

Wright State University, Department of Computer Science and Engineering
Bachelor of Science Degree in Computer Science: Computational Science Concentration (ABET-CAC Accredited)
 Model Program

Total Hours: 190
 Effective Spring, 2007

	Fall		Winter		Spring	
	<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
Freshman	CS 240 Computer Programming I	4	CS 241 Computer Programming II	4	CS 242 Computer Programming III	4
	MTH257 Discrete Mathematics	3	MTH229 Calculus I	5	MTH 230 Calculus II	5
	ENG 101 Composition I	4	ENG 102 Composition II	4	General Education	4
	General Education	<u>4</u>	General Education	<u>4</u>	CEG 233 Linux and Windows	<u>4</u>
		15		17		17
Sophomore	CS 400 Data Structures & Algorithms	4	CS/CEG Technical Elective	4	CEG 320 Computer Organization	4
	MTH 231 Calculus III	5	MTH 253 Matrix Algebra	3	CS/CEG Technical Elective	4
	Laboratory Science Sequence (Class 1)	<u>5</u>	Laboratory Science Sequence (Class 2)	5	Laboratory Science Sequence (Class 3)	5
		14	General Education	<u>4</u>	General Education	<u>4</u>
				16		17
Junior	CEG 433 Operating Systems	4	CEG 460 Software Engineering	4	CS 405 Intro to Database Mgmt	4
	STT 363, STT 360 or ISE 301(Statistics)	3	General Education	4	CS/CEG Technical Elective	4
	Math/Science Elective	3	CS 317 Numerical Methods II	4	General Education	4
	EGR 335 Technical Communications	3	CS/CEG Technical Elective	<u>4</u>	CS 350 Techniques & Tools o Comp	<u>4</u>
	CS 316 Numerical Methods I	<u>4</u>		16		16
		17				
Senior	CS 466 Intro to Formal Languages	4	CS 480 Comparative Languages	4	CS/CEG Technical Electives	8
	General Education	4	CS 415 Social Implications of Comp	3	Computational Science Elective	<u>5</u>
	CS/CEG Technical Elective	4	CS/CEG Technical Electives	<u>8</u>		13
	Computational Science Elective	<u>5</u>		15		
		17				

BACHELOR OF SCIENCE in COMPUTER SCIENCE–Computational Science Concentration
190 Hours, Effective Spring 2007

I. COMPUTER SCIENCE AND ENGR COURSES (86 hours)

	<u>Hrs/Grade</u>
A. Required Computer Science Courses (31 hours)	
CS 240 Computer Programming I	4 ___
CS 241 Computer Programming II	4 ___
CS 242 Computer Programming III	4 ___
CS 400 Data Structures and Algorithms	4 ___
CS 405 Intro to Data Base Mgt Systems	4 ___
CS 415 Social Implications of Computing	3 ___
CS 466 Introduction to Formal Languages	4 ___
CS 480 Comparative Languages	4 ___

B. Required Computer Engineering Courses (16 hours)

CEG 233 Unix and Windows	4 ___
CEG 320 Computer Organization	4 ___
CEG 433 Operating Systems I	4 ___
CEG 460 Introduction to Software Engineering	4 ___

C. CS/CEG Electives (36 hours)

At least 16 hours must be at the 400 level.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

D. Technical Communication (3 hours)

EGR 335 Technical Communications	3 ___
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II. GENERAL EDUCATION (40 hours)

Area I- Communication and Mathematical Skills

ENG 101 - Composition I	4 ___
ENG 102 - Composition II	4 ___

MATHEMATICS – See Required Mathematics Courses

Area II – Cultural-Social Foundations-8 Hours

History – Select 1 Course:

CLS 150, HST 101, HST 102, HST 103

1. _____ 4 ___

The Non Western World (WI) – Select 1 Course:

CSE/CST, RSE/RST, HLT 202, SW 272, URS 200

1. _____

Area III – Human Behavior – 8 Hours

Select 2 Courses From *Different* Rows

Economics: EC200 (Some WI), EC 290 (WI)

Political Science: PLS 200

Psychology: PSY 105

Sociology(WI):SOC200, SOC205

1. _____ 4 ___

2. _____ 4 ___

Area IV – Human Expression – 4 Hours

Select one course:

Great Books (WI):

CLS, ENG, PHL or REL 204

Fine and Performing Arts:

ART, MUS or TH 214, MP 131 or MUS 290

1. _____

Additional courses from Areas II, III, and IV – 8 Hours

Select one course from two of these three areas.

Except for Area II, the course selected must come

from a different Subcategory than the course(s)

chosen to meet the area requirement. (See

undergraduate catalog – General Education section for complete details.)

1. _____

2. _____

Area VI – College Component 4 Hours

Select any Area VI College of Liberal Arts course. 4

1. _____

III. COMPUTATIONAL SCIENCE COURSES (64 hours)

A. Required Mathematics/Statistics Courses (24 hours)

MTH 229 Calculus I	5 ___
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MTH 230 Calculus II	5 ___
MTH 231 Calculus III	5 ___
MTH 253 Matrix Algebra	3 ___
MTH 257 Discrete Mathematics	3 ___
STT 363, STT360, or ISE 301 Statistics	3 ___

B. Computer Science Courses (12 hrs)

CS 316 Numerical Methods I	4 ___
CS 317 Numerical Methods II	4 ___
CS 350 Techniques and Tools of Computation	4 ___

C. Computational Science Elective Courses (28 hours)

Select courses from science, mathematics, computer science, or computer engineering. These courses must include at least 18 hours of science, which includes a three quarter laboratory science sequence appropriate for science or engineering majors.

Courses must be chosen to ensure a minimum of 45 hours in mathematics or science courses.

Science Courses(18 hours)

1. _____
2. _____
3. _____
4. _____
5. _____

Computational Science Electives(10 hours)

1. _____
2. _____
3. _____

GENERAL EDUCATION: Courses must be chosen to satisfy the University General Education requirements.

GENERAL ELECTIVES: Courses may be chosen from any area of study.

SCIENCE COURSES: Courses must be appropriate for science or engineering majors and satisfy the General Education science requirements.

CS/CEG ELECTIVES: Courses from Computer Science or Computer Engineering to provide additional breadth in the discipline.

COMPUTATIONAL SCIENCE ELECTIVES: See approved list.

ALL ELECTIVE COURSES MUST BE APPROVED BY A DEPARTMENT ADVISOR.

Name _____

Advisor _____

Mentor _____

Date _____