problem Solving	3
Supporting Course (any level)	3	Supporting Course (400-level)	3
Supporting Course (400-level)	3	Supporting Course (400-level)	3
Elective	3	Elective	3
Elective	3	Elective	3
Total Credits:	15	Total Credits:	15

Security and Risk Analysis (SRA)
Bachelor of Science Degree Options

The SRA major within the College of Information Sciences and Technology offers three options.

Intelligence Analysis and Modeling (IAM)

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 (ICS)

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.

Social Factors and Risk (SFR)

This option includes the legal, regulatory, ethical, and other theories associated with security and risk. Such an examination is focused on understanding the social factors and causes that are linked to transnational terrorism, investigations and litigation involved in business, and other security-related environments.

SRA Major Requirements

To earn your Bachelor of Science degree from Penn State's College of Information Sciences and Technology, you must complete at least 120 credits. For suggestions on fulfilling your requirements, see the semester-by-semester *Recommended Academic Plans* in this book. You may wish to speak to your academic adviser because completion of some major requirements may satisfy general education requirements. To keep track of your academic progress, check the on-line degree audit available through eLion. If you have questions, make an appointment with your academic adviser.

GENERAL EDUCATION: 45 credits
Twenty-two of these credits are included in the requirements for the major (see below). For further details on general education requirements, please see the *University Bulletin*, online at http://bulletins.psu.edu/bulletins/bluebook.

ELECTIVES: 3 credits

REQUIREMENTS FOR THE SRA MAJOR: 94 credits

COMMON REQUIREMENTS FOR ALL OPTIONS: 73 credits

PRESCRIBED COURSES (39 credits)
CMPSC 101***** GQ (3), SRA 111***** (3) (Sem: 1-2)
IST 110/110S***** (3) (Sem: 1-3), IST 210* (4) (Sem:1-4)
SRA 211***** (3), SRA 221***** (3), SRA 231***** (3) (Sem: 2-4)
STAT 200 GQ (4) (Sem: 3-6)
IST 495***** (1) (Sem: 3-8)
IST 432***** (3), SRA 311***** (3), STAT 460 (3) (Sem: 5-6)
IST 440W***** (3) (Sem: 7-8)
Note: Courses marked with an asterisk (*) must be completed with a grade of C or better.

ADDITIONAL COURSES (12 credits)
AG BM 101 GS (3) or ECON 102 GS (3) (Sem: 1-4)
PL SC 001 GS (3), PL SC 014 GS (3), or GEOG 040 GS;IL (3) (Sem: 1-4)
PSYCH 100 GS (3) or SOC 005 GS (3) (Sem: 1-6)
ENGL 202C GWS (3) or ENGL 202D GWS (3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (22 credits)
- Attainment of third-level proficiency in a single foreign language (0-12 credits). Proficiency must be demonstrated by either examination or course work. See the admission section of the general information in the *Univeristy Bulletin* for the placement policy for Penn State foreign language courses. (Sem: 1-4)
- Select 6 credits of international courses from College approved list or other courses approved by adviser. (Sem: 5-8)
- Select 4 credits of lab lecture series (GN) in consultation with adviser (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 21 credits.

INTELLIGENCE ANALYSIS AND MODELING OPTION (IAM): (21 credits)
PRESCRIBED COURSES (12 credits)*****
ECON 302 GS (3), SRA 321 (3) (Sem: 3-6),
SRA 433 (3), SRA 468(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

INFORMATION AND CYBER SECURITY OPTION (ICS): (21 credits)
PRESCRIBED COURSES (12 credits)*****
IST 220(3) (Sem: 1-6), IST 451(3), IST 454(3), IST 456(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

SOCIAL FACTORS AND RISK OPTION (SFR): (21 credits)
PRESCRIBED COURSES (9 credits)*****
IST 452(3), SRA 471(3), SRA 472(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from College-approved list (Sem: 5-8)

Note: Courses marked with an asterisk (*) must be completed with a grade of C or better.

