Paul H. Chook Department of Information Systems and Statistics

Field Description

The department offers courses in the areas of computer information systems (CIS), operations research, and statistics. Courses in each of these areas provide training in problem solving techniques useful in gaining strategic advantage in the marketplace. CIS students are afforded the opportunity to gain a strong foundation in the business, managerial, and technical issues related to information systems with courses in programming, data management, telecommunications, the Internet and e-commerce, and the analysis and design of computer-based solutions to business problems. Operations research trains students in the application of mathematical models and decision making for business, industry, and government with an emphasis on modeling methods, analysis, and implementation relevant to operational and management planning issues. Statistics students are provided with a skills base for the application of statistical techniques and tools to a wide variety of areas, including computational statistics, sample survey, experimental design, and quantitative methods in marketing.

back to top

The Majors

General Information

The Department of Statistics and Computer Information Systems offers majors in the fields of computer information systems and statistics and quantitative modeling.

The **computer information systems** area prepares professionals in the development and use of computer-based technologies to develop systems that fulfill business information needs. Baruch's program trains students to analyze business needs and to design, implement, and use information systems to satisfy those needs.

The **operations research** area provides basic preparation for students who wish to pursue careers in the decision sciences and provides fundamental quantitative knowledge required by those who major in other business areas. Emphasis is placed on modeling methods, analysis, and implementation relevant to operational and management planning issues in many business areas, including marketing, production, finance, accounting, and information technology.

The **statistics** area not only provides the basic preparation for students who wish to pursue careers in statistics but also provides the quantitative knowledge required by those who major in other business areas. Statistics and quantitative modeling majors are provided with the base for the application of statistical techniques to a wide variety of fields.

back to top

BBA in Computer Information Systems

The CIS program provides a strong foundation in the business and managerial issues related to information systems. Computer information systems are presented in light of their role as tools for strategic advantage in the marketplace. To facilitate this, course offerings provide computer, technological, and problem - solving skills. The CIS program addresses such areas as CASE (computer-assisted software engineering), networks and telecommunications, electronic commerce, the Internet, client-server technology, and object-oriented technologies.

Program Learning Goals

Database Development	Students will apply the principles of design and development of relational databases.
System Analysis and Design	Students will elicit, analyze, and model system requirements.
Software Programming	Students will implement software systems using a suitable programming language/development environment.
Information Technology Management	Students will identify and explain the factors that contribute to the successful design, implementation, and management of Information Technology systems in organizations.

General CIS Track

Required Courses	**15 credits**	
CIS 2300	Programming and Computational Thinking	3 credits
Choose from CIS 3100 or CIS 3110 or CIS 3120 †	Object Oriented Programming I, or Object Oriented Programming with Java, or Programming for Analytics	3 credits
CIS 3400	Database Management Systems	3 credits
CIS 4800	Systems Analysis and Design	3 credits
CIS 5800	Information Technology Development and Project Management	3 credits
Elective Courses	**9 credits**	
At at least 3 credits should be from a course at the 4000 level		
CIS 3100	Object Oriented Programming I	3 credits
CIS 3110	Object Oriented Programming with Java	3 credits
CIS 3120	Programming for Analytics	3 credits

