LEVEL II MEMORANDUM

DATE: October 19, 2020

TO: Chief Academic Officers, Montana University System

FROM: Brock Tessman, Deputy Commissioner for Academic, Research, and Student Affairs

RE: November 2020 Academic Proposals

The campuses of the Montana University System have proposed new academic programs or changes under the Level II approval process authorized by the Montana Board of Regents. The Level II proposals are being sent to you for your review and approval. If you have concerns about a particular proposal, you should share those concerns with your colleagues at that institution and try to come to some understanding. If you cannot resolve your concerns, raise them at the Chief Academic Officer's conference call October 28th. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Friday, November 30th. If no concerns are received, OCHE will assume that the proposals have your approval.

Level II Items

Montana State University Billings:

 Request to re-title the Department of Communication and Theatre to the Department of Communication

Item #191-2700-R1120 | Attachment #1

Montana State University Bozeman:

Request to establish the Center for Science, Technology, Ethics and Society (STES)
 Item #191-2010-R1120 | Center Proposal Form | Fiscal Form | Intent to Plan

University of Montana Missoula

Request Authorization to establish and name the "L.S. Skaggs Institute for Health Innovation"
 Item #191-1010-R1120 | Center Proposal Form | Request to Plan | Attachments

NOTE This item includes both approval of the institute and approval of the honorific name.

ACADEMIC PROPOSAL REQUEST FORM

March / 2021

ITEM 191-2700-R1120

ITEM ITILE: Request to I	re-title the Department of Communication an	id Theatre to the Department of
Institution:	Montana State University Billings	CIP Code: NA
Program/Center/Institute Title:	Department of Communication	
Includes (please specify below):	Face-to-face Offering: Online Offering:	Blended Offering:
Options:	NA	
	Proposal Summary [360 words i	maximum]
What: The Department of	Communication & Theatre proposes to retitle its	self as the Department of Communication.
Why: The title change refle has since been deleted.	ects that the department no longer offers a theatre	e major. The program was put on moratorium and
Resources: None.		
ATTACHMENTS Department Memo		
following the type of reque	te type of request and submit with any additional rest. For more information pertaining to the types on please visit http://mus.edu/che/arsa/academicp	of requests listed below, how to complete an item
A. Level I:		
Campus Approvals		
1a. Placing a p	oostsecondary educational program into morator	ium (Program Termination and Moratorium Form)
1b. Withdraw	ring a postsecondary educational program from m	noratorium
2. Establishin	g, re-titling, terminating or revising a campus cert	tificate of 29 credits or less

ACADEMIC PROPOSAL REQUEST FORM

	3. Establishing a B.A.S./A.A./A.S. area of study
	4. Offering an existing postsecondary educational program via distance or online delivery —
ОСН	E Approvals
	5. Re-titling an existing postsecondary educational program
	6. Terminating an existing postsecondary educational program (Program Termination and Moratorium Form)
	7. Consolidating existing postsecondary educational programs (Curriculum Proposal Form)
	8. Establishing a new minor where there is a major or an option in a major (Curriculum Proposal Form)
	9. Revising a postsecondary educational program (Curriculum Proposal Form)
	10. Establishing a temporary C.A.S. or A.A.S. degree program Approval limited to 2 years
<u>B. L</u>	 evel II: 1. Establishing a new postsecondary educational program (Curriculum Proposal and Completed Request to Plan Form)
	2. Permanent authorization for a temporary C.A.S. or A.A.S degree program (Curriculum Proposal and Completed Request to Plan Form)
	Request to Plan Form)



Department of Communication and Theatre

August 28, 2020

TO:

Board of Regents of the Montana University System

FROM:

Samuel Boerboom, Ph.D., Chair

Department of Communication & Theatre, Montana State University Billings

RE:

Proposal to retitle an academic unit

Dear Board of Regents:

On August 12th, 2020, the Department of Communication & Theatre met to discuss the title of our department. It was unanimously decided to propose a title change to "Department of Communication." The department no longer offers a theatre major or program, and the proposed title change would reduce student confusion about our course offerings.

Sincerely,

Samuel Boerboom, Ph.D. Associate Professor and Chair Department of Communication & Theatre Montana State University Billings

ACADEMIC PROPOSAL REQUEST FORM

November, 2020

ITEM 191-2010-R1120

<u>ITEM TITLE</u>		
Institution:	Montana State University	CIP Code:
Program/Center/Institute Title:	Center for Science, Technology, Ethics, and	Society
Includes (please specify below):	Face-to-face Offering: Online Offering:	Blended Offering:
Options:		
	Proposal Summary [360 wo	ords maximum]
facilitates interdisciplinary technology, and medicine; between researchers and t Why: This Center responds dimensions of science and for training STEM students particularly in science, tech	research collaborations among faculty and stage 2) improves resources for ethics education in the public. s to three existing needs. 1) A need to generate technology (and interdisciplinary collaborations in critical thinking, responsible behaviors, and hnology, and medical fields; 3) a need to facility.	ill be an interdisciplinary research center that 1) tudents on the ethical and social implications of science in STEM disciplines and 3) enhances engagement ate interdisciplinary knowledge on the social and ethical ons necessary to generate such knowledge); 2) a need and universal design skills that are desired by employers, litate trust and engagement between researchers and
Resources: The Center will Research, Economic Develor donations and 2) external a Foundation and the Colleg involved in the developme	opment, and Graduate Education. The Cente grants. The Director and faculty involved in the of Letters and Sciences, to identify and devo	rant through the Office of the Vice President for er will become sustainable though 1) Foundation the Center are already working with the MSU Alumni elop relationships with potential donors. The faculty are als and an annual Grant-Writing Bootcamp training. C-culty lines).
ATTACHMENTS		
Center Proposal Form	ı	
Request to Plan Fiscal Analysis Form		

Please mark the appropriate type of request and submit with any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

ACADEMIC PROPOSAL REQUEST FORM

	A. Level I:
	Campus Approvals
	1a. Placing a postsecondary educational program into moratorium (Program Termination and Moratorium Form)
	1b. Withdrawing a postsecondary educational program from moratorium
	2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less
	3. Establishing a B.A.S./A.A./A.S. area of study
	4. Offering an existing postsecondary educational program via distance or online delivery
	OCHE Approvals
	5. Re-titling an existing postsecondary educational program
	6. Terminating an existing postsecondary educational program (Program Termination and Moratorium Form)
	7. Consolidating existing postsecondary educational programs (Curriculum Proposal Form)
	8. Establishing a new minor where there is a major or an option in a major (Curriculum Proposal Form)
	9. Revising a postsecondary educational program (Curriculum Proposal Form)
	10. Establishing a temporary C.A.S. or A.A.S. degree program Approval limited to 2 years
<u>x</u>	B. Level II:
	1. Establishing a new postsecondary educational program (Curriculum Proposal and Completed Request to Plan Form)
	2. Permanent authorization for a temporary C.A.S. or A.A.S degree program (Curriculum Proposal and Completed Request to Plan Form)
	3. Exceeding the 120-credit maximum for baccalaureate degrees Exception to policy 301.11
	4. Forming, eliminating or consolidating an academic, administrative, or research unit (Curriculum or Center/Institute Proposal and completed Request to Plan, except when eliminating or consolidating)
	5. Re-titling an academic, administrative, or research unit