SRA Common Required Courses

The following SRA Core Courses are required by all students majoring in Security and Risk Analysis, independent of their option. **All core courses must be completed with a grade of C or better.**

SRA 111	**Introduction to Security and Risk Analysis (3)** This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations. *SRA 111 is a requirement for the SRA major, and cannot double-count as a GS.*
SRA 211	**Threat of Terrorism and Crime (3)** Provides overview of nature, scope, and seriousness of threats to security as a result of terrorism and crime. Prerequisite: SRA 111
SRA 221	**Overview of Information Security (3)** Provides an understanding of the overview of information security including security architecture, access control, and internet secure applications. Prerequisite: SRA 111, IST 110/110S, CMPSC 101 or IST 297D
SRA 231	**Decision Theory and Analysis (3)** Provides an overview of decision theoretical and analytical concepts and tools in the security risk analysis field. Prerequisite: SRA 211, STAT 200
SRA 311	**Risk Management: Assessment and Mitigation (3)** Assessment and mitigation of security vulnerabilities for people, organizations, industry sectors, and the nation. Prerequisite: SRA 231
SRA 497A	**Statistical Analysis for Information Sciences (3)** Intermediate-level statistics course emphasizing understanding hypothesis testing and experimental design, a broad array of statistical techniques applied to data analysis, and computer tools to support testing and analysis; specifically applied to information sciences and technology applications. *Temporary course used to substitute for STAT 460.*
IST 110 or IST 110S	**Information, People and Technology (3)** Introduction to information systems including social implications, and the creation, organization, analysis, storage, retrieval, and communication of information. *IST 110 is a requirement for the SRA major, and cannot double-count as a GS.*
IST 210	**Organization of Data (4)** Introduction to the concept of databases including the storage, manipulation, evaluation, and display of data and related issues. Prerequisite: IST 110/110S
IST 432	**Legal and Regulatory Environment of Information Science and Technology (3)** Legal environment of information technology, constitutional/political issues, intellectual property, management, e-commerce, privacy, access, computer contracting, cyberspace regulation. Prerequisite: IST 301 or SRA 231 or equivalent
IST 440W	**IST Integration and Problem Solving (3)** Problem-based approach to technology integration by focusing on real-life problems faced by an organization. Prerequisite: Seventh semester standing; five common course requirements; three of the required courses in an option; ENGL 202C or 202D
IST 495	**Internship (1)** Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required. Prerequisite: prior approval of proposed assignment by instructor

Other SRA Courses

Additional courses offered by the College of Information Sciences and Technology.

SRA 321	**Role of Information and Intelligence (3)** Introduce students to the architecture and policies of the U.S. Intelligence Community (IC) and examines how U.S. intelligence policies and practices relate to overall U.S. foreign policy objectives and are influenced by today's global environment and emerging technologies. The course examines the users and processes of IC, participants of Competitive Intelligence and comparative intelligence communities. Prerequisite: SRA 111, SRA 211, SRA 231
SRA 433	**Deception and Counterdeception (3)** Deception tactics, technologies and procedures and approaches to counterdeception analysis. Prerequisites: SRA 211, SRA 221, SRA 231, SRA 311.
SRA 468	**Visual Analytics for Security Intelligence (3)** Introduce visual analytic techniques for security informatics and intelligence. It covers analytical techniques on visualizing threats, risk, and vulnerability. Prerequisite: IST 110/110S, SRA 111 *SRA 468 is offered spring only.*
SRA 471	**Informatics, Risk and the Post-Modern World (3)** Provides in-depth study of how security informatics is influenced by the risk and post-modern culture. Prerequisite: IST 110/110S, SRA 231 *SRA 471 is offered fall only.*
SRA 472	**Integration of Privacy and Security (3)** Exploration of technological, operational, organizational and regulatory issues related to maintenance of individual privacy, confidentiality of organizations, and information protection. Prerequisite: SRA 211 or SRA 221 or equivalent *SRA 472 is offered spring only.*

SRA Option Courses

Each option in the SRA curriculum requires 9-12 credits of prescribed course which distinguish the focus of study. **All prescribed courses must be completed with a grade of C or better.**