CIS 3150	Introduction to Semantic Technologies	3 credits
CIS 3250	Blockchain Technologies and Applications	3 credits
CIS 3367	Spreadsheet Applications in Business	3 credits
CIS 3444	e-Business Technologies	3 credits
CIS 3500	Networks and Telecommunications I	3 credits
CIS 3550	Cybersecurity	3 credits
CIS 3630	Principles of Web Design	3 credits
CIS 3700	Green IT	3 credits
CIS 3710	Foundations of Business Analytics	3 credits
CIS 3750	Social Media Technologies in Organizations	3 credits
CIS 3770	Usability, Privacy, and Security	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
CIS 4093	Special Topics in Computer Information Systems	3 credits
CIS 4100	Object-Oriented Programming II	3 credits
CIS 4160	Web Applications Development	3 credits
CIS 4170 / STA 4170	Data Visualization	3 credits
CIS 4350	Information Technology Audit	3 credits
CIS 4400	Data Warehousing for Analytics	3 credits
CIS 4500	Networks and Telecommunications II	3 credits
CIS 4560	Ethical Hacking	3 credits
CIS 4610	Expert (Knowledge-Based) Systems and Related Technologies	3 credits
CIS 4620	FinTech: Principles and Applications	3 credits
CIS 4650	Operating Systems Concepts	3 credits
OPR 3300	Quantitative Methods for Accounting*	3 credits
OPR 3450	Quantitative Decision Making for Business I*	3 credits
STA 4920	Advanced Data Mining	3 credits

* Students may not receive credit for both OPR 3450 and OPR 3300.

** Students receiving credit for MGT 3500 (Introduction to Management Science) will not receive credit for OPR 3450.

† If you have used one of these programming courses (CIS 3100, CIS 3110, CIS 3120) as a required course, you may use the others as electives.

back to top

Data Analytics Track

Required Courses (15 credits)

CIS 2300	Programming and Computational Thinking	
CIS 3120	Programming for Analytics	3 credits
CIS 3400	Database Management Systems	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
CIS 4400	Data Warehousing for Analytics	3 credits

Elective Courses (9 credits)

Choose three (3) courses of 3 credits each from the following, at least one of which should be a CIS course and one should be a STA course or an OPR course.

CIS 3100	Object Oriented Programming I	3 credits
CIS 3150	Introduction to Semantic Technologies	3 credits
CIS 3710	Foundations of Business Analytics	3 credits
CIS 4093	Special Topics in CIS (with permission)	3 credits
CIS 4170 / STA 4170	Data Visualization	3 credits
STA 3154	Business Statistics II	3 credits
STA 4155	Regression and Forecasting Models for Business Applications	3 credits
STA 4920	Advanced Data Mining	3 credits
OPR 3300 *	Quantitative Methods for Accounting*	
OPR 3450 **	Quantitative Decision Making for Business I	3 credits
OPR 3451	Quantitative Decision Making for Business II	3 credits
MKT 4123	Marketing Web Analytics and Intelligence	3 credits
MKT 4561	Marketing Analytics	3 credits

* Students may not receive credit for both OPR 3450 and OPR 3300.

** Students receiving credit for MGT 3500 (Introduction toManagement Science) will not receive credit for OPR 3450.

back to top

Information Risk Management and Cybersecurity Track

Required Courses (15 credits)

CIS 2300	Programming and Computational Thinking	3 credits
CIS 3400	Database Management Systems	3 credits
CIS 3500	Networks and Telecommunications I	3 credits
CIS 3550	Cybersecurity	3 credits
CIS 4350	Information Technology Audit	3 credits

Elective Courses (9 credits)

At least 6 credits must be from the CIS courses

CIS 3100	Object Oriented Programming I	3 credits
CIS 3110	Object Oriented Programming with Java	3 credits
CIS 3120	Programming for Analytics	3 credits
CIS 3750	Social Media Technologies in Organizations	3 credits
CIS 3770	Usability, Privacy, and Security	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
CIS 4093	Special Topics in CIS (with a departmental permission)	3 credits
CIS 4100	Object-Oriented Programming II	3 credits
CIS 4160	Web Applications Development	3 credits
CIS 4500	Networks and Telecommunications II	3 credits
CIS 4560	Ethical Hacking	3 credits
CIS 4620	Financial Information Technologies	3 credits
CIS 4800	Systems Analysis and Design	3 credits
LAW 3108	Law and the Internet	3 credits
LAW 3250	Financial Regulation of Emerging Technologies	3 credits
LAW 3350	Corporate Compliance, Governance & Whistleblowing	3 credits

back to top

BBA in Statistics and Quantitative Modeling

The statistics and quantitative modeling major is designed to develop quantitative thinking skills that are invaluable in business. The student will take courses from a variety of quantitative disciplines that focus extensively on statistical methodology, mathematical modeling, and computer implementation issues applied to business. The use of the computer for the solution and analysis of business problems is an integral part of the program. Graduates of this program will have a broad foundation in statistics or quantitative modeling and will be well positioned for the analysis and solution of decision problems facing business and industry in the 21st century.

