



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

New Baccalaureate Degree Minor

UNIVERSITY:	SDSU
TITLE OF PROPOSED MINOR:	Commodity Risk Management
DEGREE(S) IN WHICH MINOR MAY BE EARNED:	Any
EXISTING RELATED MAJORS OR MINORS:	Agricultural Business (B.S. & minor), Economics – Agricultural Economics specialization (B.S.), Agricultural Marketing minor
INTENDED DATE OF IMPLEMENTATION:	2020-2021 Academic Year
PROPOSED CIP CODE:	01.0103
UNIVERSITY DEPARTMENT:	Ness School of Management & Economics
BANNER DEPARTMENT CODE:	SSME
UNIVERSITY DIVISION:	Agriculture, Food & Environmental Sciences
BANNER DIVISION CODE:	3F

Please check this box to confirm that:

- The individual preparing this request has read [AAC Guideline 2.8](#), which pertains to new baccalaureate degree minor requests, and that this request meets the requirements outlined in the guidelines.
- This request will not be posted to the university website for review of the Academic Affairs Committee until it is approved by the Executive Director and Chief Academic Officer.

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.

Barry H. Dunn

President of the University

5/12/2020

Date

1. Do you have a major in this field? Yes No

2. If you do not have a major in this field, explain how the proposed minor relates to your university mission and strategic plan, and to the current Board of Regents Strategic Plan 2014-2020.

South Dakota State University (SDSU) requests authorization to offer a minor in Commodity Risk Management. The Ness School of Management and Economics, which currently offers

majors in Agricultural Business, Business Economics, Economics, Economics (B.S.) - Agricultural Economics specialization, and Entrepreneurial Studies, has proposed the new minor. The proposed Commodity Risk Management minor will focus on the quantitative skills needed to analyze agricultural commodities – hedging techniques, fundamental analysis, technical analysis, price forecasting, risk analysis, etc. The minor will appeal to students in a wide variety of majors including but not limited to Agricultural Business, Economics – Agricultural Economics Specialization, Animal Science, Agronomy, Agricultural Science, Agricultural Systems Technology, Dairy Science, Ecology & Environmental Sciences – Rangeland Ecology & Management Specialization, and Agricultural Education, Communication & Leadership.

The Commodity Risk Management minor directly contributes to SDSU’s vision, as stated in SDSU’s strategic plan *Imagine 2023*¹ – *South Dakota State University will be a premier land-grant university recognized for high value, innovation, and bold impact.*

Achieve Excellence Through Transformative Education

1. *Attain academic excellence.*

a. *Develop and grow high-quality and distinct academic programs designed to meet the needs of diverse students and market demands.*

b. *Promote active and innovative teaching, learning, and advising practices.*

The hands-on, transformative learning in the courses for the proposed minor reflects the high standards of academic excellence desired by industry partners.

Foster Innovation and Increase Research, Scholarship, and Creative Activity (RSCA)

2. *Increase, optimize, and align the physical resources and investments for innovation, RSCA, and economic development.*

3. *Create an institutional culture of communicating and branding SDSU RSCA and its achievements, outcomes, and impacts to the full scope of stakeholder and peer communities.*

Industry partners that have invested in the First Dakota National Bank (FDNB) e-Trading lab and the POET Student-Managed Agricultural Commodities Fund are highly engaged in the innovative teaching, scholarship, and research that accompanies the courses and the FDNB e-Trading Lab. These innovations will lead directly to economic development through increased risk management in the industry.

SDSU does not request new state resources.

3. What is the nature/purpose of the proposed minor? Please include a brief (1-2 sentence) description of the academic field in this program.

The Commodity Risk Management minor will utilize the resources of the FDNB e-Trading Lab to train students in all aspects of risk management of agricultural commodities, including but not limited to, the use of futures and options contracts to manage input and output price risks.

The current Agricultural Marketing minor serves two distinct audiences – those interested in commodity risk management and those interested in agribusiness sales and marketing. The Ness School of Management and Economics will divide the current minor into two distinct minors to serve these two different audiences. The existing Agricultural Marketing minor is being renamed Agribusiness Marketing, and will focus on skills needed by those entering the

¹ <https://www.sdstate.edu/imagine-2023-aspire-discover-achieve>

agribusiness sales industry – personal selling, general marketing, etc. The proposed Commodity Risk Management minor will focus on the quantitative skills needed to analyze agricultural commodities – hedging techniques, fundamental analysis, technical analysis, price forecasting, risk analysis, etc.

4. How will the proposed minor benefit students?

With the increased level of volatility, it is more important than ever for agricultural producers to have a solid risk management plan. It is also more difficult to implement a solid risk management plan as increased volatility makes hedging more expensive. It is important not only for agricultural producers to understand risk management, but it is also very important for the producers' industry partners to understand prudent risk management – brokers, bankers, insurance agents, input suppliers, buyers, etc.

