

III. Computer and Information Science

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Students with Advanced Placement credit:

Requirements for the following courses can be met through Advanced Placement exam credit. The College awards the following credit for AP scores:

AP Subject	AP Exam Score	Hrs Credit	MC Courses Credited
Computer Science A	3,4,5	3	CIS 181
Math: Calculus AB	3	3	MATH 108
	4, 5	4	MATH 111
Math: Calculus BC	3 with AB subscore 3	3	MATH 108
	3 with AB subscore 4,5	4	MATH 111
	4,5	8	MATH 111, 112
Statistics	3,4,5	3	STAT 269

8-semester Plans

Computer and Information Science (B.S.) Business Information Systems Concentration

Course #	Course name	Credits	Course #	Course name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 190	Strategic Use of Info Technology	3
CIS 181	Computer Programming I	3	COMM 105	Oral Communication*	3
IDFY 101	First Year Seminar*	3	IDCR 151	Created and Called for Community*	3
LANG 101	Language 101*	3	LANG 102	Language 102*	3
PHIL/RELI xxx	Philosophy and Religion*	3	LAB xxx	Lab Science*	3-4
TOTAL		15	TOTAL		15-16
Sophomore – Fall			Sophomore – Spring		
BUSA 360	Operations Management §	3	CIS 284	Computer Programming II §	3
ACCT 141	Financial Accounting	3	BUSA 120	Principles of Management	3
ECON 120	Macroeconomics	3	MATH 180	Discrete Math §	3
SOCI/HIST	Social Science / History 1 of 2*	3	MRKT 230	Marketing Principles	3
LANG 201	Language 201*	3	BIBL 20x	Knowledge of the Bible*	3
TOTAL		15	TOTAL		15
Junior – Fall			Junior – Spring		
CIS 332	Database Concepts	3	CIS 381	Information Systems and Managers	3
STAT 281	Applied Statistics for Managers	3	CIS xxx	CIS Elective (excluding CIS 171) 2 of 3	3
CIS xxx	CIS Elective (excluding CIS 171) 1 of 3	3	ENGL xxx	Literature*	3
SOCI/HIST	Social Science / History 2 of 2*	3	THEO 2xx	Christian Beliefs*	3
ART xxx	Arts*	3	WELL xxx	Wellness*	1
IDNW xxx	Non-Western Studies*	2-3			
TOTAL		17-18	TOTAL		13
Senior – Fall			Senior – Spring		
CIS 411	Systems Analysis and Design Concepts	3	IDS xxx	Ethics / Pluralism / World Views*	3
CIS xxx	CIS elective (excluding CIS 171) 3 of 3	3		Free elective 3 of 5	3
INTE 394	Internship	4		Free elective 4 of 5	3
	Free elective 1 of 5	3		Free elective 5 of 5	3
	Free elective 2 of 5	3			
TOTAL		16	TOTAL		12

*QuEST requirement

†Offered alternate years as indicated

§ Concentration choice option: other courses in other semesters may fulfill this same requirement

Note: CIS 471 and CIS 472 is replacing CIS 412 and CIS 432.

Computer and Information Science (B.S.) Computer Science Concentration
8-semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 284	Computer Programming II	3
CIS 181	Computer Programming I	3	IDCR 151	Created and Called for Community*	3
IDFY 101	First Year Seminar*	3	COMM 105	Oral Communication*	3
LANG 101	Language 101*	3	LANG 102	Language 102*	3
PHIL/RELI xxx	Philosophy and Religion*	3	SOCI/HIST	Social Science / History 1 of 2*	3-4
TOTAL		15	TOTAL		15-16
Sophomore – Fall			Sophomore – Spring		
CIS 385	Data Structures and Algorithms	3	MATH 180	Discrete Math	3
MATH 111	Calculus I	3	CIS 482	Organization of Programming Languages	3
LANG 201	Language 201*	3	PHYS 202	Introductory Physics II §	3
ENGL xxx	Literature*	3	SOCI/HIST	Social Science / History 2 of 2*	3
BIBL 20x	Knowledge of the Bible*	3	THEO 2xx	Christian Beliefs*	3
TOTAL		15	TOTAL		15
Junior – Fall			Junior – Spring		
CIS 332	Database Concepts	3	CIS 381	Information Systems and Managers	3
CIS 384	Elements of Computer Systems	3	IDNW xxx	Non-Western Studies	3
CIS 418	Artificial Intelligence † § (even fall)	3	ART xxx	Arts*	3
STAT 291	Statistics for Math Sciences §	3	WELL xxx	Wellness*	1
ENGR 342	Embedded Systems Design	4		Free Elective 1 of 6	3
TOTAL		16	TOTAL		13
Senior – Fall			Senior – Spring		
CIS 411	Systems Analysis and Design Concepts	3	CIS 416	OS & Comp Architecture † (odd spring)	3
INTE 394	Internship	4	IDS xxx	Ethics / Pluralism / World Views*	3
	Free elective 2 of 6	4		Free elective 5 of 6	3
	Free elective 3 of 6	3		Free elective 6 of 6	3
	Free elective 4 of 6	3			
TOTAL		17	TOTAL		12