It is essential that the student consult with an area advisor to plan a program prior to taking any courses in the major.

Program Learning Goals

Quantitative Thinking Skills	Students will be able to apply the quantitative thinking and the mathematical modeling process to solve real-world problems
Data Analysis	Students will be able to identify appropriate methodology, conduct analysis, and interpret results
Deterministic Modeling Methods	Students will be able to model deterministic mathematical programming problems
Probabilistic Modeling Methods	Students will be able to model probabilistic problems dealing with decision analysis and simulation
Statistical Modeling	Students will be able to model statistical problem applied to business
Technological Skills	Students will be proficient in appropriate software to solve problems in statistics and quantitative modeling
Communication Skills	Students will be able to effectively communicate statistical and quantitative modeling methods for decision making to technical and non-technical audiences

Required Courses (12 credits)		
STA 3000	Statistical Computing	3 credits
OPR 3450	Quantitative Decision Making for Business I	3 credits
STA 3154	Business Statistics II	3 credits
STA 4155	Regression and Forecasting Models for Business Applications	3 credits
Elective Courses (12 credits) (No more than six credits outside of the CIS, OPR, STA and MTH)		
CIS 2300	Programing and Computational Thinking	3 credits
CIS 3100	Object Oriented Programing	3 credits
CIS 3120	Programing for Analytics	3 credits
CIS 3400	Database Management Systems I	3 credits
CIS 4100	Object-Oriented Programming II	3 credits
CIS 4400	Data Warehousing for Analytics	3 credits

OPR 3451	Quantitative Decision Making for Business II	3 credits
OPR 3453	Bayesian Statistical Inference and Decision Making	3 credits
OPR 4470	Special Topics in Operations Research	3 credits
OPR 5000	Independent Study and Research in Operations Research	3 credits
STA 3920 / CIS 3920	Data Mining for Business Analytics	3 credits
STA 4000 / CIS 4000	Introduction to SAS Programming	3 credits
STA 4157	Design and Analysis of Experimental Data	3 credits
STA 4158	Analysis of Time Series	3 credits
STA 4170 / CIS 4170	Data Visualization	3 credits
STA 4370	Special Topics in Applied Statistics	3 credits
STA 4920	Advanced Data Mining	3 credits
STA 5000	Independent Study in Statistics	3 credits
MKT 3600	Marketing Research	3 credits
MKT 4123	Marketing Web Analytics and Intelligence	3 credits
MKT 4561	Marketing Analytics	3 credits
MTH 3020	Intermediate Calculus	4 credits
** Any MTH 4000 and above is also accepted as an elective		
Note: OPR 3300 Quantitative Methods for Accounting may be substituted for OPR 3450 with the approval of the area advisor.		

back to top

Statistics: BA Major

Statistical methods are crucial in numerous fields such as biology, physics, climate science, and finance, to name a few. The Bachelor of Arts in Statistics major is intended to provide students with fundamental knowledge and skills in probability, mathematical statistics, data analysis, and statistical computing. Students will explore the mathematical foundations of the theory of statistics. The demand for these skills has increased with the rise of big data. This major is intended to prepare students for graduate study in statistics or related subjects or for a career in data analysis or other related fields.

