



**SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS**

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM DEGREE:	Bachelor of Science (B.S.)
CURRENT PROGRAM MAJOR/MINOR:	Mathematics
CURRENT SPECIALIZATION:	Data Science
CIP CODE:	27.0101 – Major CIP 30.7001 – Specialization CIP
UNIVERSITY DEPARTMENT:	Department of Mathematics & Statistics
BANNER DEPARTMENT CODE:	SMAS
UNIVERSITY COLLEGE:	Jerome J Lohr College of Engineering
BANNER COLLEGE CODE:	3E

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

Dennis D. Hedge

Vice President of Academic Affairs or
President of the University

4/16/2025

Date

1. This modification addresses a change in:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Total credits required within the discipline | <input type="checkbox"/> Total credits of supportive course work |
| <input checked="" type="checkbox"/> Total credits of elective course work | <input type="checkbox"/> Total credits required for program |
| <input type="checkbox"/> Program name | <input checked="" type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |
| <input type="checkbox"/> Modification requiring Board of Regents approval | |

Must have prior approval from Executive Director or designee

2. Effective date of change: 2025-2026 Academic Year

3. Program Degree Level:

Associate Bachelor's Master's Doctoral

4. Category:

Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur:

- On the effective date for all students
- On the effective date for students new to the program (enrolled students will graduate from existing program)

Proposed new name:

6. Is the program being modified associated with a current articulation agreement? Yes No

a. If yes, will the articulation agreement need to be updated with the partner

institution following the approve of the program change? Please explain:

7. Primary Aspects of the Modification:

Existing Curriculum

Proposed Curriculum (Highlight Changes)

Pref	Num	Title	Cr Hrs	Pref	Num	Title	Cr Hrs
System General Education Requirements			31	System General Education Requirements			27
System General Education Requirements – Electives			27	System General Education Requirements – Electives			27
		SGR 1 Written Communication	3			SGR 1 Written Communication	3
		SGR 1 Written Communication	3			SGR 1 Written Communication	3
		SGR 2 Oral Communication	3			SGR 2 Oral Communication	3
		SGR 3 Social Sciences	3			SGR 3 Social Sciences	3
		SGR 3 Social Sciences	3			SGR 3 Social Sciences	3
		SGR 4 Arts and Humanities	3			SGR 4 Arts and Humanities	3
		SGR 4 Arts and Humanities	3			SGR 4 Arts and Humanities	3
		SGR 6 Natural Sciences	3			SGR 6 Natural Sciences	3
		SGR 6 Natural Sciences	3			SGR 6 Natural Sciences	3
System General Education Requirements – Required			27	System General Education Requirements – Required			--
MATH	123	Calculus I (SGR 5)	4	MATH	123	Calculus I (SGR 5) (Major Requirements)	--
Major Requirements			61	Major Requirements			66
MATH	123	Calculus I (SGR 5)	--	MATH	123	Calculus I (SGR 5)	4
MATH	125	Calculus II	4	MATH	125	Calculus II	4
MATH	198	The Mathematics Profession	1	MATH	198	Mathematics Professions 1	1
MATH	225	Calculus III	4	MATH	225	Calculus III	4
MATH	230	Sophomore Seminar	1	MATH	230	Mathematics Professions 2	1
MATH	250	Introduction to Linear Algebra and Proof	3	MATH	250	Introduction to Linear Algebra and Proof	3
MATH	253	Logic, Sets, and Proof	4	MATH	253	Logic, Sets, and Proof	4
				MATH	301	Mathematics Professions 3	2
MATH	321	Differential Equations	3	MATH	321	Differential Equations	3
MATH	401	Senior Capstone	2	MATH	401	Mathematics Professions 4	1
MATH	412	Linear Algebra	3	MATH	412	Linear Algebra	3
MATH	425	Real Analysis I	3	MATH	425	Real Analysis I	3
STAT	382	Probability	3	STAT	382	Probability	3
Select 30 credits from the following courses			30	Select 30 credits from the following courses			30
CSC	250	Computer Science II	3	CSC	250	Computer Science II	3
CSC	300	Data Structures	3	CSC	300	Data Structures	3
CSC	319	Parallel Computing	3	CSC	319	Parallel Computing	3
OR				OR			
CSC	325	Management Information Systems		CSC	325	Management Information Systems	
OR				OR			
CSC	447	Artificial Intelligence		CSC	447	Artificial Intelligence	
OR				OR			
CSC	484	Database Management Systems		CSC	484	Database Management Systems	
MATH	316	Discrete Mathematics	3	MATH	316	Discrete Mathematics	3
MATH	374	Scientific Computation I	3	MATH	374	Scientific Computation I	3
MATH	415	Advanced Linear Algebra	3	MATH	415	Advanced Linear Algebra	3
MATH	475	Operations Research	3	MATH	475	Operations Research	3
STAT	383	Geospatial Data Analysis	3	STAT	383	Geospatial Data Analysis	3
STAT	410	SAS Programming	3	STAT	410	SAS Programming	3
STAT	414	Basic R Programming	1	STAT	414	Basic R Programming	1
STAT	415	R Programming	3	STAT	415	R Programming	3
STAT	442	Exploratory and Cloud-Based Data Analysis	3	STAT	442	Exploratory and Cloud-Based Data Analysis	3
STAT	445	Nonparametric Statistics	3	STAT	445	Nonparametric Statistics	3
STAT	451	Predictive Analytics I	3	STAT	451	Predictive Analytics I	3
STAT	453	Applied Bayesian Statistics	3	STAT	453	Applied Bayesian Statistics	3
STAT	460	Time Series Analysis	3	STAT	460	Time Series Analysis	3

Existing Curriculum				Proposed Curriculum (Highlight Changes)			
Pref	Num	Title	Cr Hrs	Pref	Num	Title	Cr Hrs
STAT	482	Mathematical Statistics	3	STAT	482	Mathematical Statistics	3
Supporting Coursework			3	Supporting Coursework			3
CSC	150	Computer Science I	3	CSC	150	Computer Science I	3
Electives			25	Electives			24
Summary of Credits for Mathematics (B.S.) – Data Science Specialization							
System General Education Requirements			31	System General Education Requirements			27
Major Requirements			61	Major Requirements			66
Supporting Coursework			3	Supporting Coursework			3
Electives			25	Electives			24
Total number of hours required for specialization			68	Total number of hours required for specialization			69
Total number of hours required for degree			120	Total number of hours required for degree			120

8. Explanation of the Change:

The program had a two-semester MATH 401 Senior Capstone, which was repeatable. This has caused some confusion regarding how it contributes to graduation requirements. To clarify, the department has separated the courses into MATH 301 and MATH 401. Additionally, the department has restructured the program to unify the professional courses under a consistent naming system: Mathematics Professions 1, 2, 3, and 4. These courses will start with freshmen and culminate in the senior capstone experience.