INFORMATION SYSTEMS, B.S.

Begin Campus: Any Penn State Campus

End Campus: Harrisburg

Program Description
This major prepares students to enter rapidly expanding fields associated with technology. This includes programming, systems analysis and design, database administration, network management, support services and training, and management of information resources. Students obtain competence both in information technology and in business theory. Thus, the curriculum combines technical content with managerial aspects of information systems. Each student’s background is complemented with basic business instruction in accounting, marketing, management, and finance. With business and non-business electives, the program is designed to develop necessary skills to be an effective Information Systems employee. Because the Harrisburg area is the center of industry and economic development for South Central Pennsylvania, students are provided with many opportunities to experience the exciting and challenging world of business.

What is Information Systems?
Information Systems is a multidisciplinary STEM-designated degree program that addresses a range of strategic, managerial, and operational activities associated with the development and use of technologies to organize, process, and apply information. Topics include programming, systems analysis and design, database administration, network management, business analytics, management of information resources, and business and management theory and practice.

You Might Like This Program If...
• You are passionate about creating high-tech solutions to organizational and societal challenges.
• You are interested in application development and programming.
• You are interested in applying information technologies to improve business processes.
• You are interested using information technologies to improve business and management functions.
• You are curious about analyzing information to support data-driven operations and decision making.

Entrance to Major
Entry to the Information Systems major requires the completion of 8 entry-to-major courses: ACCTG 211, ECON 102, ENGL 15 or ENGL 30, FIN 301, MATH 110 or MATH 140, MGMT 301, MKTG 301, SCM 200 or STAT 200; and a 2.00 or higher cumulative grade-point average.

Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business Administration at Penn State Harrisburg.

Degree Requirements
For the Bachelor of Science degree in Information Systems, 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>8</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>79</td>
</tr>
</tbody>
</table>

12 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GWS courses; 3 credits of GS courses; 6 credits of GQ courses.

Consistent with Senate policy, at least 24 credits of course work in the major and the capstone course must be completed at the Capital College to earn the degree.

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

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
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].

Integrated Undergraduate/Graduate (IUG) Degree Programs

Integrated B.S. in Information Systems/MSIS Program
The School of Business Administration offers a limited number of academically superior Bachelor of Science in Information Systems candidates the opportunity to enroll in an integrated, continuous program of study leading to both the Bachelor of Science in Information Systems and the Master of Science in Information Systems. The ability to coordinate as well as concurrently pursue the two degree programs enables the students to earn both degrees in five years. Specifically, as many as twelve of the credits required for the master’s degree may be applied to both undergraduate and graduate degree programs. The Integrated Undergraduate-Graduate Program reduces the total number of credits needed to earn both degrees from 150 to 138.

Students in the IUG program must satisfy the requirements for both the Bachelor of Science in Information Systems and Master of Science in
Information Systems degrees. The total course load is reduced due to courses that can count towards both degrees. The first two years of the IUG program are identical to the first two years of the Bachelor of Science program. Students in the IUG program take five additional credits in their third year, and five fewer credits in their fourth year. The courses that count toward the Master of Science in Information Systems degree requirements are included in the fourth year.

Student performance will be monitored on an on-going basis. In addition, a formal evaluation of student academic performance will be performed when the students have completed 100 to 105 credits, which is at the end of the first semester of the senior year for typical students in the program. Students who have not maintained a 3.0 GPA in their graduate courses will be put on probationary status with respect to the IUG program. They will receive a warning letter regarding probationary status. Their ability to continue in the IUG program will be based on their academic performance in the last semester of their senior year.

Students have the choice of receiving the B.S. in Information Systems degree at the end of the fourth year or waiting until the end of the fifth year to receive both degrees. Students who elect to receive the B.S. degree at the end of the fourth year will pay graduate tuition for courses taken in the fifth year; students opting to receive both degrees at the end of the fifth year will pay undergraduate tuition for all five years.

If for any reason students admitted to the IUG program are unable to complete the requirements for the Master of Science in Information Systems degree, the students will be permitted to receive the Bachelor of Science in Information Systems degree assuming all the undergraduate degree requirements have been satisfactorily completed. If the students successfully complete courses listed in the recommended schedule, they will satisfy the requirements for the Bachelor of Science degree by the end of their fourth year.

Admission Requirements

To initiate the application process, students must submit a resume, a personal statement including career goals and how MBA will enhance their career goals, transcripts of courses taken outside Penn State, two letters of recommendation, with at least one from the School of Business Administration faculty, and a plan of study that integrates both undergraduate and graduate requirements. A graduate faculty adviser in collaboration with the Director of MSIS Program will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the Integrated Undergraduate-Graduate (IUG) degree program.

