

Use this form to request authorization to plan a new baccalaureate major, associate degree program, or graduate program; formal approval or waiver of an Intent to Plan is required before a university may submit a related full proposal request for a new program. The Executive Director and/or their designees may request additional information. After the university President approves the Intent to Plan, submit a signed copy to the Executive Director through the System Academic Officer through the proper process. Only post the Intent to Plan to the university website for review by other universities after approval by the Executive Director, System Academic Officer or designee. This form is meant to capture critical elements for stakeholders to review prior to a full proposal.

University SDSU - South Dakota State University

Degree MS : Master of Science

Name of Major X999 : New Major Requested **Global Agricultural Sustainability and Leadership**

Specialization Required? *Note: If the new proposed program includes specific specializations within it, complete and submit a New Specialization Form for each proposed specialization and attach it to this form. Since specializations appear on transcripts, they require Board approval.*

College/Department 3F : SDSU Ag/Food/Environment Sci/SCAF : College Ag/Food/Env Sci (AFES)

Intended Date of Full Proposal Fall 2024

Planned CIP Code 01.0199

Program Description

1. Provide the working program description that may appear in the university catalog.

The accelerated master's program in Global Agricultural Sustainability and Leadership is a professional program in agriculture. Students in the program will enhance their leadership skills and economics awareness in a complex global agricultural environment. Graduates will complete 36 credit hours as part of the accelerated program that focuses on motivational and organizational leadership, sustainability, community development, intercultural communication, ethics, and agribusiness. They will be equipped to contribute to the sustainability of agriculture and to the economic growth of rural communities while enhancing the lives of people worldwide. The program has two purposes: 1) increasing the graduate's proficiency in every facet of agricultural sustainability in order to lead impactful change; 2) developing graduates who are very competent in their chosen field of study and have the additional leadership skills necessary to fast-track into leadership roles in agri-business companies and/or in their local communities.

Additional Information about Proposed Program:

South Dakota State University is working with external partners to create an Institute of Global Agricultural Sustainability and Leadership. The genesis of the institute came from national and regional companies and commodity groups challenging SDSU to grow the next generation of agricultural innovators and leaders. Agri-businesses need graduates that are not only technically well-trained but who are also ready to be plugged into an accelerated leadership track within their companies. Also, as the average age of farmers continues to increase (57.3 in 2017), there is a desperate need at the local, state, and national levels for young agricultural producers who can assume leadership roles on boards and commodity groups. The purpose of the program is to take top students and develop their skills and thought processes so they can become leaders in their companies, organizations, and communities. They will be challenged to work on integrated teams using a systems approach to solve current and future agricultural problems. Students will develop connections with agricultural industry leaders and be exposed to current and future challenges in agriculture and agribusiness. The cohort model will allow students to create a professional network across disciplines with whom they will grow as future leaders and who will be valued resources throughout their careers.

Strategic Impact

2. Describe how the program fits in with the institutional mission, strategic plan, existing institutional program array, and academic priorities.

SDSU is statutorily authorized through SDCL § 13-58.1, to offer academic programs in the liberal arts and sciences and professional education in agriculture, education, engineering, home economics, business economics, nursing, and pharmacy. The agricultural focus of this major fits within the statutory mission of South Dakota State University.

The accelerated master's program in Global Agricultural Sustainability and Leadership aligns very well with the mission of South Dakota State University, which is to "... offer a rich academic experience in an environment of inclusion and access through inspired, student-centered education, creative activities and research, innovation and engagement that improve the quality of life in South Dakota, the region, the nation and the world." The master's program will provide a rich academic experience that is student-centered through the diversity of students participating and courses required, working in interdisciplinary teams on actual case studies, and focused interaction with industry leaders. Not only will the graduates be well-trained in their disciplines, they will also have the leadership skills needed both in industry and their local communities and state. They will have a much greater understanding of agriculture at the national and global levels, which will impact how they make decisions in their vocation as well as on the boards they volunteer to serve on. This will ultimately result in an improved quality of life for everyone.