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

Research Centers and Institutes differ from one another in focus, scope, and staffing, but each contributes in unique ways to the common goals of expanding knowledge, generating new discoveries and/or having a positive impact on society through informing policy and systemic change. Communities of researchers and staff in Research Centers and Institutes provide a stimulating environment that encourages early researchers and challenges experienced researchers. Research Centers and Institutes also contribute to the education and training of the researchers of the future by serving as learning environments for students. Interdisciplinary collaboration is promoted by Research Centers and Institutes both within the Institution and among MUS Institutions. Research Centers and Institutes do not provide didactic coursework, confer academic degrees or academic certificates or require accreditation by external accrediting bodies. Research Centers and Institutes frequently provide a portal for obtaining external funding in response to federal and/or state research priorities. As such, apparent duplication of mission between MUS research centers and institutes is not generally problematic as with academic programs due to the different sources of funding.

1. State the proposed Institute/Center's name and purpose.

Center for Science, Technology, Ethics, and Society (C-STES)

The C-STES will build on existing areas of strength in research and scholarship at Montana State University to produce interdisciplinary knowledge about the ethical, social, and policy dimensions of science, technology, mathematics, and medicine. C-STES aims to promote such research among both faculty and students through the integration of investigation, learning, and community engagement. C-STES will promote faculty, graduate, and undergraduate research in ways that engage with various communities (K-12 students, Tribal Colleges, local industry partners, policymakers, and the general public). This center will become a national hub for the critical study of how science and technology impact rural communities and can help address the unique challenges that rural communities face in ways that benefit all stakeholders. C-STES seeks to both help communities understand how science and technology work and may impact them, but also to provide researchers will crucial feedback about the needs and concerns of diverse communities. C-STES will also facilitate research and grant writing related to the development and assessment of innovative curriculum in ethics education and training in science, technology, engineering, and math (STEM) disciplines. MSU is the ideal place for such a center, due to our existing areas of strength and expertise, our network of community partners including the Museum of the Rockies and the American Computer and Robotics Museum, and our proximity to Yellowstone National Park, which provides rich interdisciplinary research opportunities for both faculty and students.

2. A comprehensive statement of the Institute/Center's mission and its relationship to the University mission.

A. State the Institute/Center's mission.

The core mission of C-STES is to produce interdisciplinary knowledge about the ethical, social, and policy dimensions of science, technology, mathematics, and medicine so as to ensure that research in STEM disciplines more effectively addresses the unique challenges of rural communities and improves the lives of Montanans. Situated within a public, land-grant institution whose charter is to serve and educate all citizens in the state of Montana, the proposed C-STES will be part of an established academic network that conveys research and learning to every county in the state. With its emphasis on developing connections throughout

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

the sciences, social sciences, humanities, and the arts, the proposed Center will position MSU as an important site for creative scholarship across interdisciplinary fields that are dedicated to advancing knowledge about the scientific, technical, ethical, and policy implications of research.

B. Identify the Institute/Center's goals and objectives.

Goal 1: To facilitate interdisciplinary research collaborations among faculty and students, particularly on the ways that science, technology and medicine impact rural communities and vulnerable populations.

- **Objective 1.1:** Increase interdisciplinary collaborations through workshops, conferences, and speaker events on themes related to the social, ethical, and policy dimensions of science, technology, and medicine.
- **Objective 1.2:** Increase faculty, graduate student, and undergraduate publication related to the social and ethical dimensions of science, technology, and medicine.
- **Objective 1.3:** Increase interdisciplinary grant submissions and grant success.
- **Goal 2:** To cultivate ethical thinking, decision-making, and behavior in research.
 - **Objective 2.1:** Increase grant submissions and grant success to programs, such as the NSF Cultivating Ethical STEM cultures, that aim to improve enhance ethics education and training in research.
 - **Objective 2.2:** Increase faculty publications related to ethics education and pedagogy.
 - **Objective 2.3:** Increase the opportunities for faculty, graduate students, and undergraduate students to receive effective ethics education and training.
- **Goal 3:** To expand and enhance engagement between researchers and the public in ways that benefit all stakeholders.
 - **Objective 3.1:** Increase interaction between scholars, researchers and community members through public talks, public performances, publications to non-academic audiences, and involvement of community members in conferences and workshops related to the ethical, social, and policy dimensions of science, technology, and medicine.
 - **Objective 3.2:** Increase the number of collaborations with local museums, libraries, K-12 schools, and community organizations to produce and disseminate knowledge about science and technology, including the ethical and social dimensions.
 - **Objective 3.3:** Identify and incentivize research directions and priorities in response to community needs and concerns.

C. What specific need is being responded to in developing the proposed Institute/Center?

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

The creation of C-STES responds to three existing needs. First, there is a need for more research related to the social and ethical implications of science and technology so as to better understand the potential impacts (both positive and negative), and the ways those impacts may be distributed across communities. While scientists and engineers have the technical expertise to understand science and technology, STS scholars from the humanities and social sciences have the sort of expertise relevant to evaluate the likely ethical and social impacts of science and technology within these contexts. C-STES will promote the sort of interdisciplinary collaboration necessary for meeting this need more effectively. Second, STES will increase and enhance resources for ethics education and training in STEM disciplines, for both graduate and undergraduate students. There is growing recognition that learning regulations and professional codes is not sufficient for ethical behavior and emerging technologies require a workforce that can think critically, recognize complex ethical issues, and formulate sound policy. Finally, while there are other STS Centers in the U.S., there are not any currently located in our region. Montana and other rural areas have unique needs and circumstances. From the possibility of using telemedicine in rural areas, to using gene editing to produce drought-resistant crops, to examining how technology might be used in avalanche prevention, STES will create opportunities for interactions among scientists, students, and the public, to increase public understanding of scientific and technological innovations and provide researchers with feedback from Montanans about their needs and concerns. Such opportunities will enable them to be more competitive in applying for local and national grants, as well as increasing students' future job opportunities.