The number of openings in the IUG program is limited. Applicants to the IUG program must have completed a minimum of 60 credits. Typical students would apply after completing between 60 and 90 credits, that is, after the fifth semester and before the end of the seventh semester. In addition, the applicants must earn a minimum of cumulative grade point average of 3.5 and complete the following Entry to Major courses or equivalent:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTG 211</td>
<td>Financial and Managerial Accounting for Decision Making</td>
<td>4</td>
</tr>
<tr>
<td>ECON 102</td>
<td>Introductory Microeconomic Analysis and Policy</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 15</td>
<td>Rhetoric and Composition</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 30</td>
<td>Honors Freshman Composition</td>
<td></td>
</tr>
<tr>
<td>FIN 301</td>
<td>Corporation Finance</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Techniques of Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

or MATH 140 Calculus With Analytic Geometry I

MGMT 301 Basic Management Concepts 3
MKTG 301 Principles of Marketing 3
SCM 200 Introduction to Statistics for Business 4
or STAT 200 Elementary Statistics

To formally apply, students must submit a completed graduate school application. The students should mention in the notes section that the application is for the IUG program in Business Administration. The Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) is not required for admission into the program; however, if students are interested in applying for a graduate assistantship, GMAT or GRE scores must be submitted by the end of the eighth semester.

Student applications will be evaluated based on their overall portfolio, in addition to the above requirements. In all cases, admission to the program will be at the discretion of the Graduate Admissions Committee in Business Administration.

Degree Requirements

Students in the IUG program must satisfy the degree requirements for both Bachelor of Science in Information Systems and Master of Science in Information Systems degrees. The total course load is reduced due to the maximum of 12 credits that can count towards both degrees. All courses counted for both degrees must be at the 500- or 800-level.

Integrated B.S. in Information Systems and M.B.A. in Business Administration

The School of Business Administration offers a limited number of academically superior Bachelor of Science in Information Systems candidates the opportunity to enroll in an integrated, continuous program of study leading to both the Bachelor of Science in Information Systems and the Master of Business Administration. The ability to coordinate as well as concurrently pursue the two degree programs enables the students to earn both degrees in five years. Specifically, as many as twelve of the credits required for the master’s degree may be applied to both undergraduate and graduate degree programs. The Integrated Undergraduate-Graduate Program reduces the total number of credits needed to earn both degrees from 150 to 138.

Students in the IUG program must satisfy the requirements for both the Bachelor of Science in Information Systems and Master of Business Administration degrees. The total course load is reduced due to courses that can count towards both degrees. The first two years of the IUG program are identical to the first two years of the Bachelor of Science program. Students in the IUG program take five additional credits in their third year, and five fewer credits in their fourth year. The courses that count toward the Master of Business Administration degree requirements are included in the fourth year.

Student performance will be monitored on an on-going basis. In addition, a formal evaluation of student academic performance will be performed when the students have completed 100 to 105 credits, which is at the end of the first semester of the senior year for typical students in the program. Students who have not maintained a 3.0 GPA in their graduate courses will be put on probationary status with respect to the IUG program. They will receive a warning letter regarding probationary status. Their ability to continue in the IUG program will be based on their academic performance in the last semester of their senior year.
Students have the choice of receiving the B.S. in Information Systems degree at the end of the fourth year or waiting until the end of the fifth year to receive both degrees. Students who elect to receive the B.S. degree at the end of the fourth year will pay graduate tuition for courses taken in the fifth year; students opting to receive both degrees at the end of the fifth year will pay undergraduate tuition for all five years.

If for any reason students admitted to the IUG program are unable to complete the requirements for the Master of Business Administration degree, the students will be permitted to receive the Bachelor of Science in Information Systems degree assuming all the undergraduate degree requirements have been satisfactorily completed. If the students successfully complete courses listed in the recommended schedule, they will satisfy the requirements for the Bachelor of Science degree by the end of their fourth year.

**Admission Requirements**

To initiate the application process, students must submit a resume, a personal statement including career goals and how MBA will enhance their career goals, transcripts of courses taken outside Penn State, two letters of recommendation, with at least one from the School of Business Administration faculty, and a plan of study that integrates both undergraduate and graduate requirements. A graduate faculty adviser in collaboration with the Director of MBA Program will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the Integrated Undergraduate-Graduate (IUG) degree program.

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**Learning Outcomes**

Student graduates of our baccalaureate degree programs should be:

1. Effective communicators.
   - a. Present verbally, thoughts and ideas in a way that can be clearly understood by a target audience.
   - b. Convey ideas in a clear, coherent manner in written communication.

2. Ethical and socially responsible.
   - a. Be competent in analyzing social and ethical decision making issues in organizations.

3. Critical thinkers.
   - a. Be able to think and identify multiple dimensions of company issues and performances and make an assessment of company performances in achieving financial and strategic objectives, tracking their achievements, and giving management of companies a more complete and balanced view of how the organization is performing.

   - a. Demonstrate knowledge in technologies that support the information environment.
   - b. Demonstrate knowledge in business/organizational procedures that are supported by technology.
   - c. Demonstrate general skills and abilities that promote good communication, problem-solving and analytical abilities as well as the ability to work in a collaborative environment.
   - d. Demonstrate skills to participate in and lead multidisciplinary teams in the development, implementation and management of information technology solutions.