*QuEST requirement

†Offered alternate years as indicated

§ Concentration choice option: other courses in other semesters may fulfill this same requirement

Note: CIS 471 and CIS 472 is replacing CIS 412 and CIS 432.

Computer and Information Science (B.S.) Software Development Concentration
8-semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 191	Web Development I: Client Side	3
CIS 181	Computer Programming I	3	CIS 284	Computer Programming II	3
IDFY 101	First Year Seminar*	3	IDCR 151	Created and Called for Community*	3
LANG 101	Language 101*	3	COMM 105	Oral Communication*	3
SOCI/HIST	Social Science / History 1 of 2*	3	LANG 102	Language 102*	3
TOTAL		15	TOTAL		15
Sophomore – Fall			Sophomore – Spring		
CIS 283	Business Systems Applications † (odd fall)	3	CIS 482	Organization of Programming Languages	3
CIS 291	Web Development II: Server Side	3	MATH 111	Calculus I §	4
CIS 385	Data Structures and Algorithms	3	MATH 180	Discrete Math	3
LANG 201	Language 201*	3	LAB xxx	Lab Science*	3
ENGL xxx	Literature*	3	PHIL/RELI xxx	Philosophy and Religion*	3
WELL xxx	Wellness	1			
TOTAL		16	TOTAL		16
Junior – Fall			Junior – Spring		
CIS 332	Database Concepts	3	CIS 381	Information Systems and Managers	3
CIS 384	Elements of Computer Systems	3	SOCI/HIST	Social Science / History 2 of 2*	4
CIS 335	Software Engineering † (even fall)	4	THEO 2xx	Christian Beliefs*	3
CIS 418	Artificial Intelligence † § (even fall)	3	ART xxx	Arts*	3
	Free Elective 1 of 6	3			
TOTAL		16	TOTAL		13
Senior – Fall			Senior – Spring		
CIS 411	Systems Analysis and Design Concepts	3	IDS xxx	Ethics / Pluralism / World Views*	3
INTE 394	Internship	3		Free elective 4 of 6	3
IDNW xxx	Non-Western Studies*	2-3		Free elective 5 of 6	3
BIBL 20x	Knowledge of the Bible*	3		Free elective 6 of 6	3
	Free elective 2 of 6	3			
	Free elective 3 of 6	3			
TOTAL		17-18	TOTAL		12

*QuEST requirement

†Offered alternate years as indicated

§ Concentration choice option: other courses in other semesters may fulfill this same requirement

Note: CIS 471 and CIS 472 is replacing CIS 412 and CIS 432.