D. Describe how the Institute/Center benefits the department, college, or institution.

The proposed Center will initially have six main areas of research focus that draw on existing areas of cross-disciplinary strength at MSU. These include: 1) artificial intelligence and machine learning; 2) internet and data ethics; 3) sustainability and social justice; 4) rural health and safety challenges; 5) biotechnologies; and 6) ethics and inclusivity in STEM. There are scholars working in different disciplines on the ethical, social, clinical, and policy dimensions in these six areas, including scholars in American Studies, Anthropology, Architecture, Economics, Education, English, Film and Photography, Geography, Health Sciences, History, Library Sciences, Native American Studies, Nursing, Philosophy, Political Science, Sociology. There are also physical scientists, mathematicians, and engineers engaged in research and innovation in these areas, including researchers in Agriculture, Chemical and Biological Engineering, Chemistry, Computer Science, Earth Sciences, Ecology, Electrical Engineering, Land Resources, Mathematical Sciences, Materials Science, Microbiology & Immunology, and Plant Sciences. Faculty and students in various departments often work without knowledge of complementary research taking place in other sections of the university, and there is often a significant divide between faculty from STEM disciplines and non-STEM disciplines working in these areas. The proposed Center will bring together scholars from different disciplines in order to enrich their research and productivity. Collaboration will enable them to be more competitive in applying for local, national, and international grants, which will enhance their research initiatives. Such opportunities are likely to also favorably impact students' future job opportunities and academic plans.

E. Describe the Institute/Center's relationship to the University mission.

As a land-grant institution, MSU has a special responsibility to foster understanding of "practical agriculture, science, military science, and engineering." Understanding the ethical and social

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

implications of such sciences, and the technologies that they create and employ is vital to ensuring that such knowledge can be used in ways that make knowledge and innovation responsive to the needs, interests, and values of Montanans. C-STES will integrate discovery, learning, and engagement by bringing together students, faculty, and community members who share a commitment to understanding science and technology and assessing how such knowledge can transform lives and communities in the people's interest. MSU is also currently creating a new Strategic Plan. It includes fostering four "Grand Challenges of Montana." STES will directly engage in three of the four (Sustainable Food and Precision Agriculture, Brain Research and Mental Health, and Environment and Energy) and helping to achieve GOAL 2.2: "Expand interdisciplinary scholarship" which has the metrics and actions of "securing at least one new interdisciplinary training grant or center grant for each Grand Challenge area by 2024."

3. Briefly describe the Institute/Center's anticipated activities.

Recent, ongoing, and upcoming activities of STES include:

- 1). Science Matters Lecture Series: This speaker series will bring in one prominent scholar to give a public talk at the MSU Museum of the Rockies each semester. The goal of the speaker series is to draw attention to science and engineering research that is likely to have implications for things that the public cares about. Dr. Charles Falco (Physics, University of Arizona) began the series with his talk September 10, 2019 on "The Science of Optics and the History of Art" to show the ways in which optics technologies can be used to identify properties of paintings (including those that can be used to tell originals from fakes). In February 2020, Kate Brown (History, MIT) will give a talk "Chernobyl: A Survivor's Guide" to discuss nuclear safety. This speaker series was made possible from a private donor, the MSUAF Alumni Foundation, and the College of Letters and Sciences.
- **2). STES Grant Writing Bootcamp:** STES is hosting a 6-week grant writing workshop, involving both faculty and graduate students, which will be specifically tailored to generating multiple collaborative grant submissions for two particular NSF grant program (Cultivating Cultures for Ethical STEM) and Science and Technology Studies (STS). The workshop will help faculty to generate ideas for transforming ethics education and training, identify collaborators from other departments, colleges and institutions, as well as draft and receive feedback on project narratives, budgets, and other aspects of their grant. This workshop is being offered for the first time this semester starting in October 2019 and has 20 participants from multiple departments and colleges including Engineering, Education, Letters & Sciences, and Nursing.
- **3). STES Faculty Speaker Series:** Beginning in February 2020, the proposed Center will establish a speaker series for faculty and graduate students highlighting faculty research both at MSU, other MUS institutions, and national scholars. The goal of the speaker series is to increase awareness of the research that faculty are doing in different departments and colleges and to help facilitate interdisciplinary discussions that can lead to research collaborations. Spring speakers include Craig Woolard (Civil Engineering, MSU), Michelle Flenniken (Plant Pathology & Plant Sciences, MSU), Laura Stanley (Computer Science, MSU), and Christopher Preston (Philosophy, U of M), as well as three external speakers.
- **4). STES Film Series:** Beginning in November 2019, STES will kick off its film series, where we will hold public screenings of films related to the social, ethical, or policy dimensions of science or technology, along with an interactive discussion. In November 2019, we will hold a public screening of *No Más*

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Bebes, which documents the history of forced sterilization and eugenics in the U.S. This will be cosponsored by the Wallace Stegner Chair in Western Studies. In January 2020, we will have a screening of the documentary Fixed: The Science/Fiction of Human Enhancement, followed by a discussion about human enhancement technologies and disability, facilitated by Assistant Professor Bonnie Sheehey who specializes in philosophy of technology. The film series will be advertised to faculty, students, and the public at large.

- **5). STES Symposia:** The proposed Center would organize one symposium/conference each year, geared toward bringing together not only academics, but also policymakers, industry partners, and members of the public to address complex challenges at the interface of science, ethics, and policy. STES faculty are currently collaborating with The Ivan Doig Center for Western Lands and Peoples and Native American Studies to organize a symposium on challenges to food justice (including food scarcity, food deserts, changing climate, and water, energy, and transportation issues) as well as potential solutions. The symposium would bring together scientists, humanists, and other scholars with food producers and policymakers for a rigorous discussion of the challenges and new research that may offer solutions. The symposium will also be followed by a one-day workshop on Montana foods, including an optional cooking class. Another possible symposium for 2021-2022 would be on the ethical and policy issues surrounding the use of CRISPR gene editing in agriculture and livestock.
- **6). Impacts Blog**: STES has started a blog, *Impacts*, that highlights the social, ethical, and policy dimensions of research at MSU and nationally (http://www.montana.edu/stes/impacts.html). The STES website and Impacts blog were created by Kristen Intemann, working with a Graduate Student Research Assistant in summer 2019, with the help of a Phase I HASS Award from MSU. This blog is used to help facilitate communication about the social and ethical dimensions of research at MSU to the public but will also be used to help train undergraduate and graduate students in the communication of science and engineering by allowing them to develop and post content.
- 7). STES Engagement: STES is collaborating with several community partners, including the American Computer and Robotics Museum, the Museum of the Rockies, The Montana Science Center, and MSU Academic Technology & Outreach, to create and provide public programing that increases awareness about science, technological innovation, and to engage various publics in a critical conversation about the ethical and policy implications. In October 2019, STES partnered with the American Computer and Robotics Museum to offer a discussion event with Deborah G. Johnson (University of Virginia) on the safety of autonomous vehicles and the responsibilities of engineers. Participants will discuss what it would mean to make such vehicles "safe" and will also receive an interactive tour at the Museum. STES faculty have also collaborated with the Museum of the Rockies to offer free public workshops, such as the Building with Biology workshop in Fall 2018, which featured a brief presentation by MSU's Dr. Blake Weidenheft on the science of CRISPR, followed by commentary on the ethical issues raised by CRIPSPR by Dr. Kristen Internann, and concluding with a group activity where participants discussed how to resolve the ethical concerns from multiple perspectives. STES faculty have also been collaborating with the Office of Academic Technology and Outreach to offer a non-credit fee-based course open to the public on identifying and distinguishing fake news, junk science, and unreliable sources.

