

**SOUTH DAKOTA BOARD OF REGENTS
EXISTING PROGRAM: SUBSTANTIVE PROGRAM MODIFICATION**

1. Institution: **Dakota State University**

2. Program Title: **Bachelor of Science in Computer Science**

3. This proposal deals with:

Distribution of Credits

<u> X </u> total credits required within the discipline	_____ Program name
<u> X </u> total credits of supportive course work	_____ Existing specialization
_____ total credits of elective course work	_____ Addition of specialization
_____ total credits required for program	_____ Other (explain)

4. Proposed date of change: **Fall, 2005**

5. Level

Certificate
 Associate Degree
 Bachelor's Degree
 Master's Degree
 Doctoral Degree

6. Category:

Minor
 Major
 Option
 Focus

7. Primary aspect of the modification:

Existing Aspects of the Program

Proposed Modification

System General Education * 30 Institutional Graduation Requirements 5 Information Technology Literacy**\ 8	General Education * 30 Institutional Graduation Requirements 11
<p>* Major must take SOC 285 as part of the system-wide general education requirements. It is recommended that both natural science courses needed for the system-wide general education requirement be in the same discipline. Computer Science majors who test directly into MATH 121 do not need to complete MATH 102.</p> <p>** Majors must take CSC 150 as part of the information technology literacy requirements. MATH 112 IFL requirement is met when the student completes MATH 121 or MATH 123.</p>	<p>* Majors must take SOC 285 as part of the system-wide general education requirements. It is recommended that both natural science courses need for the system-wide general education requirement be in the same discipline. Majors who test directly into MATH 121 will have an additional 4 credits of open electives.</p> <p>** Majors must take CSC 150 as part of the institutional graduation requirement.</p>

Computer Science Courses	54	Computer Science Courses	54
CIS 332 Structured Systems Analysis and Design	3	CIS 332 Structured Systems Analysis and Design	3
CIS 350 Computer Hdw Data & Networking	3		
CIS 484 Database Management Systems	3	CIS 385 Networking II	3
CSC 250 Computer Science II	3	CIS 484 Database Management Systems	3
CSC 260 Object-Oriented Design	3	CSC 250 Computer Science II	3
CSC 300 Data Structures	3	CSC 260 Object-Oriented Design	3
CSC 314 Assembly Language	3	CSC 300 Data Structures	3
CSC 317 Computer Organization & Archit	3	CSC 314 Assembly Language	3
CSC 355 Language Processing	3	CSC 317 Computer Organization & Archit	3
CSC 456 Operating Systems	3	CSC 466 Language Processing	3
CSC 461 Programming Languages	3	CSC 456 Operating Systems	3
CSC 470 Software Engineering	3	CSC 461 Programming Languages	3
		CSC 470 Software Engineering	3
		CIS 447 Artificial Intelligence	3
Select 15 credits from the following:	15	CSC 372 Analysis of Algorithms	3
BADM 456 Cyberlaw		Select 12 credits from the following:	12
CIS 275 Web Application Programming I		BADM 456 Cyberlaw	
CIS 340 Adv. Java Programming		CIS 275 Web Application Programming I	
CIS 375 Web Application Programming II		CIS 340 Adv. Java Programming	
CIS 383 Networking I		CIS 375 Web Application Programming II	
CIS 385 Networking II		CIS 383 Networking I	
CIS 414 Computer Security Fundamentals			
CIS 416 Network Security		CIS 414 Computer Security Fundamentals	
CIS 418 Computer Security Intrusion Control and Detection		CIS 416 Network Security	
CIS 422 Computer Security Cryptography & Info Assurance		CIS 418 Computer Security Intrusion Control and Detection	
CIS 424 Internet and E-Commerce		CIS 422 Computer Security Cryptography & Info Assurance	
CIS 447 Artificial Intelligence		CIS 424 Internet and E-Commerce	
CIS 487 Database Programming			
CIS 488 Adv. Database Issues		CIS 487 Database Programming	
CIS 492 Topics		CIS 488 Adv. Database Issues	
CSC 403 Programming for GUI		CIS 492 Topics	
CSC 410 Parallel Computing		CSC 403 Programming for GUI	
CSC 433 Computer Graphics		CSC 410 Parallel Computing	
CSC 460 Scientific Visualizations		CSC 433 Computer Graphics	
CSC 492 Topics		CSC 460 Scientific Visualizations	
CSC 494 Internship		CSC 492 Topics	
CSC 498 Undergraduate Research/Scholarship		CSC 494 Internship	
		CSC 498 Undergraduate Research/Scholarship	

Mathematics/Science Support Courses	19	Support Courses	22
MATH 121 Survey of Calculus	4		
or			
MATH 123 Calculus I		MATH 123 Calculus I	4
MATH 201 Intro to Applied Mathematics	3		
MATH 281 Intro to Statistics	3	MATH 281 Intro to Statistics	3
or		or	
MATH 381 Intro to Probability & Statistics		MATH 381 Intro to Probability & Statistics	
MATH 316 Discrete Mathematics	3	MATH 316 Discrete Mathematics	3
MATH electives	6	MATH electives	9
MATH 125, MATH 315, MATH/CSC 318, MATH 321, MATH 381, MATH 413, MATH 418, MATH 471, MATH 475, MATH 492		ENGL 208 Documentation & Presentation	3
Additional Requirement	3		
ENGL 208 Documentation & Presentation			
Elective Credits *	12	Electives	11
* Additional courses recommended with director of an advisor.			

Justification: CIS 385 addresses topics more appropriate to CSC majors with less overlap. CSC 355 Language Processing is being renumbered to 466 which is more appropriate since it reflects prerequisites and level (CIS 461 is prerequisite). CIS 447 and CSC 372 address areas of the ACM's computing curriculum recommendations that need more coverage in our program. Changes to mathematics support courses streamline the requirements, preserving more options for students who don't need MATH 201 (but leaves it available as a MATH elective for those who do.)