In addition to agricultural producers, most stages of the food, fiber, and fuel supply chain can benefit – graduates going into any agribusiness that is interested in controlling costs and pricing byproducts will benefit from the minor.

5. Describe the workforce demand for graduates in related fields, including national demand and demand within South Dakota. Provide data and examples; data sources may include but are not limited to the South Dakota Department of Labor, the US Bureau of Labor Statistics, Regental system dashboards, etc. Please cite any sources in a footnote.

Commodity risk management is two things. As a career path, it is a very specialized field that does not show up in the statistics in the Department of Labor and other sources because it is so specific. As a skill-set, it complements the career training that students will receive in many fields in the College of Agriculture, Food and Environmental Sciences, including but not limited to Agricultural Business, Economics – Agricultural Economics Specialization, Animal Science, Agronomy, Agricultural Science, Agricultural Systems Technology, Dairy Science, Ecology & Environmental Sciences – Rangeland Ecology & Management Specialization, and Agricultural Education, Communication & Leadership.

In particular, there is an increased need for brokers and farm risk management consultants to work with producers to help them manage their risks. This minor will position a student well to enter this field with confidence.

6. Provide estimated enrollments and completions in the table below and explain the methodology used in developing the estimates.

There are currently 145 students enrolled in the Agricultural Marketing minor. Assuming that approximately half of those students are interested in the proposed Commodity Risk Management minor, and the other half are interested in the revised Agribusiness Marketing minor, the University estimates about 72 students per year enrolled in the minor, or 18 per class, once fully implemented. Also assuming from experience that about half of the current Agricultural Marketing minor students who are interested in Commodity Risk Management will want to switch to the new catalog so they can earn the “Commodity Risk Management” credential leads to an immediate enrollment of about 27 students in the minor. Approximately 9 of these will graduate with the minor in each of the first three years.. After that, enrollment is expected to stabilize at about 18 new students enrolled in the minor per year, and about 18 students graduating with the minor per year, or about 72 students per year on average enrolled in the minor.

An indicator of demand is current enrollment in AGECE 484 Trading in Ag Futures and Options which had a cap of 18 students in the FDNB e-Trading lab that has been raised to 24 in spring 2020.

	Fiscal Years*			
	1 st	2 nd	3 rd	4 th
<i>Estimates</i>	FY 21	FY 22	FY 23	FY 24
Students enrolled in the minor (fall)	45	54	63	72
Completions by graduates	9	9	9	18

*Do not include current fiscal year.

7. What is the rationale for the curriculum? Demonstrate/provide evidence that the curriculum is consistent with current national standards.

Today more than ever there is an increasing need for risk management in agriculture. Increased volatility stems from a variety of factors, including increasingly opaque spot markets in the livestock industry (less than 20% of cattle sales occur in the cash market across the US)²; increased production levels and variability; weather extremes such as the April blizzards and spring flooding that prevented planting on more than 3.9 million acres in South Dakota in 2019; and increased uncertainty with international trade negotiations and international events. For instance, in a recent example, the coronavirus pandemic fears during the last week of February 2020 that caused the Dow Jones Industrial Average to have its worst week since 2008 had spillover effects in the agricultural commodity markets, leading to volatility in the cattle markets at greater than 33% implied volatility – the highest levels since 2006.³ Volatility levels in cattle markets and basis levels have grown by more than 150% over the past 5 years in comparison to previous years.⁴

8. Complete the tables below. Explain any exceptions to Board policy requested.

A. Distribution of Credit Hours

Commodity Risk Management Minor	Credit Hours	Percent
Requirements in minor	9	50%
Electives in minor	9	50%
Total	18	

B. Required Courses in the Minor

Prefix	Number	Course Title	Prerequisites for Course <i>Include credits for prerequisites in subtotal below.</i>	Credit Hours	New (yes, no)
AGEC	354	Agricultural Marketing & Prices	ECON 201	3	No
ECON	201	Principles of Microeconomics		3	No

² <https://www.cmegroup.com/trading/agricultural/files/cattle-volatility-faq.pdf>

³ <https://www.barchart.com/futures/quotes/LEJ20/volatility-greeks/apr-20>

⁴ http://www.waeaonline.org/UserFiles/file/Articleno5_LiveCattleBasisIncVolatilityandRiskMgmtImplications_WilderTejedaJohnson_January92019.pdf

Prefix	Number	Course Title	Prerequisites for Course <i>Include credits for prerequisites in subtotal below.</i>	Credit Hours	New (yes, no)
STAT	281	Introduction to Statistics	MATH 103, MATH 104, MATH 102, MATH 114, MATH 115, MATH 120, MATH 121, or MATH 123	3	No
Subtotal				9	

C. Elective Courses in the Minor: List courses available as electives in the program. Indicate any proposed new courses added specifically for the minor.