A. Identify faculty expertise available for participation in the Institute/Center's activities.

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MSU's existing faculty expertise related to science, technology, ethics, and society includes several departments and colleges.

In the College of Agriculture, Dr. Blake Weidenheft from the Department of Microbiology and Immunology is a nationally and internationally recognized researcher in genome editing, with expertise in CRISPR/Cas9, and the immunology of bacterial against viruses. Several faculty from the Department of Land Resources and Environmental Sciences will be involved, including Institute on Ecosystems Director Bruce Maxwell, who is nationally and internationally recognized in climate change research and invasive weed ecology. Scott Powell (forest ecology and carbon sequestration) Tony Hartshorn (soil ecology) and Catherine Zabinski (restoration ecology, sustainable agriculture, and environmental ethics) also have relevant expertise. Michelle Flenniken from the Department of Plant Sciences and Plant Pathology works on pathogens in agriculturally important systems, such as honeybees.

The proposed Center draws on faculty from the College of Engineering, including the Montana Engineering Education research Center Director Brock LaMeres, who is nationally and internationally recognized in logic circuits, nanotechnology, and engineering education. Professor of Biological and Chemical Engineering Paul Gannon works in sustainability and developing materials in relation to solving environmental problems. William Schell has expertise in engineering ethics and management. John Shepard, Computer Science, specializes in artificial intelligence and machine learning, and the use of computing intelligence in precision agriculture. Mary Ann Cummings has experience in industry as well as academia and brings expertise on software, privacy, and cybersecurity issues.

The College of Arts and Architecture has several faculty with relevant expertise in sustainable architecture, including Ralph Johnson and Jaya Mukhophadyay, and expertise in participatory design, including Susanne Cowan and Michael Everts. The School of Film and Photography houses an MFA program in Science and Natural History Filmmaking Professor Cindy Stillwell's films have also investigated and represented the relationship between humans and the environment in many award-winning works.

In the College of Letters and Science, there are several departments with relevant faculty expertise. C-STES will involve faculty from the Department of Earth Sciences, particularly the strong group of geographers whose research focuses on the social and policy dimensions of science and technology, such as Professors Jordy Hendrikx (snow science and avalanche safety), Julia Haggerty (sustainable energy), and Jamie McEvoy (water technology and policy). The Department of English includes scholars who work on environmental literature such as Professors Robert Bennett and Susan Kollin, as well as tech communication and science writing (Beth Shirley and Michelle Miley). Gretchen Minton, who is also on the STES advisory board works on theater related to science, technology, and the environment. The Department of History and Philosophy is the current home of the Wallace Stegner Chair in Western American Studies, which is presently held by environmental historian Dr. Mark Fiege. The Department also features faculty with expertise in ethics (Professors Kristen Internann and Bonnie Sheehey), as well as Philosophy of Science (Prasanta Bandyophadyay and Kristen Internann), historians of science, technology, environment and medicine (Catherine Dunlop, Maggie Greene, Tim LeCain, Michael Reidy, and Brett Walker). The Department of Mathematical Sciences has several faculty with expertise in Math Education, including Department Head Elizabeth Burroughs, as well as faculty with expertise in the

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intersection of ethics and the use of statistics in science (John Borkowski). The Department of Native American Studies has a strong group of scholars whose research focuses on Native food systems and indigenous research methodologies including Professor Kristen Ruppel, who is also directing the Native Lands Project. The Department of Political Science includes Eric Austin and Elizabeth Shanahan, who have expertise in ethics, publication, and the public communication of science. The Department of Sociology & Anthropology includes Professor Kaylin Greene who works on health and family issues, Brooke Bocast who works on global health and medical anthropology, and Professor Colter Ellis who researches rural sociology. The Department of Psychology includes faculty with expertise in inclusivity and bias in STEM (Ian Handley) and CBPR research and Tribal partnerships (Monica Skewes).

Faculty from the Library also have crucial expertise, including Sara Mannheimer whose area of specialization focuses on digital preservation, open data and transparency issues, big data ethics, and data management. Scott Young also has expertise in participatory and universal design, social media and society, as well as information ethics and privacy concerns.

B. Which departments on campus will be involved and how will the Institute/Center contribute to the academic programs of the institution?

The MSU departments that currently have a base of expertise in STS and who are currently participating in planning the activities of STES include Architecture, Biological and Chemical Engineering, Chemistry, Computer Science, Earth Sciences, Ecology, Electrical Engineering, English, Film and Photography, Health and Human Development, History and Philosophy, Land Resources and Environmental Sciences, Library Sciences, Mathematical Sciences, Mechanical and Industrial Engineering, Microbiology and Immunology, Native American Sciences, Plant Sciences and Plant Pathology, Political Science, and Sociology and Anthropology. The proposed Center offers support to academic programs in the form of graduate student mentoring and funding, as well as facilitating training in research ethics. Through the establishment of research cluster areas, the proposed Center will enable faculty and graduate students to gain deeper interdisciplinary knowledge of science, technology, ethics and society, which will enhance their research initiatives and teaching activities. This will also support existing curricular options at both the graduate and undergraduate levels related to Science, Environment, Technology and Society

4. Identify the organizational structure of the Institute/Center within the institution.

The proposed Center is organized by a Director (Prof. Kristen Intemann, Philosophy) and five Associate Directors (Prof. Elizabeth Burroughs/Math, Asst. Prof. Mary Ann Cummings/Computer Science, Prof. Brock LaMeres/Electrical Engineering, Prof. Michael Reidy/History, and Prof. Blake Wiedenheft/Microbiology and Immunology) who will be responsible for writing reports, fundraising, event organizing, and publicity. In addition, a Faculty Advisory Board comprised of approximately fifteen MSU professors from twelve different departments and across the colleges at MSU will help establish, determine, and organize the proposed Center's various initiatives and activities. C-STES will also have a Graduate Student Assistant and an Undergraduate Student Assistant who will help create and manage content for the website and blog and help organize Center events. Finally, C-STES will have an external advisory council who will conduct an independent review of C-STES' activities and funding at least once every five years (or as needed) to assess the academic integrity and inclusivity of Center activities. The external advisory council will consist in at least three faculty members and/or directors of centers or institutes at peer institutions.