Intelligence Analysis and Modeling Option

ECON 302	**Intermediate Microeconomic Analysis (3)** Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools. Prerequisite: ECON 102
SRA 321	**Role of Information and Intelligence (3)** Introduce students to the architecture and policies of the U.S. Intelligence Community (IC) and examines how U.S. intelligence policies and practices relate to overall U.S. foreign policy objectives and are influenced by today's global environment and emerging technologies. Prerequisite: SRA 111, SRA 211, SRA 231
SRA 433	**Deception and Counterdeception (3)** Deception tactics, technologies and procedures and approaches to counterdeception analysis. Prerequisites: SRA 211, SRA 221, SRA 231, SRA 311.
SRA 468	**Visual Analytics for Security Intelligence (3)** Introduce visual analytic techniques for security informatics and intelligence. It covers analytical techniques on visualizing threats, risk, and vulnerability. Prerequisite: IST 110/110S, SRA 111 *SRA 468 is offered spring semester only.*

Information and Cyber Security Option

IST 220	**Networking and Telecommunications (3)** Introduction to digital network topologies; transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security. Prerequisite: IST 110/110S
IST 451	**Network Security (3)** Fundamental issues and concepts of network security, network security technologies and protocols, and emerging technologies in network security. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221
IST 454	**Computer and Cyber Forensics (3)** Fundamental issues and concepts of computer forensics; aspects of computer and cyber crime; methods to uncover, protect, exploit, and document digital evidence; tools, techniques, and procedure to perform computer and cyber crime investigation. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221
IST 456	**Security and Risk Management (3)** Contemporary Security Issues; security management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; and security standards and certification processes. Prerequisite: IST 220. Effective spring 2012: Prerequisite: IST 220, SRA 221

Social Factors and Risk Option

IST 452	**Legal and Regulatory Environment of Privacy and Security (3)** Exploration of legal, regulatory, public policy, and ethical issues related to security and privacy for information technology professionals in public institutions, private enterprise, and IT services. Prerequisite: IST 301 or SRA 231 or equivalent. Effective spring 2012: Prerequisite: IST 432
SRA 471	**Informatics, Risk and the Post-Modern World (3)** Provides in-depth study of how security informatics is influenced by the risk and post-modern culture. Prerequisite: IST 110/110S, SRA 231 *SRA 471 is offered fall semester only.*
SRA 472	**Integration of Privacy and Security (3)** Exploration of technological, operation, organizational and regulatory issues related to maintenance of individual privacy, confidentiality of organizations, and information protection. Prerequisite: SRA 211 or SRA 221 or equivalent *SRA 472 is offered spring semester only.*

Courses to Support the SRA Options

What are the Support of Option courses?

Support of Option choices are meant to supplement knowledge in the areas of study in information assurance, intelligence analysis, and cyber forensics. These courses recognize the unique interdisciplinary training needed to prepare SRA majors for careers in analysis and assurance with these critical infrastructures.

What else should I know about Support of Option courses?

- ❖ Each option has a different listing of courses to satisfy this requirement.
- ❖ Students choose 9 or 12 credits from the appropriate corresponding list below, depending on the option.

Intelligence Analysis and Modeling (IAM) (9 credits)

ACCTG 211: Financial and Managerial Accounting for Decision Making
†CRIMJ 462: Comparative Criminal Justice Systems*
GEOG 123: Geography of Developing World
GEOG 124: Elements of Cultural Geography
GEOG 128: Geography of International Affairs
GEOG 160: Mapping our Changing World
GEOG 363: Geographic Information Systems*
PL SC 309: Quantitative Political Analysis*
PL SC (CRIM J) 439: The Politics of Terrorism *
PL SC 442: American Foreign Policy*
SRA 471: Informatics, Risk and the Post-Modern World*
SRA 472: Integration of Privacy and Security*
STAT 480: Introduction to SAS* (1 credit)

Information and Cyber Security (ICS) (9 credits)

ACCTG 211: Financial and Managerial Accounting for Decision Making
†CRIMJ 433: Computer Security*
IST 301: Information and Organizations*
IST 302: IT Project Management*
IST 402: Emerging Issues and Technologies*
IST 442: Information Technology in an International Context*
IST 452: Legal and Regulatory Environment of Privacy and Security*
MGMT 100: Survey of Management

Social Factors and Risk Option (SFR) (12 credits)

Take 12 credits from the following areas of focus on the College-approved List. Courses can be taken from one area, or a combination of areas. Please see the following page for specific courses.

e-Commerce
Forensics
Middle East Studies
Political Science/International Relations
Pre-Law
Psychology

**Prerequisite course work required*
†Course not offered at University Park

Not all courses are offered every semester.
Check the Schedule of Courses to determine the availability of specific courses.