Please Note:

- As with all BA majors, the liberal arts minor (courses 2-4 of the College Option) and second major (if applicable) must be completed outside the department of the student's major. **A student majoring in statistics cannot minor in mathematics or declare a second major in actuarial science, financial mathematics, or mathematics.**
- **Any business courses completed for this major (CIS, OPR, STA) do not count toward the 90 liberal arts credit minimum for the BA degree.**

Program Prerequisites
As a preliminary requirement, students must complete the following courses:

STA 2000	Business Statistics I	3 credits
MTH 3020	Calculus III	4 credits
	or	
MTH 3030	Elements of Calculus III	5 credits
	or	
MTH 3050	Calculus III and Vector Calculus	4 credits
Required Courses:		
MTH 4100	Linear Algebra and Matrix Methods	3 credits
MTH 4120	Introduction to Probability**	4 credits
MTH 4430	Mathematics of Inferential Statistics	4 credits
STA 3000	Statistical Computing	3 credits
STA 3920	Data Mining for Business Analytics	3 credits
STA 4155 *	Regression and Forecasting Models for Business Applications	3 credits
or		
MTH 4130 *	Mathematics of Data Analysis	4 credits
NOTES: *** Students can receive credit for only one of these two courses.** **** Students who have completed MTH 3120 cannot enroll in MTH 4120. They must satisfy the probability requirement by completing MTH 4119 (please consult the Department of Mathematics).**		
Students must take one of the following courses: ***		
STA 4920	Advanced Data Mining	3 credits
STA 4158	Analysis of Time Series	3 credits
STA 4000	Introduction to SAS Programming	3 credits
OPR 3450	Quantitative Decision Making for Business I	3 credits
***** These courses may also be used as electives for the major**		

Electives **Students must complete one additional course from the following list:**		
MTH 4000	Bridge to Higher Mathematics	3 credits
MTH 4010	Mathematical Analysis I	3 credit
MTH 4020	Advanced Calculus II	3 credits
MTH 4030	Topology	3 credits
MTH 4110	Ordinary Differential Equations	3 credits
MTH 4115	Numerical Methods for Differential Equations in Finance	4 credits
MTH 4125	Introduction to Stochastic Process	4 credits
MTH 4135	Computational Methods in Probability	3 credits
MTH 4140	Graph Theory	3 credits
MTH 4145	Mathematical Modeling *	3 credits
MTH 4150	Combinatorics	3 credits
MTH 4200	Theory of Numbers	3 credits
MTH 4210	Elements of Modern Algebra	3 credits
MTH 4220	Introduction to Modern Geometry	3 credits
MTH 4230	History of Mathematics	3 credits
MTH 4240	Differential Geometry *	3 credits
MTH 4300	Algorithms, Computers and Programming II	3 credits
MTH 4310	Methods of Numerical Analysis	3 credits
MTH 4315	Introduction to Mathematical Logic	3 credits
MTH 4320	Fundamental Algorithms	3 credits
MTH 4410	Theory of Interest	3 credits
MTH 4420	Actuarial Mathematics I	4 credits
MTH 4421	Actuarial Mathematics II	4 credits
MTH 4451	Short-Term Insurance Mathematics	4 credits
MTH 4500	Introductory Financial Mathematics	4 credits
MTH 4600	Data Analysis and Simulation for Financial Engineers	4 credits
MTH 5010	Advanced Calculus III *	3 credits
MTH 5020	Theory of Functions of a Complex Variable	3 credits