Computer and Information Science (B.S.) Web Management Concentration
8-semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 191	Web Development I: Client Side	3
CIS 181	Computer Programming I	3	IDCR 151	Created and Called for Community*	3
IDFY 101	First Year Seminar*	3	COMM 105	Oral Communication*	3
LANG 101	Language 101*	3	LANG 102	Language 102*	3
SOCI/HIST	Social Science / History 1 of 2*	3	ENGL xxx	Literature*	3
		TOTAL			15
Sophomore – Fall			Sophomore – Spring		
CIS 291	Web Development II: Server Side	3	ART 112	Intro to Graphic Design §	3
BUSA 120	Principles of Management	3	CIS 401	Webmasters and Servers † (even spring)	3
LANG 201	Language 201*	3	MRKT 230	Marketing Principles	3
SOCI/HIST	Social Science / History 2 of 2*	3	LAB xxx	Lab Science*	3
BIBL 20x	Knowledge of the Bible*	3	PHIL/RELI xxx	Philosophy and Religion*	3
		TOTAL			15
Junior – Fall			Junior – Spring		
CIS 283	Business Systems Applications † (odd fall)	3	CIS 381	Information Systems and Managers	3
CIS 332	Database Concepts	3	CIS 343	E-Commerce † (odd spring)	3
BUSA 380	Small Business Development	3	ART 337	Graphic Design & Professional Practice §	3
ART 211	Computer Art and Imaging §	3	THEO 2xx	Christian Beliefs*	3
ART 336	Design for New Media † (odd fall)	3	WELL xxx	Wellness*	1
IDNW xxx	Non-Western Studies*	2-3			
		TOTAL			17-18
Senior – Fall			Senior – Spring		
CIS 411	Systems Analysis and Design Concepts	3	IDS xxx	Ethics / Pluralism / World Views*	3
INTE 394	Internship	3		Free elective 4 of 6	3
	Free elective 1 of 6	4		Free elective 5 of 6	3
	Free elective 2 of 6	3		Free elective 6 of 6	3
	Free elective 3 of 6	3			
		TOTAL			16
			TOTAL		
			12		

*QuEST requirement

†Offered alternate years as indicated

§ Concentration choice option: other courses in other semesters may fulfill this same requirement

Note: CIS 471 and CIS 472 is replacing CIS 412 and CIS 432.

Cyber Security (B.S.) 8 Semester Plan (Odd Year Start)

*QuEST requirement

Course #	Course Name	Credits	Course #	Course Name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 284	Programming II	3
CIS 181	Programming I	3	CIS 150	Introduction to Cybersecurity	3
IDFY 101	First Year Seminar	3	IDCR 151	Created and Called for Community	3
COMM 105	Oral Communication	3	Varies	2 nd Language	3
Varies	1 st Language	3	Varies	Philosophy or Religion	3
Total		15	Total		15
Sophomore – Fall			Sophomore – Spring		
CIS 332	Database Concepts	3	CIS 255	NIX System Administration & Security	3
CIS 385	Data Structures and Algorithms	3	MATH 180	Discrete Math	3
CIS 265	Digital Forensics	3	ENGL xxx	Literature	3
STAT 291	Statistics for Math Sciences	3	Varies	3 rd Language	3
BIBL 2xx	Knowledge of the Bible	3	Varies	History	3
WELL xxx	Wellness	1			
Total		16	Total		15
Junior – Fall*			Junior – Spring*		
CIS 335	Software Engineering	3	CIS 416	Operating Systems and Architecture	3
CIS 384	Elements of Computer Systems	3	CIS 364	Ethical Hacking	3
CIS 354	Information Assurance	3	CIS 462	Secure Software	3
Varies	Internship or free elective	2-6	Varies	Internship or free elective	2-6
Varies	Lab Science	3	Varies	Social Science	3
Total		14-18	Total		14-18
Senior – Fall*			Senior – Spring*		
CIS 411	System Analysis & Design Concepts	3	CIS 455	Network Security	3
CIS 415	Data Communications and Networking	3	Varies	Internship or free elective	2-6
Varies	Internship or free elective	2-6	Varies	Ethics/World Views/Pluralism	3
Varies	Christian Beliefs	3	ART xxx	Arts	3
Varies	Free Elective	3	Varies	Free Elective	3
Total		14-18	Total		14-18

*4 credits of INTE 391 or INTE 394 can be taken any semester Junior or Senior year

**Semesters should not exceed 18 credits

Cyber Security (B.S.) 8 Semester Plan (Even Year Start)