Supporting Courses for Social Factors and Risk option

e-Commerce
COMM 180
COMM 490*

Forensics
CRIM 113
IST 453*
PSYCH 100
PSYCH 221*
PSYCH 270*
PSYCH 445*
SOC 012

Middle Eastern Studies
ANTH 009
HIST 165
HIST 181/181U
HIST 416
HIST 473
J ST 118
PL SC 014
PL SC 439*
PL SC 467*

Psychology
PHIL 010
PSYCH 100
PSYCH 221*
PSYCH 270*

Political Science/ International Relations
HIST 020
HIST 021
HIST 452*
PL SC 001
PL SC 002*
PL SC 014
PL SC 410*
PL SC 418*
PL SC 442*
PL SC 454*
PL SC 455*
PL SC 458*
PL SC 467*
PSYCH 221*

Pre-law
ACCTG 211*
CRIM 113
IST 453*
PHIL 010
PHIL 012
PSYCH 100
PSYCH 270*
PSYCH 445*
SOC 012

International Courses for the SRA Major

Choose 6 credits from the list below
Only 3 credits can be used as GH

AAA S 191 (GH;IL)
AAA S 192 (GH;IL)
AAA S 434 (IL)*
AAA S 440 (US;IL)*
AAA S 443 (IL)*
AAA S 454 (IL)*
AAA S 459 (IL)*
AAA S 464 (IL)*
ANTH 060 (GS; IL)
ARAB 110 (GH;IL)*
ARAB 165 (IL)
ARAB 401 (IL)*
ARAB 402 (IL)*
ASIA 100 (GH;IL)
ASIA 405Y (IL)*
BB H 305 (IL)*
BB H 440 (US;IL)*
CAS 271 (US;IL)
CHNS 120 (GH;IL)
CHNS 452 (IL)*
GEOG 020 (GS;US;IL)
GEOG 040 (GS;IL)
GEOG 120 (GS;US;IL)
GEOG 123 (GS;IL)
GEOG 124 (GS;IL)
GEOG 126 (GS;US;IL)
GEOG 128 (GS;IL)
H P A 440 (US;IL)*
HIST 010 (GH; IL)
HIST 011 (GH; IL)
HIST 143 (GH;IL)
HIST 165 (IL)
HIST 175 (GH;IL)
HIST 178 (GH;IL)
HIST 179 (GH;IL)
HIST 181 (GH;IL)
HIST 191 (GH;IL)
HIST 192 (GH;IL)
HIST 420 (IL)*
HIST 467 (US;IL)
HIST 473 (IL)
I B 440 (US;IL)*
J ST 060 (GS;IL)
LTNST 467 (US; IL)
PL SC 003 (GS;IL)
PL SC 014 (GS;IL)
PL SC 020 (GS;IL)
PL SC 022 (GS;IL)
PL SC 060 (GS;IL)
PL SC 434 (IL)*
PL SC 440 (US;IL)*
PL SC 443 (IL)*
PL SC 454 (IL)*
PL SC 459 (IL)*
PL SC 464 (IL)*
RL ST 001 (GS; US; IL)
RL ST 165 (IL)
RUS 100 (GH;IL)
SOC 060 (GS;IL)
UKR 100 (GH;IL)

*Prerequisite course work required

RECOMMENDED ACADEMIC PLANS

These academic plans are a general guide but can vary depending on option, course availability, and previous coursework. This "guide" is a tool that should be used in combination with your academic adviser and your degree audit.

Security and Risk Analysis
Intelligence Analysis and Modeling (IAM) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
SRA 111 Introduction to Security and Risk Analysis **ETM Course**	3	SRA 211 Threat of Terrorism and Crime **ETM Course**	3
IST 110/110S Information, People and Technology **ETM Course**	3	Foreign Language 002	4
ENGL 015 or ENGL 030 (GWS)	3	Natural Sciences (GN)	3
Foreign Language 001	4	CAS 100 (GWS)	3
CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
SRA 221 Overview of Information Security	3	SRA 231 Decision Theory and Analysis	3
STAT 200 (GQ)	4	PSYCH 100 or SOC 005	3
Foreign Language 003	4	IST 210	4
GEOG 040 or PL SC 001 or PL SC 014 (GS)	3	Natural Science with lab (GN)	4
Total Credits:	14	Total Credits:	14
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
SRA 311 Risk Management Assessment and Mitigation	3	SRA 468 Visual Analytics for Security Intelligence	3
International Course (GH)	3	ENGL 202C or ENGL 202D (GWS)	3
STAT 460 or SRA 497A	3	SRA 321	3
ECON 302	3	Support of Option	3
Arts (GA)	3	Arts (GA)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 432 Legal and Regulatory Environment of IST	3	IST 440W IST Integration and Problem Solving	3
International Course	3	Support of Option	3
SRA 433	3	Support of Option	3
Health and Physical Activity (GHA)	3	Humanities (GH)	3
Natural Sciences (GN)	2-3	Electives	3
Total Credits:	14-15	Total Credits:	15

