VOLUME II-CS

CSAC SUPPLEMENTAL QUESTIONNAIRE FOR REVIEW

of

COMPUTER SCIENCE AND ENGINEERING

(Exact Program Name)

submitted by

THE OHIO STATE UNIVERSITY

(Name of Institution)

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Contents

Course Requirements of Curriculum (year by year and term by term) ..... CS – 1
Required Core Computer Science Courses ..... CS – 5
CSAB Criteria for CS Core and CS Advanced ..... CS – 6
CSAB Criteria for Mathematics and Probability & Statistics ..... CS – 7
Humanities, social sciences, arts, and other disciplines ..... CS – 7

1. Curriculum

A.

In the tables that follow, the courses are listed in the order in which they are normally taken in the curriculum, and are classified in the appropriate categories.

B. Course Requirements of Curriculum (year by year and term by term)

		Category (credit hours)					
Year/Qtr	**Course (Dept., No., Title)**	**CS Core**	**CS Adv.**	**Math**	**Sci.**	**Gen. Edu.**	**Other**
Year 1 Autumn	Math 151 Calculus & Anal. Geo.			5			
	Chem 121 General Chemistry				5		
	EG 166 Eng. Graphics & Problem Solving						4
Year 1 Winter	CIS 221 Software Dev.Using Components	4					
	Math 152 Calculus & Anal. Geo.			5			
	Chem 125 General Chemistry				4		
Year 1 Spring	CIS 222 Dev. of Software Components	4					
	Math 153 Calculus & Anal. Geo.			5			
	Phys 131 Intro. Phys: Particles & Motion				5		
Year 1 Qtr. Varies	Engl 110 First Year English Composition					5	

Course Requirements of Curriculum (year by year and term by term) (contd.)

		Category (credit hours)					
Year/Qtr	**Course (Dept., No., Title)**	**CS Core**	**CS Adv.**	**Math**	**Sci.**	**Gen. Edu.**	**Other**
Year 2 Autumn	CIS 321 Design and Analysis of Component based software	4					
	Math 254 Calculus & Anal. Geo.			5			
	Phys 132 Intro. Phys: Electricity & Magnetism				5		
	Math 366 Discrete Mathematics	2		1			
Year 2 Winter	CIS 360 Introduction to Computer Systems	4					
	Math 415 Ordinary & Partial Diff. Eqns			4			
	MSE 405 Intro. to Material Sc. & Eng.				3		
	Phys 133 Intro. Phys.: Thermal Phys., Waves, and Quantum Phys.				5		
Year 2 Spring	CIS 570 File Design & Analysis		3				
	EM 400 Intro. to Solid Mechanics				5		
	EE 261 Intro. to Logic Design	3					
	CIS 459.xx† Prog. Lang. for Programmers	1					
Year 2 Qtr. Varies	Elective Second Writing Course‡					5	

†CIS 459.xx (Programming languages for programmers) is a set of 1-credit courses on a variety of programming languages; students are required to take at least one of these courses.

‡The College of Engineering determines which courses are acceptable as the second writing course; while the topic varies from course to course, each of the approved courses has a strong focus on developing written communication skills of the student.

Course Requirements of Curriculum (year by year and term by term) (contd.)

		Category (credit hours)					
Year/Qtr	**Course (Dept., No., Title)**	**CS Core**	**CS Adv.**	**Math**	**Sci.**	**Gen. Edu.**	**Other**
Year 3 Autumn	CIS 560 Systems Software Design, Development, & Documentation		5				
	CIS 675.01 Intro. to Computer Architecture		3				
	Stat 427 Intro. to Prob. & Stat. for Engineering & the Sciences I			3			
	EE 206 Switching Circuits Lab.	1					
Year 3 Winter	CIS 660 Intro. to Operating Sys.		3				
	CIS 625 Intro. to Automata & Formal Lang.		3				
	Stat 428 Intro. to Prob. & Stat. for Engineering & the Sciences II			3			
	EE 300 Electrical Circuits				3		
	EE 309 Electrical Circuits Lab.				1		
Year 3 Spring	CIS 541 Elem. Numerical Methods	3					
	CIS 680 Data Structures		3				
	Technical Elective†						
	ME 500 Eng. Thermal Sciences				4		
	EE 320 Electronic Devices & Controls				3		

†The number of hours of technical electives that individual students take in particular quarters varies substantially from student to student. Most students take most of their technical electives during the senior year (year 4) and late junior year.

Course Requirements of Curriculum (year by year and term by term) (contd.)