Global Agricultural Sustainability and Leadership also aligns perfectly with SDSU's vision of "...being a premier land-grant university recognized for high value, innovation and bold impact". No other land-grant university has a program like this, and SDSU believes the future leaders of many of the leading agricultural businesses and commodity groups will be graduates of this program, which makes it impactful.

South Dakota State University is working with external partners to create an Institute of Global Agricultural Sustainability and Leadership. The genesis of the institute came from national and regional companies and commodity groups challenging SDSU to grow the next generation of agricultural innovators and leaders. Agri-businesses need graduates that are not only technically well-trained, but who are also ready to be plugged into an accelerated leadership track within their companies. As the average age of farmers continue to increase (57.3 years in 2017), there is a desperate need at the local, state, and national levels for young agricultural producers who can assume leadership roles on boards and commodity groups. The purpose of the program is to take top students and develop their skills and thought processes so they can become leaders in their companies, organizations, and communities. They will be challenged and forced out of their comfort zones and will work on integrated teams using a systems approach to solve current and future problems. The program will be designed for graduates both going into industry and those returning to their family farms and ranches.

The Global Agricultural Sustainability and Leadership program will be designed to prepare graduates to achieve more than technical competence and personal confidence in their skills. Students will develop connections with industry leaders, be exposed to current and future challenges in agribusiness, and to create a network of like-minded peers across disciplines with whom they will grow as future leaders, and who will be valued resources throughout their careers. They will develop a much broader and in-depth understanding of agriculture globally and be better positioned to assume leadership roles in their companies and communities.

In IMAGINE 2023, SDSU's Strategic Plan, the four main goals and strategies are:

- Achieve Excellence Through Transformative Education
- Cultivate and Strengthen Community Engagement
- Foster Innovation and Increase Research, Scholarship and Creative Activity (RSCA)
- Be a Growing, High-Performing and Healthy University

Like the university's mission and vision statements, the Global Agricultural Sustainability and Leadership (M.S.) also aligns very well with many of the university's goals and strategies. As mentioned previously, the design of the program will provide a much more robust and challenging educational experience, resulting in a transformational educational experience. By developing their leadership skills, graduates will have the ability and desire to serve on boards in leadership position in their local communities, which will further enhance SDSU's impact on those communities. Finally, the program will take some of the top students and challenge them to become even better, to think in new ways, and to make a truly meaningful impact wherever they are.

If the program does not align to the strategic plan, provide a compelling rationale for the institution to offer the program.

N/A

3. How does the program connect to the Board of Regent's Strategic Plan?

The M.S. in Global Agricultural Sustainability and Leadership addresses the foundational statements incorporated into the South Dakota Board of Regents' Strategic Plan with the emphasis on agriculture, the environment, and food production including:

- South Dakota will strive to work toward programming that will meet the need of the workforce, while partnering with business and industry using high impact practices to prepare our students for gainful employment. An essential component of this program is partnering with agri-businesses to embed students within their companies for focused and intensive internships and externships. Allied industry leaders will also serve on the program's advisory board to help ensure that the university provides graduates with the tools and skills that the leading entities in agriculture expect.
- South Dakota will be a recognized national leader in the use of system information technology to enhance its educational, economic, social, scientific, and political development. One of the foundational tenets of this program has been the inclusion of all majors within the College of Agriculture, Food and Environmental Sciences in order to develop a systems-based mindset to problem-solving within the students. They will be placed on multi-disciplinary teams and paired with individual agri-businesses to develop comprehensive strategic plans as part of their capstone

experience. Classes in the Precision Agriculture major will be part of their plan of study to help enhance the students' proficiency in information technology or "Big Data" management, and other classes will include the social and political issues affecting and being affected by agriculture to broaden the understanding of our students.

- South Dakota will require advanced levels of education to support the knowledge-based economy. The accelerated master's degree in Global Agricultural Sustainability and Leadership will take undergraduate students that are technically competent in their fields of study and further develop them through classes, team-focused case studies, and internships/externships to be leaders in the knowledge-based economy.