MTH 5030	Theory of Functions of Real Variables *	3 credits
MTH 5100	Partial Differential Equations and Boundary Value Problems *	4 credits
MTH 5500	Stochastic Calculus for Finance	4 credits
CIS 2300	Programming and Computational Thinking	3 credits
CIS 3100	Object-Oriented Programming	3 credits
CIS 3120	Programming for Analytics	3 credits
CIS 3400	Database Management Systems I	3 credits
CIS 4100	Object-Oriented Programming II	3 credits
CIS 4400	Data Warehousing for Analytics	3 credits
OPR 3450	Quantitative Decision Making for Business I	3 credits
OPR 3451	Quantitative Decision Making for Business II	3 credits
OPR 3453	Bayesian Statistical Inference and Decision Making	3 credits
OPR 4470	Special Topics in Operations Research	3 credits
OPR 5000	Independent Study and Research in Operations Research	3 credits
STA 4000	Introduction to SAS Programming	3 credits
STA 4157	Design and Analysis of Experimental Data	3 credits
STA 4158	Analysis of Time Series	3 credits
STA 4170	Data Visualization	3 credits
STA 4370	Special Topics in Applied Statistics	3 credits
STA 4920	Advanced Data Mining	3 credits
STA 5000	Independent Study in Statistics	3 credits
* These courses are offered infrequently, subject to student demand.		

Equivalent courses in the arts and sciences and business curricula:

The following pairs of courses are considered as equivalent for purposes of credits. Students can be given credit for either course but not for both:

STA 2000 and STA 2100 (STA 2000 may be used for either the BA or BBA)
STA 3154 and STA 3556
STA 4155 and STA 4554
STA 4157 and STA 4557
OPR 3453 and OPR 4653

Return to Statistics: BA Major

back to top

The Minors

General Information

The Department of Information Systems and Statistics offers five minor concentrations*. Each is outlined below:

- Computer Applications in Business
- Cybersecurity and Information Assurance
- Data Analytics
- Quantitative Methods and Modeling
- Statistics

- Liberal Arts Interdisciplinary Minor in Information Technology and Social Responsibility
- Business Minors for Non-Business Majors

* Optional second minors open only to students pursuing a major within the Zicklin School of Business

Computer Applications in Business (9 credits)

This minor is designed to prepare students majoring in other areas of business to be competent end users and decision makers in a computer information systems environment. The focus is on using microcomputers and higher-level applications software to implement useful applications in a wide range of business areas.

Required Courses

Three courses (9 credits) from any of the following:

- CIS 2300, or any courses from the list of 3000-, 4000-, or 5000-level CIS courses with the exception of CIS 3270, CIS 3810, and CIS 4910;
- At most one course from either OPR3300: Quantitative Methods for Accounting or OPR3450: Quantitative Decision Making for Business I
- All prerequisites must be satisfied.

back to top

Cybersecurity and Information Assurance (9 credits)

This minor would provide an opportunity for students majoring in various areas of business to develop basic understanding of information security and assurance issues that organizations face today and the potential solutions available.

Required Courses (6 credits)		
CIS 3500	Networks and Telecommunications I	3 credits
CIS 3550	Cybersecurity	3 credits
Elective Courses (3 Credits)		
CIS 4350	Information Technology Audit	3 credits
CIS 4560	Ethical Hacking	3 credits

Return to Minors

back to top

Data Analytics (9 credits)

This minor would provide an opportunity for students majoring in various areas of business to develop basic data literacy and to integrate techniques and solutions from the areas of technology, statistics, and quantitative modeling in developing business intelligence to facilitate organizational decision-making

Required Courses (6 credits)		
CIS 2300	Programming and Computational Thinking	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
Elective Courses (3 credits) - Choose one course from the following list.		
CIS 3120	Programming for Analytics	3 credits
CIS 3400	Database Management Systems	3 credits
CIS 4170 / CIS 4170	Data Visualization	3 credits
CIS 4400	Data Warehousing for Analytics	3 credits
STA 3154	Business Statistics II	3 credits

STA 4155	Regression and Forecasting Models for Business Applications	3 credits
MKT 4123	Marketing Web Analytics and Intelligence	3 credits
MKT 4561	Marketing Analytics	3 credits
MGT 3500 or OPR 3450 *	Business Decision Models Quantitative Decision Making for Business I	3 credits 3 credits

* Students receiving credit for MGT 3500 will not also receive credit for OPR 3450.