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A. Identify all agencies, organizations and/or institutions that will be involved.

The proposed C-STES will be housed at MSU-Bozeman. The proposed Center builds on established relationships with other MSU Centers and Programs, MUS Centers and Programs, and community partners. The proposed C-STES has existing relationships with Academic Technology and Outreach, the Burton K. Wheeler Center for Montana Public Policy Issues, the Department of Philosophy (at the University of Montana), The Institute on Ecosystems, the Ivan Doig Center for the Study of Western Lands and Peoples of the North American West, the Mike and Maureen Mansfield Center's Program for Ethics and Public Policy (University of Montana), the Montana Engineering Education and Research Center, the Montana Outdoor Science School, Native Lands Project, the Office of Research Compliance, Undergraduate Scholars Program, the Western Transportation Institute, and the White Heat Project. We are working on events with several community organizations including the American Computer and Robotics Museum, the Bozeman Public Library, and the Museum of the Rockies. We anticipate establishing additional initiatives and partnerships with the Center for American Indian and Rural Health Equity, the Science Math Resource Center, the Montana Science Center, the Montana Office of Rural Health and Area Health Education Center, and the Montana Water Center.

B. Identify advisory council information.

The current faculty advisory board for the proposed C-STES include the following faculty members: Eric Austin (Political Science), Brooke Bocast (Sociology & Anthropology), Edward Dratz (Chemistry), Paul Gannon (Chemical and Biological Engineering), Timothy LeCain (History), Sara Mannheimer (Library), Bruce Maxwell (Land Resources and Environmental Sciences), Jamie McEvoy (Geography/Earth Sciences), Gretchen Minton (English), Liz Shanahan (Political Science), John Sheppard (Computer Science), Cindy Stillwell (Film and Photography), and Scott Young (Library). Our advisory board also includes one postdoctoral researcher (Justin Shanks, Library) and one graduate student (Kirke Elsass, History) who specialize in science and technology studies.

5. Identify first year and continuing finances necessary to support the Center/Institute, including the sources of funding.

In spring 2019, Director Kristen Intemann, along with Associate Directors Elizabeth Burroughs, Mary Ann Cummings, Brock LaMeres, Michael Reidy, and Blake Wiedenheft received a 3-year Humanities and Social Science Phase II grant for \$150,000 from the Office of the Vice President of Research and Economic Development. Through the MSU Alumni Foundation and the College of Letters and Sciences, a private donor has contributed \$45,000 for a three-year speaker series, entitled *Science Matters*, which aims to bring highly accomplished scientists, engineers and STS scholars to Bozeman to give accessible, engaging, public talks about their research and why it matters to social or policy issues. STES Leadership is currently working with the MSUAF to identify potential donors and plan fundraising efforts in the event that STES achieves approval for center-status from the Board of Regents. We also plan to apply for additional sources of funding from appropriate regional and national foundations as well as federal agencies. Two particular NSF grant programs will be targeted for future funding: The Science, Technology, and Society Program and the Cultivating Ethical STEM Cultures Program. These are programs particularly in line with the research areas of the proposed C-STES and where our faculty have had previous successes.

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A. Will additional faculty and other resources be required to implement this Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.

No additional faculty are needed. See below about other resources.

B. Are other, additional resources required to ensure the success of the proposed Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.

There is an attached budget, drafted in coordination with the University Budget Office that shows our projected expenses (all of which are covered with our current funding and our plan to become financially sustainable would maintain and/or increase funding. If successful, C-STES will need a part-time administrative assistant (which is included in the budget at 0.1 FTE, though this may change depending on the level of grant and event activity). C-STES will also need to locate office space on campus to house the administrative assistant and the Director as well as the Center's various activities.

6. Describe other similar Centers/Institutes or research capacities in the state and surrounding region.

The University of Montana at Missoula is home to The Mike and Maureen Mansfield Center, which includes the Mansfield Ethics and Public Affairs Program (MEPAP), which is charged with "conducting research and educational activities focusing on the relationship of values to institutions and public affairs" including both philosophical and practical dimensions of political ethics, and the issues of leadership and character in public service. Their center does not overly duplicate or compete with the proposed C-STES and Dr. Kristen Intemann has discussed the proposal for C-STES with MEPAP Director, Professor Dane Scott, as well as other members of the Department of Philosophy at U of M involved in this program. The focus of MEPAP is broader than our proposed Center, which will focus specifically on the ethical and social dimensions of science, technology, and medicine. Both Director Scott and members of the Philosophy Department expressed enthusiasm for our proposal and we are continuing to discuss possibilities for collaborating, particularly on issues including ethical issues related to nanotechnology, geoengineering, and philosophy of technology, where the University of Montana also has strengths and grant experience. We have discussed of having a collaborative grant writing workshop, as well as an intra-institutional speaker series to share insights.

Washington State University has The Thomas S. Foley Institute for Public Policy and Public Service, which is a public policy institute focused on speakers and events and supporting student internships in public service. They do not overlap in our emphasis on the ethical and social dimensions of science, technology, and medicine.

The University of Colorado, Boulder, is home to both the Center for Science and Technology Policy Research (which maintains a focus on policy), and the Center for Ethics and Responsibility (which is focused on business ethics and housed in the Leeds Business School). The Center for Ethics and Responsibility has a completely different focus related to business and neither science nor technology. The proposed C-STES is broader than that of the Center for Science and Technology Policy Research and will focus on research areas that are distinct. In general, C-STES will be unique from other STS Centers across the country in its focus on how science and technology impact rural communities.

A. Describe the relationship between the proposed Center/Institute and any similar Centers/Institutes, programs, or research capacities within the Montana University System.