*QuEST requirement

Course #	Course Name	Credits	Course #	Course Name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 284	Programming II	3
CIS 181	Programming I	3	CIS 150	Introduction to Cybersecurity	3
IDFY 101	First Year Seminar	3	IDCR 151	Created and Called for Community	3
COMM 105	Oral Communication	3	Varies	2 nd Language	3
Varies	1 st Language	3	Varies	Philosophy or Religion	3
		Total			Total
		15			15
Sophomore – Fall			Sophomore – Spring		
CIS 332	Database Concepts	3	CIS 364	Ethical Hacking	3
CIS 385	Data Structures and Algorithms	3	MATH 180	Discrete Math	3
CIS 354	Information Assurance	3	ENGL xxx	Literature	3
STAT 291	Statistics for Math Sciences	3	Varies	3 rd Language	3
BIBL 2xx	Knowledge of the Bible	3	Varies	History	3
WELL xxx	Wellness	1			
		Total			Total
		16			15
Junior – Fall*			Junior – Spring*		
CIS 415	Data Communications and Networking	3	CIS 255	NIX System Administration & Security	3
CIS 384	Elements of Computer Systems	3	CIS 455	Network Security	3
CIS 265	Digital Forensics	3	Varies	Internship or free elective	2-6
Varies	Internship or free elective	2-6	Varies	Social Science	3
Varies	Lab Science	3	ART xxx	Arts	3
		Total			Total
		14-18			14-18
Senior – Fall*			Senior – Spring*		
CIS 411	System Analysis & Design Concepts	3	CIS 416	Operating Systems and Architecture	3
CIS 335	Software Engineering	3	CIS 462	Secure Software	3
Varies	Internship or free elective	2-6	Varies	Internship or free elective	2-6
Varies	Christian Beliefs	3	Varies	Ethics/World Views/Pluralism	3
Varies	Free Elective	3	Varies	Free Elective	3
		Total			Total
		14-18			14-18

*INTE 391 or INTE 394 can be taken any semester Junior or Senior year

**Semesters should not exceed 18 credits

Digital Media (B.A.) Mobile Application and Game Design Concentration
8-semester Plan

Course #	Course name	Credits	Course #	Course name	Credits
First Year – Fall			First Year – Spring		
CIS 180	Introduction to CIS	3	CIS 191	Web Development I: Client Side	3
CIS 181	Computer Programming I	3	CIS 284	Computer Programming II	3
COMM 203	Basic Video and Editing Techniques	3	IDCR 151	Created and Called for Community*	3
IDFY 101	First Year Seminar*	3	COMM 105	Oral Communication*	3
LANG 101	Language 101*	3	LANG 102	Language 102*	3
TOTAL		15	TOTAL		18
Sophomore – Fall			Sophomore – Spring		
ART 236	Graphic Design and Visual Culture §	3	ART 171	Foundations of Drawing §	3
CIS 291	Web Development II: Server Side	3	ARTH 210	Topics in Non-Western Art §	3
COMM 217	Intro to Film	3	CIS 287	Intro to Game Design † (even J-Term)	3
SOCI/HIST	Social Science / History 1 of 2*	3	COMM 382	History and Theory of Digital Media	3
LANG 201	Language 201*	3	BIBL 20x	Knowledge of the Bible*	3
DIGM 210 or	Video and Church Media Seminar	1	WELL xxx	Wellness*	1
TOTAL		16	TOTAL		16
Junior – Fall			Junior – Spring		
CIS 315	Intro to Mobile App Design † (odd fall)	3	MUCM 353	Sound Design	3
ART 336	Design for New Media §	3	LAB xxx	Laboratory Science*	3-4
SOCI/HIST	Social Science / History 2 of 2*	3	ENGL xxx	Literature*	3
THEO 2xx	Christian Beliefs*	3	PHIL/RELI xxx	Philosophy/Religion*	3
	Free Elective	3		Free Elective	3
DIGM 210 or	Video and Church Media Seminar	1			
TOTAL		16	TOTAL		15-16
Senior – Fall			Senior – Spring		
DIGM 490	Senior Seminar and Project	4	CIS 381	Information Systems and Managers	3
	Digital Media Elective from list	3		Digital Media Elective from list	3
IDS XXX	Ethics/Pluralism/World Views*	3		Free Elective	3
	Free Elective	3		Free Elective	3
	Free Elective	3		Free Elective	3
TOTAL		16	TOTAL		15

*QuEST requirement

†Offered alternate years as indicated

§ Concentration choice option: other courses in other semesters may fulfill this same requirement