Return to Minors

back to top

Quantitative Methods and Modeling (9 credits)

The minor in quantitative methods and modeling is designed to prepare students majoring in other areas of business with a background of quantitative skills that facilitate the decisionmaking process. In addition to one required course, two elective courses are selected with the approval of the area advisor to complement the students major and provide the student with an appropriate background.

Required Courses

Choose any three of the following (All Prerequisites must be satisfied):

CIS 3400	Database Management Systems	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
CIS 4100	Object-Oriented Programming II	3 credits
OPR 3300 or OPR 3450	Quantitative Methods for Accounting Quantitative Decision Making for Business I	3 credits 3 credits
OPR 3451	Quantitative Decision Making for Business II	3 credits
OPR 3452	System Simulation	3 credits
OPR 3453	Bayesian Statistical Inference and Decision Making	3 credits
OPR 4470	Special Topics in Operations Research	3 credits
OPR 5000	Independent Study in Operations Research	3 credits
STA 3000	Statistical Computing	3 credits
STA 3154	Business Statistics II	3 credits
STA 4000	Introduction to SAS Programming	3 credits

STA 4155	Regression and Forecasting Models for Business Applications	3 credits
STA 4920	Advanced Data Mining	3 credits
STA 5000	Independent Study in Operations Research	3 credits

Return to Minors

back to top

Statistics

The minor in statistics consists of the courses listed below.

Required Courses

Choose any three of the following (All Prerequisites must be satisfied):

STA 3000	Statistical Computing	3 credits
STA 3154	Business Statistics II	3 credits
STA 3156	Sampling Theory and Practice	3 credits
STA 4000	Introduction to SAS Programming	3 credits
STA 4155	Regression and Forecasting Models for Business Applications	3 credits
STA 4370	Special Topics in Applied Statistics	3 credits
STA 4920	Advanced Data Mining	3 credits
OPR 3450	Quantitative Decision Making for Business I	3 credits

Return to Minors

back to top

Liberal Arts Interdisciplinary Minor in Information Technology and Social Responsibility

The internet age has fostered an environment of widespread interconnectedness. This hyperconnectivity, and the new media that proliferate along with it, come with their own specific problems. The purpose of this concentration is to study the effects of these new technologies on the individual, the workplace, and society at large. In this program of study students will examine the increasing importance of individual and organizational social responsibility in today's interconnected and computer-mediated environment, as well as the specific issues that stand at the intersection of social responsibility and information technology.

Required Course: **3 credits**

CIS 4910	Information Technology and Social Responsibility*	3 credits

Elective Courses	**6 credits**	
Two courses selected from the following:		
BLS 3013	Mass Media and the Black American	3 credits
CIS 3270	Computer Ethics* (PHI 3270)	3 credits
CIS 3700	Green IT*	3 credits
CIS 3810	Principles of New Media*	3 credits
COM 3060	Media Analysis and Criticism	3 credits
COM 3076	International Communication	3 credits
JRN 3220	Media Ethics	3 credits
JRN 3500	Advanced Reporting and Writing	3 credits
LIB 3040	Information and Society (COM 3040 or PAF 3040)	3 credits
PHI 3040	Mind and Computers	3 credits
PHI 3050	Ethics, Economics, and the Business System	3 credits
Courses may be organized into the following suggested tracks:		
Media		
BLS 3013	Mass Media and the Black American	3 credits
CIS 3810	Principles of New Media*	3 credits
COM 3060	Media Analysis and Criticism	3 credits
COM 3076	International Communication	3 credits
JRN 3220	Media Ethics	3 credits
Information Society		
CIS 3810	Principles of New Media*	3 credits
COM 3076	International Communication	3 credits
JRN 3500	Advanced Reporting and Writing	3 credits
LIB 3040	Information and Society (COM 3040 or PAF 3040)	3 credits
Philosophy and Ethics		
CIS 3270	Computer Ethics* (PHI 3270)	3 credits