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

There is currently no other center or institute that focuses specifically on the ethical and social implications of technology in the MUS. However, STES will complement the existing efforts of several other existing centers and institutes. The Mansfield Center for Ethics and Public Policy at the University of Montana has a broader ethics focus and has launched the Project on American Democracy and Citizenship. STES will be dedicated more directly to the ethical and social implications of science and engineering. As mentioned, Director Dane Scott has expressed interest in collaborating with STES and incorporating some of the insights that the Mansfield Center has generated in their projects related to ethics education. STES is also working with the Institute on Ecosystems (IoE), and Director Bruce Maxwell is a member of our Faculty Advisory Board. IoE is particularly interested in collaborating with STES in enhancing ethics education in STEM disciplines. At MSU, we are also collaborating with the Montana Engineering Education Research Center (MEERC) and Director Brock LaMeres is also on an Associate Director for C-STES. C-STES is likely to MSU's competitiveness on engineering ethics education grants, which complements MEERC's goals and objectives.

B. In cases of substantial duplication, explain the rationale for the proposed Center/Institute.

As noted above, we do not foresee substantial duplication with the Mike and Maureen Mansfield Center in Missoula but hope to develop collaborative activities and programming of relevance to the future initiatives of both campuses.

7. Assessment: How will the success of the center/institute be measured?

The success of the proposed Center's program will be measured through evaluations solicited from audience members and participants at relevant activities. Likewise, our success will be measured by the grants and funds we are able to raise, as well as the publications, workshops, and conferences we are able to develop during the proposed Center's first few years. We will also complete a report at the end of the academic year that outlines our activities and successes during that period, in relation to the specific goals and objectives listed above. As described above, STES will undergo an assessment by an external advisory review board every five years.

8. State the internal campus review and approval process which has occurred prior to submission to the Commissioner's Office. Indicate, where appropriate, involvement by faculty, students, community members, professional constituencies, etc.

Between fall 2018 and now, Director Kristen Internann has meet with a variety of MSU and MUS constituencies, partners, and community members to identify needs and challenges and receive feedback on the mission, goals, and activities planned for the Center. Meetings included: MSU Academic Technology and Outreach, MSU Science and Math Resource Center, The Office of Institutional Equity, The Office of Vice President for Research, Economic Development and Graduate Education, The Office of Research Compliance, The Center for Faculty Excellence, Native American Studies and the Native Land Project, The Doig Center for the Study of Western Lands and Peoples, The Institute on Ecosystems, The Montana Engineering Education Research Center, The Gianforte School of Computing, The Museum of the Rockies, The American Computer and Robotics Museum, The Bozeman Public Library, The MSU Alumni Foundation, The Gallatin Valley Friends of Science, The Bozeman Rotary Club, The Department of Philosophy at the University of Montana, and the Mansfield Center at the University of Montana.

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

In the Spring of 2019, as part of our Phase I funding, we held a campus-wide event for faculty and graduate students where we made a presentation of the mission, goals, and activities of the proposed center. At that event, we also conducted a survey of attendees to receive feedback, generate suggestions and ideas, and also collect information about the sorts of activities that might support the goals of the Center that faculty would be interested in participating in.

Also in Spring 2019, we made a presentation during the MSU Strategic Plan Charrette on the planned goals and activities of the Center and how they might advance the proposed Strategic Plan.

The proposed Center received an initial review and approval in summer 2019 by garnering a Phase II Humanities and Social Science Grant from the MSU Office of the VPRED, which provides funding for its first 3 years. The Dean of the MSU College of Letters and Science supports the proposed Center and has provided funds for various initiatives related to the proposed Center.

Our Intent to Plan was approved at all levels and by the Board of Regents in September 2019.

CAMPUS: Bozeman

AWARD LEVEL:

PROGRAM NAME: Center for Science, Technology, Ethics & Society

PROGRAM CODE:

		FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
ENROLLMENT P	ROJECTIONS					
Headcount						
annual unduplicated headcount of or minor within the program	students with declared major	0	0	0	0	0
Credit Hours						
annual avg. credits hours earned po curriculum	er student in program related	0	0	0	0	0
Student FTE			<u> </u>			
Undergrad: (Headcount x CH)/30 Graduate: (Headcount x CH)/24		0	0	0	0	0
Completions						
Annual number of program comple	eters	0	o	0	0	0
REVEN	IUE					
Tuition Revenue (net of waivers)		4-0.00		455.000	407.000	40- 00
Institutional Support		\$50,000	\$50,000	\$25,000 \$25,000	\$25,000 \$25,000	\$25,00 \$25,00
Other Outside Funds (grants, gifts, Program Tuition/Fees	etc.)			\$25,000	\$25,000	\$25,00
Total Rev	venue	\$50,000	\$50,000	\$50,000	\$50,000	\$50,00
Total Revenue pe		\$0	\$0	\$0	\$0	\$
EXPENDI	TURES					
	FTE	0.2	0.2	0.2	0.2	0.
Tenure Track Faculty	Salary + Benefits	\$18,098	\$18,098	\$18,098	\$18,098	\$18,09
Non-tenure Track Faculty	FTE					
*Includes Adjunct Instructors	Salary + Benefits					
Graduate Teaching Assistants	FTE	0.5	0.5	0.5	0.5	0.
Order Teaching / Issistants	Salary + Benefits	\$11,244	\$11,244	\$11,244	\$11,244	\$11,24
Staff (including student)	FTE	0.4	0.4	0.4	0.4	0.
	Salary + Benefits	\$4,417	\$4,417	\$4,417	\$4,417	\$4,41 1.
Total Faculty & Staff	FTE Salary + Benefits	\$33,759	\$33,759	\$33,759	\$33,759	\$33,75
A						
Operations (supplies, travel, rent, e	tc)	\$16,241	\$16,241	\$16,241	\$16,241	\$16,24
Start-up Expenses (OTO)						
Total Exp	enses	\$50,000	\$50,000	\$50,000	\$50,000	\$50,00
		0.0	0.0	0.0	0.0	0.0
Student FTE to Facult	y (TT + NTT) Ratio	0.0	0.0	0.0	0.0	

his/her recommendations to the Chief Academic Officer as necessary.

Campus Chief Financial Officer Signature

nief Financial Officer Comments		

18 of 39 November 2020 Level II Memorandum

INTENT TO PLAN FORM

Program/Center/Institute Title: Center for Science, Technology, Ethics & Society

Campus, School/Department: MSU-Dept. of History & Philosophy, College of Letters

and Sciences

Expected Submission Date: July, 2019

Contact Name/Info: Kristen Internann, kristen.internann@montana.edu

To increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit http://mus.edu/che/arsa/academicproposals.asp.

1) Provide a description of the program/center/institute.