		Category (credit hours)					
Year/Qtr	**Course (Dept., No., Title)**	**CS Core**	**CS Adv.**	**Math**	**Sci.**	**Gen. Edu.**	**Other**
Year 4 Autumn	CIS 655 Intro. to the Principles of Programming Languages		4				
	ISE 504 Eng. Economic Analysis				3		
	EE 567 Microprocessor Laboratory I		2				
	Technical Elective						
Year 4 Winter	CIS 601 Social and Ethical Issues in Computing		1				
	Technical Elective						
Year 4 Spring	One of: CIS 731, 758, 762, 772, 776, 778 (Capstone Design Course)		3 (4)				
	Technical Elective						
Year and Quarter Vary	Social Sciences					9	
	Historical Survey					10	
	Arts & Humanities Literature (1 course) Other Humanities (1 course)					9	
	Additional General Education†					7	
	PROGRAM TOTAL‡ (Quarter Hours)	26	30 (31)	31	46	45	4

†These 7 hours must be from the College-approved list of GEC courses.

‡Students are also required to take an additional 15 (or 14) hours of technical electives that are not included in the totals on this line. Most students choose advanced CIS courses (such as those on computer graphics or networking) to fulfill this requirement; a few choose a mixture of CIS courses and courses in a related field. A minimum of 7 of these hours are required to be advanced CIS courses; depending on the student's specific technical interests, some of the remaining hours may be from a related field.

C. Required Core Computer Sciences Courses

	Category (credit hours)					
Course (Dept., No., Title)	**Theor. Foun**	**Algor.**	**Data Str.**	**Softw Dsgn.**	**Prog. Conc.**	**Comp. Arch.**
CIS 221 Software Dev. Using Components	1	1		2		
CIS 222 Dev. of Software Components			2	1	1	
CIS 321 Design and Analysis of Component based software	1	1	1	1		
Math 366 Discrete Mathematics	2					
CIS 360 Introduction to Computer Systems		1	1		1	1
CIS 459.xx Prog. Lang. for Programmers					1	
CIS 541 Elem. Numerical Methods		2			1	
EE 261 Introduction to Logic Design	1					2
EE 206 Switching Circuits Lab.						1
TOTAL CORE	5	5	4	4	4	4

D. CSAB Criteria for CS Core and CS Advanced

CS Core: As the table in Section C indicates, there is even emphasis in the six specified areas; thus the program meets the CSAB criteria in this respect.

CS Advanced: The advanced courses in the program ensure depth of knowledge in nearly all of the core material. This is indicated in the following table:

	Category (credit hours)					
Course (No., Title)	**Theor. Foun**	**Algor.**	**Data Str.**	**Softw Dsgn.**	**Prog. Conc.**	**Comp. Arch.**
CIS 560 Systems Software Design, Development, & Documentation			2	3		
CIS 570 File Design & Analysis		1	1	1		
CIS 625 Intro. to Automata & Formal Lang.	3					
CIS 655 Intro. to the Principles of Programming Languages					4	
CIS 660 Intro. to Operating Systems	1	1				1
CIS 675.01 Intro. to Computer Architecture						3
CIS 680 Data Structures	1	1	1			
EE 567 Microprocessor Laboratory I						2
TOTAL CS ADVANCED (Partial)	5	3	4	4	4	6

Each of these advanced courses has, as prerequisites, the appropriate core courses, thus building on the foundation provided by the core courses.

Further depth is provided in one or more of these areas, depending on the specific capstone design course that the student chooses as well as the other technical elective courses he or she chooses to take.

E. CSAB Criteria for Mathematics and Probablity & Statistics

1. One-half year of mathematics: Each student is required to take a sequence of calculus courses, consisting of Math 151, 152, 153, 254, 415, for a total of 24 quarter hours. Students are also required to take two courses on statistics and probability, Stat 427, 428, for an additional 6 quarter hours. Thus the program meets this requirement.

2. Discrete mathematics: Each student is required to take Math 366, a 3 credit course on discrete mathematics. CIS 625 (Introduction to Automata and Formal Languages) makes extensive use of this material. Discrete mathematics is also used in EE 261 (Introduction to Logic Design), as well as CIS 655 (Introduction to Principles of Programming Languages), and CIS 680 (Data Structures). Thus the program meets this requirement.

3. Differential and integral calculus: The calculus sequence, Math 151, 152, 153, 254, 415, that all students are required to take, ensures that the program meets this requirement.

4. Probability and statistics: The two courses Stat 427, 428 on these topics, that all students are required to take, ensure that the program meets this requirement.

F. Humanities, social sciences, arts, and other disciplines

As the tables in Section C indicate, students are required to take 45 credit hours of General Education courses. These must include at least 9 hours of Social Sciences; 10 hours of Historical Survey; and 9 hours of Arts and Humanities, with at least one course on literature. At least one of these courses is required to address diversity issues.

These courses ensure that students acquire a broad education, hence the program meets this requirement.