JRN 3220	Media Ethics	3 credits
PHI 3040	Mind and Computers	3 credits
PHI 3050	Ethics, Economics, and the Business System	3 credits

*For the purposes of this program, this course counts as an Arts and Sciences course.

back to top

Business Minors for Non-Business Majors

Students in the Weissman School of Arts and Sciences or in the Marxe School of Public and International Affairs who wish to take business courses may do so by declaring a minor in statistics and quantitative modeling or in technology, business, and the Internet. Before declaring the minor, they must complete either BUS 1001 (1 credit) or have previously completed BUS 1011 (3 credits). To be awarded the minor, students must have a GPA of 2.0 or more in the courses included in the minor. Eligibility to declare such a minor is restricted to students who have an overall GPA of 2.0 or more at time they declare the minor. Courses that apply to the minor may not be used for any other requirement. This minor does not fulfill the requirement to complete a liberal arts minor.

Students must choose three courses (9 credits) from the following:

Statistics and Quantitative Modeling

STA 3000	Statistical Computing	3 credits
STA 3154	Business Statistics II	3 credits
CIS 3920 / STA 3920	Data Mining for Business Analytics	3 credits
STA 4000	Introduction to SAS Programming	3 credits
STA 4155	Regression and Forecasting Models for Business Applications	3 credits
STA 4920	Advanced Data Mining	3 credits
OPR 3300	Quantitative Methods for Accounting	3 credits
or		
OPR 3450	Quantitative Decision Making for Business I	3 credits

Technology, Business, and the Internet

CIS 2300	Programming and Computational Thinking	3 credits
CIS 3100	Object-Oriented Programming I	3 credits
CIS 3367	Spreadsheet Applications in Business	3 credits
CIS 3400	Database Management Systems	3 credits
CIS 3444	e-Business Technologies	3 credits
CIS 3630	Principles of Web Design	3 credits
CIS 4800	Systems Analysis and Design	3 credits
LAW 3108	Law and the Internet	3 credits
MKT 4555	Internet Marketing	3 credits

back to top

Courses

Courses in Computer Information Systems (CIS)

CIS 2200	Introduction to Information Systems and Technologies	3 hours; 3 credits
CIS 2300	Programming and Computational Thinking	3 hours; 3 credits
CIS 3093	Special Topics in Computer Information Systems	3 hours; 3 credits
CIS 3094	Special Topics in Computer Information Systems	1.5 hours; 1.5 credits
CIS 3100	Object-Oriented Programming I	3 hours; 3 credits
CIS 3110 (previously CIS 4110)	Object-Oriented Programming with Java	3 hours; 3 credits
CIS 3120	Programming for Analytics	3 hours; 3 credits
CIS 3150	Introduction to Semantic Technologies	3 hours; 3 credits
CIS 3250	Blockchain Technologies and Applications	3 hours; 3 credits
CIS 3270	Computer Ethics	3 hours; 3 credits
CIS 3367	Spreadsheet Applications in Business	3 hours; 3 credits
CIS 3400	Database Management Systems	3 hours; 3 credits
CIS 3444	E-Business Technologies	3 hours; 3 credits
CIS 3500	Networks and Telecommunications I	3 hours; 3 credits
CIS 3550 (previously CIS 4550)	Cybersecurity	3 hours; 3 credits
CIS 3630	Principles of Web Design	3 hours; 3 credits
CIS 3700	Green IT	3 hours; 3 credits
CIS 3710	Foundations of Business Analytics	3 credits
CIS 3750	Social Media Technologies in Organizations	3 hours; 3 credits
CIS 3770	Usability, Privacy, and Security	3 hours; 3 credits
CIS 3810	Principles of New Media	3 hours; 3 credits
CIS 4093	Special Topics in Computer Information Systems	3 hours; 3 credits
CIS 4094	Special Topics in Computer Information Systems	1.5 hours; 1.5 credits
CIS 4100	Object-Oriented Programming II	3 hours; 3 credits
CIS 4160	Web Applications Development	3 hours; 3 credits