**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 needed 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/)

**Harrisburg**

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**Suggested Academic Plan**

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2020-21 academic year. To access previous years' suggested academic plans, please visit the archive (http://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition (Note: the archive only contain suggested
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>Spring</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30†</td>
<td>3</td>
<td>CAS 100‡</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110 or 140‡†</td>
<td>4</td>
<td>STAT 200 or SCM 200§</td>
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</tr>
<tr>
<td>ECON 102‡†</td>
<td>3</td>
<td>MGMT 301§</td>
<td>3</td>
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<tr>
<td>General Education Course</td>
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<td>General Education Course</td>
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<td>General Education Course</td>
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<tr>
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<td>14.5</td>
<td>General Education Course</td>
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<table>
<thead>
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<th>Second Year</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCTG 211§</td>
<td>4</td>
<td>FIN 301§</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 301§</td>
<td>3</td>
<td>IST 140, CMPSC 101, or CMPSC 121</td>
<td>3</td>
</tr>
<tr>
<td>MIS 204</td>
<td>3</td>
<td>ENGL 202D‡</td>
<td>3</td>
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<tr>
<td>General Education Course</td>
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<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
<td>MIS 390*</td>
<td>3</td>
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<td></td>
<td>16</td>
<td>General Education Course</td>
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<table>
<thead>
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<th>Third Year</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BA 241</td>
<td>2</td>
<td>SCM 301</td>
<td>3</td>
</tr>
<tr>
<td>BA 242</td>
<td>2</td>
<td>Application Development Concentration or Network Security Concentration or Individualized Concentration*</td>
<td>3</td>
</tr>
<tr>
<td>ECON 104</td>
<td>3</td>
<td>MIS 449*</td>
<td>3</td>
</tr>
<tr>
<td>MIS 307*</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>MIS 465*</td>
<td>3</td>
<td>General Education Course</td>
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<tr>
<td>General Education Course</td>
<td>1.5</td>
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<td>General Education Course</td>
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<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BA 364Y</td>
<td>3</td>
<td>BA 462</td>
<td>3</td>
</tr>
<tr>
<td>Application Development Concentration or Network Security Concentration or Individualized Concentration*</td>
<td>3</td>
<td>MIS 450*</td>
<td>3</td>
</tr>
<tr>
<td>200-400 level Business courses in consultation with adviser</td>
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<td>Application Development Concentration or Network Security Concentration or Individualized Concentration*</td>
<td>3</td>
</tr>
<tr>
<td>Non-Business Elective</td>
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<td>Non-Business Elective</td>
<td>3</td>
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</tbody>
</table>

| Non-Business Elective | 2 | | |
| | | | |

| | | | |
| Total Credits 120 | | | |

* 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

1 Application Development Concentration
   IST 302 - IT Project Management, MIS 413 - Interface Design for Information Systems Apps., MIS 466 - Business Programming for the Web

2 Network Security Concentration

3 Individualized Concentration

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

- 30 Credits of GA, GH, GHW, GN, GS to include 6 Integrative Studies credits.
- 15 Credits of GWS, and GQ require a grade of ‘C’ or better.
- Courses required for the major must generally be taken within 10 years of entrance to the major.
- Students must complete a 3-credit course in 'United States Cultures (US)' and a 3-credit course in 'International Cultures (IL).’ B A 364 (US/IL) may be used to meet either the IL or US requirement, but may be used to fulfill only 3 of the 6 credit requirement.

Career Paths

The B.S. in Information Systems prepares students to meet the rising demand for well-educated IS professionals in business, healthcare, and government. Salaries for IS graduates are higher than typical business
majors and even higher for those who complete an internship. A recent report from the 2019 Association of Information Systems IS Job Index indicates that the IS job market is flourishing. This same report shows the national placement rate is 70% with an average starting salary of $65,314. The most popular jobs are in application development, consulting, business analytics, systems analyst, and computer support.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE INFORMATION SYSTEMS PROGRAM (https://aisnet.org/Page/ISJobIndex/)

Opportunities for Graduate Studies
Penn State Harrisburg’s MS in Information Systems is designed to meet the rapidly increasing need for technically grounded, upper-level information resources managers within business organizations. A limited number of academically superior B.S. in Information Systems candidates are provided the opportunity to enroll in an integrated, continuous program of study leading to both the Bachelor of Science in Information Systems and the Master of Science in Information Systems in five years.

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (https://harrisburg.psu.edu/business-administration/information-systems/master-science-information-systems/)

Professional Resources
• Beta Gamma Sigma (https://www.betagammasigma.org)
• Upsilon Pi Epsilon (http://upe.acm.org/)
• Women in Information Technology (https://psuharrisburg.campuslabs.com/engage/organization/wit-psh/)

Accreditation
The B.S. in Information Systems offered by the School of Business Administration at Penn State Harrisburg, the Capital College, is accredited by AACSB International – The Association to Advance Collegiate Schools of Business. Synonymous with the highest standards of excellence since 1916, AACSB provides quality assurance, business education intelligence, and professional development services to over 1,600 member organizations and more than 800 accredited business schools worldwide. In addition, AACSB International (AACSB) connects educators, students, and business to achieve a common goal: to create the next generation of great leaders.

MORE INFORMATION ABOUT AACSB INTERNATIONAL (https://www.aacsb.edu/)

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https://harrisburg.psu.edu/business-administration (https://harrisburg.psu.edu/business-administration/)