Program Summary

4. If a new degree is proposed, what is the rationale?

This question refers to the type of degree, not the program. For example, if your university has authorization to offer the Bachelor of Science and the program requested is a Bachelor of Science, then the request is not for a new degree.

This is not a new degree.

5. What modality/modalities will be used to offer the new program?

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.

	Yes/No	Intended Start Date
On Campus	Yes	2024

	Yes/No	Location(s)	Intended Start Date
Off Campus Location	No		

	Yes/No	Delivery Method(s)	Intended Start Date
Distance Delivery	No		

	Yes/No	Identify Institutions
Does another BOR institution already have authorization to offer the program online?	No	

6. If the program will be offered through distance delivery, identify the planned instructional modality:

Not Applicable : Program will not be offered through distance delivery.

Academic Quality

7. What peer institutions and current national standards will be referenced to develop the curriculum for this program? Include links to at least 3 comparable programs at peer institutions and links to national or accreditation standards, if any.

There are peer land-grant institutions that offer graduate Agricultural Leadership programs or graduate programs in Agricultural Sustainability. The programs typically have not included both components of agricultural leadership and sustainability.

- Arizona State University - Master of Science in Sustainable Food Systems (online) <https://asuonline.asu.edu/online-degree-programs/graduate/masters-sustainable-food-systems/>
- Iowa State University, Graduate Program in Sustainable Agriculture – <https://www.susag.iastate.edu/>
- Oklahoma State University - Master's in Agricultural Leadership <https://go.okstate.edu/graduate-academics/programs/masters/agricultural-leadership-mag.html>
- University of Illinois - Master's Degree in Agricultural Leadership, Education, and Communications <https://alec.illinois.edu/academics/graduate-degrees/masters-degree>
- University of Missouri - Master of Science in Agricultural Leadership, Communication and Education <https://online.missouri.edu/degrees-programs/mu/cafnr/agricultural-leadership-communication-and-education/ms>
- Washington State University, Graduate Certificate in Sustainable Agriculture – <https://gradschool.wsu.edu/degrees/graduate-certificate-in-sustainable-agriculture/>

Therefore, since this graduate program integrates sustainability and leadership, the strengths of both types of graduate program will be used when developing the curriculum for the master's program in Global Agricultural Sustainability and Leadership.

8. What program accreditation is available, if any?

There are currently no accreditation standards available.

9. Will the proposed program pursue accreditation or certifications?

No

If no, why has the department elected not to pursue accreditation for the program?

There are currently no national accreditation or certification programs for the program. Once national accreditation or certification programs are developed for this type of major, they will be pursued.

Duplication and Competition

10. Do any related programs exist at other public universities in South Dakota?

*A list of existing programs is available through the university websites and the RIS Reporting: Academic Reports Database. If there are no related programs within the Regental system, indicate **none**.*

While there are programs at the other Regental institutions in South Dakota on either leadership or sustainability, there are no graduate programs within the Regental system that link specifically agriculture with sustainability and leadership. Below are the related programs offered by the other SD Regental Institutions including:

Black Hills State University

- Strategic Leadership (M.S.)
- Sustainability (M.S.)

Northern State University

- Leadership and Administration (MSEd)

South Dakota Mines

- Green and Sustainable Chemistry (M.S.)

University of South Dakota

- Sustainability (M.S., Ph.D.)
- Educational Administration and Leadership (M.Ed., M.A., Ed.D., Ed.S.)
- Leadership in Public Management (Graduate Certificate)

The Global Agricultural Sustainability and Leadership (M.S.) at South Dakota State University does not duplicate any of the current degrees offered at any of the other Regental institutions. The accelerated master's will be a professional program in agriculture and will approach leadership and sustainability in an agricultural context. SDSU is the only land-grant university in the South Dakota Regental system so there are no other programs offered at any of the regental institutions in South Dakota that focus specifically on bringing together global agricultural sustainability and leadership. This program will focus specifically on food production, agriculture, the multiple facets of sustainability (including resource, community, and environmental), and leadership development in an integrated manner. A key component of the program is linking the real-life experiences that students have in intensive, agricultural-focused internships with the material in their coursework.

