

ELEMENTARY/SECONDARY COMPUTER SCIENCE ENDORSEMENT

DAKOTA STATE UNIVERSITY

**Endorsement coursework requirements must include
courses from each Strand totaling 13 or more credits**

Strand 1	Educational technology methodology course						
Strand 2	Demonstrated knowledge of basic computer technologies and networking concepts, terminology tools, and applications						
Strand 3	Study of designing, operating, and maintaining computer technologies and networking systems						
Strand 4	Development of skills with current productivity and multimedia tools for education						
Strand 5	Demonstrated competencies with integrating educational technology to support teaching and learning						
Strand 6	Study of equity and ethics associated with the use of educational technology in schools						
Courses Meeting the Requirement	CIS 123 (3 Credits)	CIS 350 (3 Credits)	CSC 105 (3 Credits)	EDFN 365 (3 Credits)	EDFN 401 (1 Credit)	EDFN 465 (2 Credits)	SPED 465 (3 Credits)
Strand 1					X		
Strand 2	X		X				
Strand 3		X					
Strand 4						X	X
Strand 5				X			
Strand 6	X			X			

Total Required Credits through University: 15

Course Number	Course Name	University Course Description	Method	Sessions Offered	Total Credits
CSC 105	Introduction to Computers	Overview of computer applications with emphasis on word processing, spreadsheets, database, presentation tools, and internet-based applications.	Online On-Campus	Fall Spring Summer	3
CIS 123	Problem Solving and Programming	An introduction to problem solving and computer programming. Students will learn essential problem-solving techniques. This class uses engaging environments (such as web-scripting or visual programming) to introduce programming concepts and logic. Students will create interactive applications to learn techniques on using a computer to solve problems and the fundamental constructs that are used in computer programming.	Online On-Campus	Fall Spring Summer	3
CIS 350	Computer Hardware, Data Communications and Networking	An introduction to computer hardware, data communications, and networking fundamentals and theory. Computer design, components, voice and data communications and LAN design and operation issues are addressed in both lecture and hands-on formats. Emphasis is given to network design using the OSI model as we as network operations and setup issues.	Online On-Campus	Fall Spring Summer	3
EDFN 365	Computer-Based Technology & Learning	Prepares students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology as a teaching and learning tool. Course objectives are based on ISTE standards.	Online On-Campus	Fall Spring Summer	3
EDFN 465	Multimedia Web Development in Education	This course addresses the evaluation and utilization of multimedia and hypermedia in educational settings in light of instructional design and cognitive science.	Online On-Campus	Fall Spring Summer	2
SPED 465	Computer Applications in Special Education	ISTE Foundation Standards will be studied for the implementation and management of computers in the special education setting. A functional curriculum framework for designing computer learning activities and experiences appropriate for children and adolescents with learning problems will be developed. Other points of emphasis will be computer adaptive equipment, multicultural concerns, and developing critical thinking skills with the use of the computer.	Online On-Campus	Fall Spring Summer	3
EDFN 401	Methods of Educational Technology	An introduction to videoconferencing teaching methods, including designing lessons, best practices and classroom management for online and mobile classrooms. Course will also focus on utilization of various technology tools to support face-to-face, online and tablet classrooms.	Online On-Campus	Fall Spring Summer	1