Recommended Academic Plan

Security and Risk Analysis
Information and Cyber Security (ICS) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
SRA 111 Introduction to Security and Risk Analysis **ETM Course**	3	SRA 211 Threat of Terrorism and Crime **ETM Course**	3
IST 110/110S Information, People and Technology **ETM Course**	3	Foreign Language 002	4
ENGL 015 or ENGL 030 (GWS)	3	Natural Sciences (GN)	3
Foreign Language 001	4	CAS 100 (GWS)	3
CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
SRA 221 Overview of Information Security	3	SRA 231 Decision Theory and Analysis	3
STAT 200 (GQ)	4	PSYCH 100 or SOC 005	3
Foreign Language 003	4	IST 210	4
IST 220 Networking and Telecommunications	3	Natural Science with lab (GN)	4
Total Credits:	14	Total Credits:	14
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
SRA 311 Risk Management Assessment and Mitigation	3	IST 432 Legal and Regulatory Environment of IST	3
International Course (GH)	3	ENGL 202C or ENGL 202D (GWS)	3
STAT 460 or SRA 497A	3	IST 451 Network Security	3
GEOG 040 or PL SC 001 or PL SC 014 (GS)	3	Support of Option	3
Arts (GA)	3	Arts (GA)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 456 Security and Risk Management	3	IST 440W IST Integration and Problem Solving	3
International Course	3	IST 454	3
Support of Option	3	Support of Option	3
Health and Physical Activity (GHA)	3	Humanities (GH)	3
Natural Sciences (GN)	2-3	Electives	3
Total Credits:	14-15	Total Credits:	15

Recommended Academic Plan

Security and Risk Analysis
Social Factors and Risk (SFR) Option

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
SRA 111 Introduction to Security and Risk Analysis **ETM Course**	3	SRA 211 Threat of Terrorism and Crime **ETM Course**	3
IST 110/110S Information, People and Technology **ETM Course**	3	Foreign Language 002	4
ENGL 015 or ENGL 030 (GWS)	3	Natural Sciences (GN)	3
Foreign Language 001	4	CAS 100 (GWS)	3
CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
SRA 221 Overview of Information Security	3	SRA 231 Decision Theory and Analysis	3
STAT 200 (GQ)	4	PSYCH 100 or SOC 005	3
Foreign Language 003	4	IST 210	4
GEOG 040 or PL SC 001 or PL SC 014 (GS)	3	Natural Science with lab (GN)	3
Total Credits:	14	Total Credits:	14
Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
SRA 311 Risk Management Assessment and Mitigation	3	IST 432 Legal and Regulatory Environment of IST	3
International Course (GH)	3	ENGL 202C or ENGL 202D (GWS)	3
SRA 471 Informatics, Risk and the Post-Modern World	3	STAT 460 or SRA 497A	3
Support of Option	3	SRA 472 Integration of Privacy and Security	3
Arts (GA)	3	Arts (GA)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 452 Legal and Regulatory Environment of Privacy and Security	3	IST 440W IST Integration and Problem Solving	3
International Course	3	Support of Option	3
Support of Option	3	Support of Option	3
Health and Physical Activity (GHA)	3	Humanities (GH)	3
Natural Sciences (GN)	2-3	Electives	3
Total Credits:	14-15	Total Credits:	15

Recommended Academic Plan

Concurrent Major

The concurrent major program allows students to earn degrees in more than one major. When completing concurrent majors, the student simultaneously completes all academic requirements for his/her majors and graduates with two degrees in the same semester. Completion of two majors will likely extend your graduation date. Working in conjunction with your academic adviser this sample semester-by-semester plan can serve as a guide, but your personal plan may look different.

