



# Interdisciplinary Ph. D. Program in Information Security

## Area A. Required courses (8)

Four technical courses:

- CS 52600 Information Security **or** C&IT 55500 Advanced Network Security
- CS 55500 Cryptography **or** ECE 62700 Intro to Cryptography & Secure Communication
- CS 62600 Advanced Information Assurance
- CS 65500 Advanced Cryptology—or equivalents

Two philosophical/ethical courses:

- PHIL 52400 Contemporary Ethical Theory **and**
- PHIL 58000 Proseminar in Philosophy—**or** equivalents; e.g. TECH 62100 Information Assurance Ethics

Two political/social courses:

- POL 62100 Proseminar in Science, Technology, and Politics **and**
- SOC 51900—**or** equivalents; e.g. TECH 62100 Technology and Policy

## Area B. Recommended courses

Any eight courses not taken in Area A:

AGEC	59600	Forensic Economics I	63600	Internetworking
	60800	Benefit-Cost Analysis	65500	Advanced Cryptology
	68500	Advanced Quantitative Methods For Decision Making Under Uncertainty	69000+	Seminar On Topics In Computer Sciences
	69100	Research in Agricultural Economics	CSR	63100 Consumer Behavior Theory
ASM	59100A	Foundations in Homeland Security	ECE	56500 Computer Architecture
	59100B	Managing Resources and Applications for Homeland Security		57200 Fault-Tolerant Computer Systems
				57400 Software Engineering Methodology
AT	57300	Foundations in Homeland Security		63200 Mach Learn & Data Mining
	58100	Contemporary Issues in Transportation Security	ECET	66900 Natural Language Processing (LING 68900)
				52500 Applications in Forensic Engineering Technology
CNIT	42100	Small Scale Digital Device Forensics	ECON	60700 Microeconomic Theory I
	45500	Network Security		61000 Game Theory
	45600	Wireless Network Security & Management	ENGL	62800 Natural Language Process
	49900C	Cyberforensics: Advanced Technical Issues	IE	53000 Quality Control
	52800	Information Security Risk Assessment		53200 Reliability
	55600	Basic Computer Forensics		54800 Knowledge-Based Systems
	55700	Advanced Cyberforensics		55900§ Cognitive Engineering Of Interactive Software
	55800	Bioinformatics Computing And Systems Integration		57700§ Human Factors in Engineering
	58100AIS	Applied Intelligent Systems		65900 Human Aspects of Computing
	58100C	Applied Cryptography		67400 Cpt Com Mth Prod Cntrl
	58100	Foundations in Homeland Security (ASM 59000)	IT	54500 Biometrics Technology And Applications
	58100	Managing Resources and Applications for Homeland Security (ASM 59000)	LING	50000 Introduction to Linguistics
	58100ASI	Applied Intelligent Systems		52100 Syntax I: Syntactic Analysis
	58100S	Information Security Management		53100 Semantics I: Lexical and Sentential Semantics
	58100V	Current Topics in Cyber Forensics		68900 Natural Language Process (ECE 66900)
	58100Z	Programming for the Internet	MGMT	54700§ Computer Communication Systems
	62300R	Risk and Technology		59000 Forensic Accounting
COM	51200	Theories Of Interpersonal Communication		68400 Information Security for Managers
	51800	Theories Of Persuasion	OBHR	68100 Behavior Organization
	52000	Small Group Communication		68300 Individual Behavior in Organizations
	55800	Historical Trends In Mass Communication Research	PHIL	52400+ Contemporary Ethical Theory
	55900	Current Trends In Mass Communication Research		58000+ Proseminar in Philosophy
	57400	Organizational Communication		62400 Seminar in Ethics
	63200	Special Topics In Mass Communication	POL	62000 Proseminar Public Policy
CS	50300	Operating Systems		62100 Proseminar In Science, Technology, And Politics
	53600§	Data Communication and Computer Networks	PSY	55500§ Cognitive Engineering Of Interactive Software
	56500	Programming Languages		57700§ Human Factors in Engineering
	58000	Algorithm Design, Analysis, and Implementation		58500 Psychological Foundations of Consumer Behavior
	59000+	Topics In Computer Sciences		62900 Motivation
	62600	Advanced Information Assurance	STAT	50200 Experimental Statistics II
				51200 Applied Regression Analysis
				51300 Statistical Quality Control
				51400 Design of Experiments
				51700 Statistical Inference
			TECH	58100 Workshop In Technology

Color Key

If Course Title Relevant

Last Revised 5/1/12

## Area C. Elective Courses

Any four courses:

AT	57300	Foundations in Homeland Security	EDCI	64400	Legal Issues in Career and Technical Education
	58100	Contemporary Issues in Transportation Security	FNR	55800	Digital Remote Sensing and GIS
COM	61000	Seminar: Special Topics in Rhetorical Studies	IT	50700	Measurement and Evaluation in Industry and Technology
	61200	Seminar: Special Topics In Interpersonal Communication	LING	50000	Introduction to Linguistics
	61800	Seminar: Special Topics In Persuasion Theory		53100	Semantics I: Lexical And Sentential Semantics
	67400	Seminar: Special Topics In Organizational Communication		53200	Semantics II: Formal And Grammatical Semantics
	67600	Seminar: Special Topics in Health Communication	MGMT	50500	Management Accounting II
CS	50200	Compiling and Programming Systems		50600	Auditing
	54100	Database Systems		54400	Database Management Systems
	54200	Distributed Database Systems		54500	Systems Development
	57300	Data Mining		56100	Logistics
ECE	54400	Digital Communications		59000†	Directed Readings In Management
	56200	Introduction to Data Management		60000	Financial Accounting
	56500	Computer Architecture		60100	Managerial Accounting
	56600	CISC Microprocessor System Design		63000	Legal and Social Foundations of Management
	57000	Artificial Intelligence		68300	Princ of Info Systems
	57300	Compilers And Translator Writing Systems	OBHR	64200	Comp And Reward Syst I
	63200	Machine Learning & Data Mining		64300	Comp And Reward Sys II
ECET	58100†	Selected Topics in Sensors		66300	Sem In Orgnztn Theory
ECON	67600	Economics of Uncertainty and Information I		66700	Team Work
	67700	Economics of Uncertainty and Information II	PSY	55600	Job Design
				57900	Human Factors Laboratory
			TECH	64600	Analysis Of Research In Industry And Technology

Any course from Area B above, not taken to satisfy Area B requirement, can be taken in Area C.

Courses from at least five different graduate programs should be taken among Areas A, B, and C. Five graduate courses must constitute a declared and approved meaningful sub-concentration.

§ Note: May take one or the other of the following but not both:

CS 53600 or MGMT 54700  
 PSY 57700 or IE 57700  
 PSY 55500 or IE 55900

† When content is appropriate

### Specific departmental requirements

- Students graduating via the Department of Communication must satisfy that department's requirements for the Masters' degree in Information Security, take COM 60000 and COM 60100 and make sure that they earn a minimum of 12 graduate credits in Communication;
- Students graduating via Technology must satisfy that department's requirements for the Masters' degree in Information Security;
- Students graduating via Linguistics must take LING 53100 and LING 68900: Natural Language Processing.