The Center for Science, Technology, Ethics and Society (STES) will build on a broad base of interdisciplinary scholarship in Science and Technology Studies (STS) at Montana State University. The three main goals of the Center are: 1) to facilitate interdisciplinary research collaborations among faculty and students in different Colleges on the ethical and social implications of science and technology; 2) to improve resources for ethics education in STEM disciplines, for both undergraduate and graduate students; and 3) to enhance the broader impacts of research done in the MUS through public outreach aimed at increasing public understanding of the social implications of science and emerging technologies. MSU is the ideal place for such a center, due to our existing strengths in agricultural science and technology, biotechnologies, computer science (including AI), engineering, nursing, and information sciences. We also have faculty in the humanities and social sciences with significant expertise in STS, ethics, policy, and the public communication of science, as well as curricular options at both the graduate and undergraduate levels related to Science, Environment, Technology and Society. While there are STS centers at other universities, this center will occupy a special niche nationally by examining how science and technology can best meet the unique needs, interests, and challenges of rural communities. The activities scheduled in the upcoming months at MSU include a series of MSU faculty talks, a public lecture on the ethics of AI and autonomous vehicles, a workshop on CRISPR/gene editing, the Science that Matters Lecture Series at the Museum of the Rockies (a public lecture series funded by the College of Letters and Sciences and the MSU Alumni Foundation), a non-credit course offered to members of the public through MSU Academic Technology and Outreach about how to critically evaluate scientific and medical claims, a new interdisciplinary team-taught course on ethics of emerging technologies, the development of K-12 curriculum materials related to issues of privacy and cybersecurity; and an interdisciplinary grant writing workshop in spring 2021.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).

The STES Center will seek to meet three existing needs. First, there is a need for more research related to the social and ethical implications of science and technology so as to better understand the potential impacts (both positive and negative), and the ways those impacts may be distributed across communities. While scientists and engineers have the technical expertise to understand science and technology, STS scholars from the humanities and social sciences have the sort of expertise relevant to evaluate the likely ethical and social impacts of science

INTENT TO PLAN FORM

and technology within these contexts. Second, STES will increase and enhance resources for ethics education and training in STEM disciplines, for both graduate and undergraduate students. There is growing recognition that learning regulations and professional codes is not sufficient for ethical behavior and emerging technologies require a workforce that can think critically, recognize complex ethical issues, and formulate sound policy. Finally, while there are other STS Centers in the U.S., there are not any currently located in our region. Montana and other rural areas have unique needs and circumstances. From the possibility of using telemedicine in rural areas, to using gene editing to produce drought-resistant crops, to examining how technology might be used in avalanche prevention, STES will create opportunities for interactions among scientists, students, and the public, to increase public understanding of scientific and technological innovations and provide researchers with feedback from Montanans about their needs and concerns. Such opportunities will enable them to be more competitive in applying for local and national grants, as well as increasing students' future job opportunities.

3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.

As a land-grant institution, MSU has a special responsibility to foster understanding of "practical agriculture, science, military science, and engineering." Understanding the ethical and social implications of such sciences, and the technologies that they create and employ is vital to ensuring that such knowledge can be used in ways that make knowledge and innovation responsive to the needs, interests, and values of Montanans. STES integrates discovery, learning, and engagement by bringing together students, faculty, and community members who share a commitment to understanding science and technology and assessing how such knowledge can transform lives and communities in the people's interest. MSU is currently creating a new Strategic Plan. It includes fostering four "Grand Challenges of Montana." STES will directly engage in three of the four (Sustainable Food and Precision Agriculture, Brain Research and Mental Health, and Environment and Energy) and helping to achieve GOAL 2.2: "Expand interdisciplinary scholarship" which has the metrics and actions of "securing at least one new interdisciplinary training grant or center grant for each Grand Challenge area by 2024." The MSU departments that currently have a base of expertise in STS and who are currently participating in planning the activities of STES include Chemistry, Computer Science, Earth Sciences, Ecology, Electrical Engineering, English, Film and Photography, Health and Human Development, History and Philosophy, Land Resources, Library Sciences, Mathematical Sciences, Mechanical and Industrial Engineering, Microbiology and Immunology, Nursing, Plant Sciences and Plant Pathology, Political Science, and Sociology and Anthropology.

4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS.

There is currently no other center or institute that focuses specifically on the ethical and social implications of technology in the MUS. However, STES will complement the existing efforts of several other existing centers and institutes. The Mansfield Center for Ethics and Public Policy at the University of Montana has a broader ethics focus, and has launched the Project on American Democracy and Citizenship. STES will be dedicated more directly to the ethical and social implications of science and engineering. Director Dane Scott has expressed interest in collaborating with STES and incorporating some of the insights that the Mansfield Center has generated in their projects related to ethics education. STES is also working with the Institute on Ecosystems (IoE), and Director Bruce Maxwell is a member of our Faculty Advisory Board. IoE is particularly interested in collaborating with STES in enhancing ethics education in STEM disciplines. At MSU, we are also collaborating with the Montana Engineering Education Research Center (MEERC) and Director Brock LaMeres is also on the Faculty Advisory Board for STES. SEST is likely to enhance MEERC's competitiveness on engineering ethics education grants, as well as benefit from the research being done through STES.

INTENT TO PLAN FORM

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College/School Dean: July 19, 2019

Chief Academic Officer: 6 Workur 7/23/19

Chief Executive Officer: (1) (2) 23, 2019

Flagship Provost* Molaret 1/23/19

Flagship President*: Ullaryado 30/4 23, 2019

*Not applicable to the Community Colleges.

Date of Final Review:

When submitting the proposal to the BOR, include this signed form with the Level II request.

ACADEMIC PROPOSAL REQUEST FORM

November 19-20, 2020

ITEM 191-1010-R1120

Missoula			
Institution:	UM-Missoula	CIP Code:	
Program/Center/Institute Title:	L.S. Skaggs Institute for Health Inne	ovation	
Includes (please specify below):	Face-to-face Offering: Online C	Offering: Blended Offering:	
Options:			

Request for authorization to name the "L.S. Skaggs Institute for Health Innovation" – University of Montana –

Proposal Summary [360 words maximum]

The L.S. Skaggs Institute for Health Innovation in the Skaggs School of Pharmacy (SSOP) will consist of three primary components, each providing the potential for integration of direct clinical services for patients, support for healthcare professionals and healthcare institutions across Montana, experiential learning opportunities for trainees (students and fellows), and innovative opportunities for collaborative research:

- 1. An interprofessional telehealth effort will provide telehealth services across the state, while simultaneously providing hands-on training opportunities for Doctor of Pharmacy (PharmD) students and the opportunity to partner with other health professions (e.g. physical therapy, family medical residents) within the College of Health (CoH) as the Center grows. The Center will provide opportunities for interprofessional team-based care that would otherwise be inaccessible for many Montanans.
- 2. Precision medicine innovations—such as pharmacogenetics—will be integrated into clinical services in the Center and consultations will be offered statewide to healthcare professionals via telehealth and virtual access. The University of Montana (UM) is a leader in pharmacogenetics with rural and tribal populations. The Center will also provide new research opportunities to both graduate and health professions students in the areas of precision medicine, pharmacogenomics, and implementation science.
- 3. **Expansion of rural health outreach programs** will build upon our successful SSOP ImProving Health Among Rural Montanans (IPHARM) program, helping identify patients with poor access to healthcare services and connecting them to care. Mobile units will provide capacity to travel to rural communities for face-to-face care services by interprofessional teams of students and faculty. Patients identified through rural outreach and mobile services will be linked into local services and referred for follow-up care.