A. If yes, defend the need for an additional program within the state, Include IPEDS enrollment data and additional data as needed.

N/A. The program does not duplicate existing programs in the Regental system.

B. If yes, would this program be a candidate for Regental system collaboration?

N/A. The program does not duplicate existing programs in the Regental system.

11. Do any related programs exist at any non-Regental college or university within 150 miles of the university?

List those programs here:

No

A. If yes, use IPEDS to identify the enrollment in those programs.

N/A

B. What evidence suggests there is unmet student demand for the proposed program, or that the proposed program would attract students away from the existing program?

No other graduate programs integrating sustainability and leadership in agriculture exist. This will be a unique professional program in agriculture that fills a need within the agricultural industry. Discussions with the Ag Prexy Council have been positive, and students are excited about the possibilities with the program.

As this graduate degree will be an accelerated program enrolling existing SDSU students, the university does not anticipate redirection from other programs. Students will complete their bachelor's degree in any major within the SDSU College of Agriculture, Food and Environmental Sciences and will then be recruited into the master's program in Global Agricultural Sustainability and Leadership. This will allow for a diversity of majors, experiences, and thought processes, which will be extremely beneficial in developing functional teams and creating a cohort of peers that will be invaluable resources once the students graduate.

Market Demand

This section establishes the market demand for the proposed program (eg Regental system need, institutional need, workforce need). Use the following sources for your data:

- [South Dakota Department of Labor & Regulation](#)
- [O-Net](#)
- [US Department of Labor Projections Central](#)
- SDBOR Workforce and Degree Gap Analysis Report

12. What is the expected growth of the industry or occupation in South Dakota and nationally?

Include the number of openings, as well as the percentage of growth when possible.

The genesis of the master's program in Global Agricultural Sustainability and Leadership came from national and regional entities challenging SDSU to create the next generation of agricultural innovators and leaders.

In general, South Dakota is experiencing increased demand for well-trained agricultural professionals due to the growth of the agricultural industry in the state. Agriculture is the second largest contributor to South Dakota's Gross Domestic Product (behind Finance & Insurance), and from 2017 to 2022, it had by far the largest Annualized Growth Rate (8.2%) of all the major sectors.[1] According to the South Dakota Department of Labor & Regulation's 2022 report on "Statewide South Dakota Employment Projections by Occupation for 2020-2030"[2], in the next 7 years South Dakota will need:

- 7.6% more ag engineers
- 16.0% more animal scientists
- 16.3% more food scientists
- 16.0% more ag & food scientists
- 11.1% more first-line supervisors for farming, fishing, & wildlife
- 13.3% more people in the slaughter & meat packing industries

With this growth in the industry overall comes the need for highly trained agricultural professionals who can serve in leadership positions in agri-businesses and associated industry boards. Data from Emsi/Lightcast shows a projected 6.6% growth in agricultural leadership positions from 2023-2028.[3] The agricultural industry needs leadership with not only knowledge and skills in specific agricultural disciplines but who are also capable of adapting to rapid changes in technology, resources, and regulations. Agri-businesses, both family farms and companies, need graduates/new employees that are not only technically well-trained but who are also ready to be plugged into an accelerated leadership track within their companies, farms, and rural communities. This program will increase the number of advanced trained graduates with competencies in sustainability and leadership that are in an even greater demand according to agri-business leaders.

There is already a tremendous demand for graduates that have the skillsets that will be developed in the Global Agricultural Sustainability and Leadership graduate program. There has already been strong interest in this program from Fortune 500 companies like Cargill and CHS, and leading national companies including Land O' Lakes, Farm Credit Services of America, and BNSF Railway. There are also strong local and regional demands for these graduates from Agtegra, Millborn Seeds, the SD & MN Soybean Councils, the SD Corn Utilization Council, Pipestone Systems, and First Bank and Trust. These are only the companies and organizations that have been contacted about the program, and as more companies and organizations learn about the program, the expectation would be for a similar level of support from them. In addition, as the average age of farmers continues to increase (57.3 years in 2017 for the principle producer[4]), there is a desperate need at the local, state, and national levels for young agriculturalists who can assume leadership roles on boards and commodity groups, as well as in agri-businesses.