CIS 4170	Data Visualization	3 hours; 3 credits
CIS 4350	Information Technology Audit	3 hours; 3 credits
CIS 4400	Data Warehousing for Analytics	3 hours; 3 credits
CIS 4500	Networks and Telecommunications II	3 hours; 3 credits
CIS 4560	Ethical Hacking	3 hours; 3 credits
CIS 4620	FinTech: Principles and Applications	3 hours; 3 credits
CIS 4650	Operating Systems Concepts	3 hours; 3 credits
CIS 4800	Systems Analysis and Design	3 hours; 3 credits
CIS 4910	Information Technology and Social Responsibility	3 hours; 3 credits
CIS 5000	Independent Study and Research in Computer Information Systems	3 hours; 3 credits
CIS 5800	Information Technology Development and Project Management	3 hours; 3 credits
CIS 5900	Computer Information Systems Internship	3 hours; 3 credits
CIS 2200H	Hon Info Systems	3 hours; 3 credits
CIS 3367H	Hon Sprdsht App Bus	3 hours; 3 credits
CIS 4450H	Hon Network & Com	3 hours; 3 credits
CIS 6001H	Hon CIS I	3 hours; 3 credits per semester
CIS 6002H	Hon CIS II	3 hours; 3 credits per semester

back to top

Courses in Statistics (STA)

STA 2000	Business Statistics I	3 hours; 3 credits
STA 2100	Statistics for Social Science	4 hours; 3 credits
STA 3000	Statistical Computing	3 hours; 3 credits
STA 3093	Special Topics in Statistics	3 hours; 3 credits
STA 3094	Special Topics in Statistics	1.5 hours; 1.5 credits
STA 3154	Business Statistics II	3 hours; 3 credits
STA 3156	Sampling Theory and Practice	3 hours; 3 credits
STA 3253	Categorical Data Analysis	3 hours; 3 credits
STA 3255	Statistical Quality Control Methods	3 hours; 3 credits

STA 3560	Nonparametric Statistics	3 hours; 3 credits
STA 4000	Introduction to SAS Programming	3 hours; 3 credits
STA 4155	Regression and Forecasting Models for Business Applications	3 hours; 3 credits
STA 4157	Design and Analysis of Experimental Data	3 hours; 3 credits
STA 4158	Analysis of Time Series	3 hours; 3 credits
STA 4370	Special Topics in Applied Statistics	3 hours; 3 credits
STA 4920	Advanced Data Mining	3 hours; 3 credits
STA 5000	Independent Study and Research in Statistics	3 hours; 3 credits
STA 2000H	Hon bus Statistics	3 hours; 3 credits
STA 6001H	Hon Statistics I	3 hours; 3 credits
STA 6002H	Hon Statistics II	3 hours; 3 credits

back to top

Courses in Operations Research (OPR)

OPR 3093	Special Topics in Operations Research	3 hours; 3 credits
OPR 3094	Special Topics in Operations Research	1.5 hours; 1.5 credits
OPR 3300	Quantitative Methods for Accounting	3 hours; 3 credits
OPR 3450	Quantitative Decision Making for Business I	3 hours; 3 credits
OPR 3451	Quantitative Decision Making for Business II	3 hours; 3 credits
OPR 3452	System Simulation	3 hours; 3 credits
OPR 3453	Bayesian Statistical Inference and Decision Making	3 hours; 3 credits
OPR 4470	Special Topics in Operations Research	3 hours; 3 credits
OPR 5000	Independent Study and Research in Operations Research	3 hours; 3 credits
OPR 3300H	Hon Quant Meth Acc	3 hours; 3 credits
OPR 6001H	Hon Opr I	3 hours; 3 credits
OPR 6002H	Hon Opr II	3 hours; 3 credits
OPR 6003H	Hon Opr III	3 hours; 3 credits

back to top