Security and Risk Analysis: Intelligence Analysis and Modeling
Information Sciences and Technology: Information Technology-Integration and Application

SRA/IAM and ISTBS/ITINT

Effective Summer 2011

Years One and Two

Semester 1	Credits	Semester 2	Credits
IST 110/110S Information, People and Technology **ETM Course**	3	IST 210 Organization of Data	4
SRA 111 Introduction to SRA **ETM Course**	3	SRA 211 Threat of Terrorism and Crime **ETM Course**	3
MATH 110 or MATH 140 (GQ)	4	CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3
Foreign Language 001	4	ENGL 015 or ENGL 030 (GWS)	3
		Foreign Language 002	4
Total Credits:	14	Total Credits:	17
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
IST 220 Networking and Telecommunications	3	IST 240 Introduction to Computer Languages	3
IST 230 Language, Logic and Discrete Math	3	ECON 102 (GS)	3
SRA 221 Overview of Information Security	3	STAT 200 (GQ)	4
Foreign Language 003	4	PSYCH 100 or SOC 005	3
CAS 100 (GWS)	3	Natural Sciences (GN)	3
Total Credits:	16	Total Credits:	16

Years Three, Four and Five

Summer: IST 495 Internship (1)			
Semester 5	Credits	Semester 6	Credits
IST 301 Information and Organizations	3	IST 302 IT Project Management	3
SRA 231 Decision Theory and Analysis	3	SRA 311 Risk Management Assessment and Mitigation	3
ECON 302	3	SRA 321	3
GEOG 040 or PL SC 001 or PL SC 014 (GS)	3	Support of Option (IAM)	3
Natural Sciences (GN)	2-3	Natural Science with lab (GN)	4
Total Credits:	14-15	Total Credits	16
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
IST 331 Organization and Design of Info Systems	3	IST 421 Advanced Enterprise Integration	3
IST 420 Fundamentals of Systems and Enterprise Integration	3	SRA 468 Visual Analytics for Security Intelligence	3
SRA 433	3	ENGL 202C or ENGL 202D (GWS)	3
STAT 460 or SRA 497A	3	Support of Option - IAM	3
International Course (GH) (IST Foreign Culture)	3	International Course (IST Foreign Culture)	3
Health and Physical Activity (GHA)	1.5	Arts (GA)	3
Total Credits:	16.5	Total Credits:	18
Summer: IST 495 Internship (1)			
Semester 9	Credits		
IST 440W IST Integration and Problem Solving	3		
IST 432 Legal and Regulatory Environment of Information Science and Technology	3		
Support of Option - IAM	3		
Arts (GA)*	3		
Humanities (GH)	3		
Health and Physical Activity (GHA)	1.5		
Total Credits:	16.5		

***Flexibility in general education may be used to maximize your educational opportunities. Please check with your academic adviser or the University Bulletin for details.**

Recommended Academic Plan

Security and Risk Analysis
with an Education Abroad Semester

The college encourages students to supplement their academic curriculum with a variety of enriching experiences, like studying in another country for a semester. Below is an example of an academic plan that includes coursework which allows students to take advantage of all Penn State has to offer. Students work with their academic adviser to ensure they are meeting their academic goals.