Select three courses (at least 1 course must be prefixed AGECE):

Prefix	Number	Course Title	Prerequisites for Course <i>Include credits for prerequisites in subtotal below.</i>	Credit Hours	New (yes, no)
AGEC	430	Agribusiness Marketing & Prices	AGEC 354, STAT 281	3	No
AGEC	454	Economics of Grain & Livestock Marketing	AGEC 354	3	No
AGEC	484	Trading in Agricultural Futures and Options	AGEC 354	3	No
AS	285-285L	Livestock Evaluation & Marketing and Lab	AS 101	3	No
DSCI	453	Risk Management – Personal and Business	(ECON 301 or ECON 431) and (STAT 281 or STAT 381 or STAT 382)	3	No
FIN	420	Student Managed Investment Fund	Instructor consent	3	No

9. What are the learning outcomes expected for all students who complete the minor? How will students achieve these outcomes?

In the Commodity Risk Management minor, students will:

- Describe, illustrate, and evaluate fundamental factors impacting markets.
- Apply alternative risk management tools and strategies.
- Quantitatively evaluate risk in markets.
- Evaluate market signals, including the use of technical analysis.

Individual Student Outcome	Program Courses that Address the Outcomes								
	ECON 201*	STAT 281*	AGEC 354*	AGEC 430	AGEC 454	AGEC 484	AS 285-285L	DSCI 453	FIN 420
Describe, illustrate, and evaluate fundamental factors impacting markets.	x		x	x	x	x			
Apply alternative risk management tools and strategies.			x	x	x	x	x		
Quantitatively evaluate risk in markets.		x		x				x	
Evaluate market signals, including the use of technical analysis.			x	x		x			x

10. What instructional approaches and technologies will instructors use to teach courses in the minor? *This refers to the instructional technologies and approaches used to teach courses and NOT the technology applications and approaches expected of students.*

Students will take at least one, but potentially all three of their elective classes for the minor in the FDNB e-Trading Lab (four of the six elective classes are taught in the Lab). Access to Bloomberg in the Lab allows the students to do in-depth market analysis, price forecasting, basis differential analysis, and risk calculations. These resources are typically found only in business schools and not available to agricultural business students. This minor builds the unique program around this rich resource. The three foundational, required courses are taught in a traditional lecture format, with some hand-on experiential learning built into AGECE 354.

11. Delivery Location

Note: The accreditation requirements of the Higher Learning Commission (HLC) require Board approval for a university to offer programs off-campus and through distance delivery.

A. Complete the following charts to indicate if the university seeks authorization to deliver the entire program on campus, at any off campus location (e.g., UC Sioux Falls, Capital University Center, Black Hills State University-Rapid City, etc.) or deliver the entire program through distance technology (e.g., as an online program)?

	Yes/No	Intended Start Date
On campus	Yes	2020-2021 Academic Year

	Yes/No	If Yes, list location(s)	Intended Start Date
Off campus	No		

	Yes/No	If Yes, identify delivery methods <i>Delivery methods are defined in AAC Guideline 5.5.</i>	Intended Start Date
Distance Delivery (online/other distance delivery methods)	No		
Does another BOR institution already have authorization to offer the program online?	No	If yes, identify institutions:	

B. Complete the following chart to indicate if the university seeks authorization to deliver more than 50% but less than 100% of the minor through distance learning (e.g., as an online program)? *This question responds to HLC definitions for distance delivery.*

	Yes/No	If Yes, identify delivery methods	Intended Start Date
Distance Delivery (online/other distance delivery methods)	Yes		2020-2021 Academic Year

50% of the Commodity Risk Management minor is available online.

12. Does the University request any exceptions to any Board policy for this minor? Explain any requests for exceptions to Board Policy. If not requesting any exceptions, enter "None."

None

13. Cost, Budget, and Resources: Explain the amount and source(s) of any one-time and continuing investments in personnel, professional development, release time, time redirected from other assignments, instructional technology & software, other operations and maintenance, facilities, etc., needed to implement the proposed minor. Address off-campus or distance delivery separately.

The Commodity Risk Management minor will be offered utilizing existing resources.

14. New Course Approval: New courses required to implement the new minor may receive approval in conjunction with program approval or receive approval separately. Please check the appropriate statement (place an "X" in the appropriate box).

YES,

the university is seeking approval of new courses related to the proposed program in conjunction with program approval. All New Course Request forms are included as Appendix C and match those described in section 7.

NO,

the university is not seeking approval of all new courses related to the proposed program in conjunction with program approval; the institution will submit new course approval requests separately or at a later date in accordance with Academic Affairs Guidelines.

15. Additional Information

Academic Requirements

A minimum GPA of 2.0 is required for the courses in the minor.