The agricultural industry in South Dakota, the region, and nationally continues to grow and adopt technology to meet the demand of feeding 9 billion people. The careers mentioned demonstrate the need for this type of program. Also, the graduates from the Global Agricultural Sustainability and Leadership Graduate program will not only provide workforce for these vacancies, but more importantly, they will provide the next generation of leadership for those companies and rural communities.

[1] <https://www.ibisworld.com/united-states/economic-profiles/south-dakota/#:~:text=The%20Finance%20and%20Insurance%2C%20Agriculture,combined%2042.4%25%20of%20state%20GDP>

[2] https://dlr.sd.gov/lmic/menu_projections_occupation_statewide.aspx

[3] Data provided by Emsi/Lightcast via Modern Campus Pathways https://catalog.sdstate.edu/preview_program.php?catoid=49&poid=11149&returnto=8345

[4] https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/South_Dakota/st46_1_0052_0052.pdf

13. What evidence, if any, suggests there are unfilled openings in South Dakota or nationally?

In initial conversations with some of the largest agri-business companies and commodity groups in South Dakota and the region, every group said they have a pressing need for graduates with these skillsets. Agtegra Cooperative, which services 6,800 members in 5 states in the Upper Midwest, stated "The projected annual graduation rate of 20 students graduating from this program will not fill the industry demand that is out there for this type of student". There is a significant void in both rural communities and in agri-businesses for this type of students, and this program is the first step in meeting those needs.

14. What salaries can program graduates expect to earn in South Dakota and nationally?

Graduates of this program will have a wide range of salaries depending on the career pathway they select. As an example, Indeed.com lists the average annual salary for agricultural leadership positions at around \$100,000.

15. Optional: Provide any additional evidence of regional demand for the program.

e.g. prospective student interest survey data, letters of support from employers, community needs...

Student Demand

16. Provide evidence of student completers/graduates at that degree level at peer institutions that offer the same/similar program using data obtained from IPEDS.

Choose programs not already listed in question 11. Use the most recent year available.

University Name	State	Program Name	Number of Degrees Conferred in Program	Total Number of Conferrals at Level (Undergrad or Grad)
Oklahoma State University	OK : Oklahoma	Agricultural Leadership (MAg)	7	1242
University of Illinois	IL : Illinois	Agricultural Leadership, Communication & Education (M.S.)	14	5803
University of Missouri	MO : Missouri	Agricultural Leadership, Communication & Education (M.S.)	12	2215

17. What evidence suggests there is interest from prospective students for this program at the university?

This program will enroll existing SDSU students into the accelerated master’s program from agriculture-related undergraduate majors. In fall 2022, over 1700 students were enrolled in an undergraduate agriculture program at SDSU providing a large student population from which to draw the 20-student cohort for this graduate program. SDSU offers an undergraduate program in Agricultural Education, Communication, and Leadership. Enrollment in the communication and leadership specializations is strong with 31 students enrolled in the leadership specialization in fall 2022. This demonstrates that students are interested in agricultural leadership. Several of the main student leadership groups in the College of Agriculture, Food and Environmental Sciences, including the Ag Prexy Council, were told about the program during the initial planning phase last year, and they were very excited about the program. Already this semester, there have been multiple students asking when the program will start.

Enrollment

18. Are students enrolling in this program expected to be new to the university or redirected from existing programs at the university?

Include the number of openings, as well as the percentage of growth when possible.

The students in this program will be existing SDSU students from undergraduate majors within the College of Agriculture, Food and Environmental Sciences. Each year, a cohort of 20 students will be accepted into the accelerated program. This will ensure that the Institute will be populated by the best students, and it will also allow for more individualized attention, which is an additional strength of the program for the students.

19. Narrative Description of the preliminary estimates on annual enrollment in this program by year six

Include all students within the program, not just those new to the program.

Enrollment in this program will be capped at 20 students annually.