Effective Summer 2011

Semester 1	Credits	Semester 2	Credits
SRA 111 Introduction to Security and Risk Analysis **ETM Course**	3	SRA 211 Threat of Terrorism and Crime **ETM Course**	3
IST 110/110S Information, People and Technology **ETM Course**	3	Foreign Language 002	4
ENGL 015 or ENGL 030 (GWS)	3	Natural Sciences (GN)	3
Foreign Language 001	4	CAS 100 (GWS)	3
CMPSC 101 (GQ) Intro to C++ Programming or IST 297D Intro to Application Programming	3	ECON 102 (GS)	3
Total Credits:	16	Total Credits:	16
Summer: IST 495 Internship (1)			
Semester 3	Credits	Semester 4	Credits
SRA 221 Overview of Information Security	3	SRA 231 Decision Theory and Analysis	3
STAT 200 (GQ)	4	PSYCH 100 or SOC 005	3
Foreign Language 003	4	IST 210	4
GEOG 040 or PL SC 001 or PL SC 014 (GS)	3	Natural Science with lab (GN)	4
Total Credits:	14	Total Credits:	14
Summer: IST 495 Internship (1)			
Semester 5-Education Abroad	Credits	Semester 6	Credits
Electives and Other Courses	3	IST 432 Legal and Regulatory Environment of IST	3
Electives and Other Courses	3	SRA 311 Risk Management Assessment and Mitigation	3
Electives and Other Courses	3	Prescribed Option Course	3
Humanities (GH)	3	Prescribed Option Course	3
Arts (GA)	3	Health and Physical Activity (GHA)	3
Total Credits:	15	Total Credits:	15
Summer: IST 495 Internship (1)			
Semester 7	Credits	Semester 8	Credits
ENGL 202C or ENGL 202D (GWS)	3	IST 440W IST Integration and Problem Solving	3
Prescribed Option Course	3	Support of Option	3
STAT 460 or SRA 497A	3	Support of Option	3
Support of Option or Prescribed Option Course	3	International Course	3
International Course (GH)	3	Arts (GA)	3
Natural Sciences (GN)	2-3		
Total Credits:	17-18	Total Credits	15

Entrance to Major: 2011-2012 Admits

The preferred method for moving into the ISTBS or SRA major is through the entrance-to-major process (ETM) during the spring of your sophomore year (2013). Students included in the spring 2013 pool are notified by e-mail to confirm their major, option, and campus preferences through eLion.

ISTBS Major

For entrance to the Bachelor of Science degree in Information Sciences and Technology, you must have attained at least a 2.00 cumulative grade-point average (CGPA) by the end of the Fall 2012 semester. A CGPA of 2.0 must be maintained through the end of the Spring 2013 semester.

A grade of C or better is required for each of the courses listed below, by the end of the Spring 2013 semester:

- IST 110/110S
- IST 210
- IST 220

ISTBA Major

For entrance to the Bachelor of Arts degree in Information Sciences and Technology you must complete the following:

1. Have achieved at least third semester classification and not greater than fourth semester classification while pursuing a program of study appropriate for entry to the major.

2. Have completed two of the following four courses with a grade of C or better in each: IST 110, IST 130, IST 210, and IST 220.

3. Have attained at least a 2.00 cumulative grade point average (CGPA) by the end of the Fall 2012 semester. A CGPA of 2.0 must be maintained through the end of the Spring 2013 semester.

4. Submitted a proposal by December 1 of your sophomore year (2012). If your proposal is approved and you satisfy the above requirements, you must participate in the entrance-to-major process by indicating your preference through eLion, early in the Spring 2013 semester.

SRA Major

For entrance to the Security and Risk Analysis major, you must have attained at least a 2.00 cumulative grade point average (CGPA) by the end of the Fall 2012 semester. A CGPA of 2.0 must be maintained through the end of the Spring 2013 semester.

A grade of C or better is required for each of the courses listed below by the end of the Spring 2013 semester:

- IST 110/110S
- SRA 111
- SRA 211

NOTES

Semester-By-Semester Academic Plan

Name: ____ Student ID #: __________________________________

Major/Option: _________________________________ Minor (if applicable): ______________________________

Fall ______	**Credits**	**Spring ______**	**Credits**	**Summer ______**	**Credits**
Total Credits:		Total Credits:		Total Credits:	
Summer: IST 495 Internship (1)					
Fall ______	**Credits**	**Spring ______**	**Credits**	**Summer ______**	**Credits**
Total Credits:		Total Credits:		Total Credits:	
Summer: IST 495 Internship (1)					
Fall ______	**Credits**	**Spring ______**	**Credits**	**Summer ______**	**Credits**
Total Credits:		Total Credits:		Total Credits:	
Summer: IST 495 Internship (1)					
Fall ______	**Credits**	**Spring ______**	**Credits**	**Summer ______**	**Credits**
Total Credits:		Total Credits:		Total Credits:	

Not all courses are offered every semester.

Your Career Roadmap

Internships for Year One, Year Two and Year Three

Internships are a required part of the College of IST's majors and set a student's professional development in motion. The college's requirement of taking a one-credit internship has shown to produce a great return professionally. You will be better able to define career goals as well as create better future job opportunities. The internship experience needs to be of enough technical rigor to enable you to more accurately evaluate career choices. Completion of one internship experience for credit is required; however it is strongly encouraged that students have multiple internship experiences prior to graduation as this increases full-time job offers and maximizes career exploration opportunities. You can also explore the idea of a co-op. This type of internship is where you have the opportunity to work with the same company for six months or more and really get to know what it is like to work in a corporate environment. Those interested in a co-op can work with the internship coordinator and their academic adviser to integrate this experience into their curriculum. It is possible to graduate within four years with a co-op.

Steps to Optimize Your Internship Selection:

1. Register your profile on the Compass system.
2. Make an appointment with IST's Internship Coordinator to discuss career goals.
3. Update and submit your resume to Compass so you can view internship job postings.
4. Attend résumé seminars and workshops in your first year.
5. Attend IST professional development workshops and IST career related events.
6. Apply for internships.
7. Attend Penn State's Fall and Spring Career Days.
8. Once you find an internship, notify the internship coordinator of your plans and complete the appropriate forms.
9. Please visit the website for additional information and resources: www.ist.psu.edu/currentstudents/careersolutions

***If you are at a campus other than University Park, please visit the career counselor at your campus.**

Year One

Students should get to know the IST Career Solutions office and the programs and services that are available. Even though you are just beginning your academic preparation, steps should be taken to begin your search for an internship after your first year. Use the steps listed above to begin the process. Based on the academic planning of your first year's courses, you can fulfill your internship requirement the following summer. Students majoring in IST or SRA work in areas such as consulting, government, and manufacturing industries. Students can direct their internship selections by what they find of most interest in their course work. By planning to do an internship this summer, students will be at a great advantage for future internships as well as permanent job offers upon graduation.

Year Two

To better understand your academic focus, think of what general education courses would complement a specific work sector that may be found in your career path. Students majoring in IST or SRA have careers such as technology integration consultants, business analysts, intelligence analysts, and security analysts. Consequently this summer's internship should deepen your area of academic focus and help prepare you for selecting an appropriate minor. Students should be registered on IST's job posting system – Compass.

Year Three

While choosing your Support of Option courses and gauging any interest you might have in pursuing a minor, keep in mind what career path is most exciting and aligns with your skills, knowledge, and abilities. Having completed the third year of academics, internship opportunities this year should be in the career sector you plan on finding future employment.

Year Four – Job Placement

Entry into successful professional placement opportunities is a direct result of your course-related knowledge and participation in internship experiences, consulting projects, corporate information sessions and field trips. The IST professional placement program is designed to maximize your career planning opportunities prior to your graduation.

College of IST students looking for full-time placement opportunities have two distinct resources to pursue. Compass is a licensed service of Symplicity© that is intended for the sole use of IST and SRA students at University Park. This service provides relevant full-time and internship positions.

The second resource is the Nittany Lion Career Network – Penn State's primary on-line resource which provides students university-wide with information on full-time job opportunities, information sessions, and more. Information on this service can be found on PSU's Career Services web site (http://studentaffairs.psu.edu/career/students/NLCN.shtml)

Compass and Nittany Lion Career Network are two separate and highly valuable tools for the student seeking a professional position after graduation. Other options include using the resources offered through online job search tools, and various career fairs and information sessions.

Experience equals success. Internships, corporate interactions, and proactive job searching benefit College of IST students negotiating their first full-time corporate jobs. Our recent graduates impress even the most seasoned professionals.

Finding a full-time job involves completing a few steps. Our advice is to follow each of these to ensure you reap the rewards.

Steps to Optimize Your Professional Placement Offer(s):

1. Register on Compass (http://ist.psu.edu/compass).
2. Make an appointment for an individualized career counseling and planning session with IST Career Services to obtain assistance with post-graduation preparation (careers@ist.psu.edu).
3. Update your résumé, noting your internship experience(s).
4. Attend IST's professional development workshops.
5. Attend corporate information/interview sessions.
6. Register on the Nittany Lion Career Network.
7. Attend the University's fall and spring Career Days.
8. Complete the College of IST Senior Placement Survey (campus-specific).

Please visit the IST Career Solutions Web Site for further information and resources:

http://ist.psu.edu/currentstudents/careersolutions/

This publication is available in alternative media on request.