UM Policy Number UM_201.2 requires that the President of the University of Montana authorizes and submits all naming nominations for buildings and significant exterior spaces to the Board of Regents of the Montana University System.

The University of Montana President endorses the naming recommendation.

ACADEMIC PROPOSAL REQUEST FORM

The proposed name for the new Institute was announced through a press release on the University of Montana's website. Public feedback was solicited via three Zoom meetings and a Qualtrics survey that were posted on the University of Montana and OCHE/MUS websites. Feedback is included as attachments to this proposal.

ATTACHMENTS

Attachment #1 – Center and Institute Form

Attachment #2 - Request to Plan

Attachment #3 – Executive Summary of Gift

Attachment #4 - Memorandum from University of Montana President

Attachment #5 – Memorandum from College of Health Dean

Attachment #6 – Public Feedback (survey)

Attachment #7 - Public Feedback (meetings)

Please mark the appropriate type of request and submit with any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit http://mus.edu/che/arsa/academicproposals.asp.

A. Level I:
Campus Approvals
1a. Placing a postsecondary educational program into moratorium (Program Termination and Moratorium Form)
1b. Withdrawing a postsecondary educational program from moratorium
2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less
3. Establishing a B.A.S./A.A./A.S. area of study
4. Offering an existing postsecondary educational program via distance or online delivery
OCHE Approvals
5. Re-titling an existing postsecondary educational program
6. Terminating an existing postsecondary educational program (Program Termination and Moratorium Form)
7. Consolidating existing postsecondary educational programs (Curriculum Proposal Form)
8. Establishing a new minor where there is a major or an option in a major (Curriculum Proposal Form)
9. Revising a postsecondary educational program (Curriculum Proposal Form)

ACADEMIC PROPOSAL REQUEST FORM

		 10. Establishing a temporary C.A.S. or A.A.S. degree program Approval limited to 2 years
X_	<u>B. L</u>	evel II:
		1. Establishing a new postsecondary educational program (Curriculum Proposal and Completed Request to Plan Form)
		2. Permanent authorization for a temporary C.A.S. or A.A.S degree program (Curriculum Proposal and Completed Request to Plan Form)
		3. Exceeding the 120-credit maximum for baccalaureate degrees Exception to policy 301.11
	x	4. Forming, eliminating or consolidating an academic, administrative, or research unit (Curriculum or Center/Institute Proposal and completed Request to Plan, except when eliminating or consolidating)
		5. Re-titling an academic, administrative, or research unit

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

Research Centers and Institutes differ from one another in focus, scope, and staffing, but each contributes in unique ways to the common goals of expanding knowledge, generating new discoveries and/or having a positive impact on society through informing policy and systemic change. Communities of researchers and staff in Research Centers and Institutes provide a stimulating environment that encourages early researchers and challenges experienced researchers. Research Centers and Institutes also contribute to the education and training of the researchers of the future by serving as learning environments for students. Interdisciplinary collaboration is promoted by Research Centers and Institutes both within the Institution and among MUS Institutions. Research Centers and Institutes do not provide didactic coursework, confer academic degrees or academic certificates or require accreditation by external accrediting bodies. Research Centers and Institutes frequently provide a portal for obtaining external funding in response to federal and/or state research priorities. As such, apparent duplication of mission between MUS research centers and institutes is not generally problematic as with academic programs due to the different sources of funding.

1. State the proposed Institute/Center's name and purpose.

The L.S. Skaggs Institute for Health Innovation in the Skaggs School of Pharmacy (SSOP) will consist of three primary components, each providing the potential for integration of direct clinical services for patients, support for healthcare professionals and healthcare institutions across Montana, experiential learning opportunities for trainees (students and fellows), and innovative opportunities for collaborative research:

- 1. An interprofessional telehealth effort will provide telehealth services across the state, while simultaneously providing hands-on training opportunities for Doctor of Pharmacy (PharmD) students and the opportunity to partner with other health professions (e.g. physical therapy, family medical residents) within the College of Health (CoH) as the Institute grows. The Institute will provide opportunities for interprofessional team-based care that would otherwise be inaccessible for many Montanans.
- 2. <u>Precision medicine innovations—such as pharmacogenetics—</u>will be integrated into clinical services in the Institute and consultations will be offered statewide to healthcare professionals via telehealth and virtual access. The University of Montana (UM) is a leader in pharmacogenetics with rural and tribal populations. The Institute will also provide new research opportunities to both graduate and health professions students in the areas of precision medicine, pharmacogenomics, and implementation science.
- 3. Expansion of rural health outreach programs -- will build upon our successful SSOP ImProving Health Among Rural Montanans (IPHARM) program, helping identify patients with poor access to healthcare services and connecting them to care. Rural outreach programs will provide capacity to travel to rural communities for face-to-face care services by interprofessional teams of students and faculty and/or develop innovative telehealth interventions. Patients identified through rural outreach and mobile services will be linked into local services and referred for follow-up care.

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

2. A comprehensive statement of the Institute/Center's mission and its relationship to the University mission.

A. State the Institute/Center's mission.

The Institute's mission is to be a statewide hub for health education, research, and outreach to improve access to emerging health innovations for underserved populations.

B. Identify the Institute/Center's goals and objectives.

The overall goals are to establish and launch the L.S. Skaggs Institute for Health Innovation as a long-term sustainable entity to improve the health of Montanans and reduce healthcare disparities across the state. In addition, the Institute will serve as an enrichment platform for interprofessional education and research. The UM SSOP and CoH are embracing the opportunity to rethink our models of care and methods of training health professionals, with the future of healthcare and health innovations at the center of this vision.

Our objectives are to:

- 1. Provide SSOP pharmacy and graduate students with educational and research opportunities in the latest innovations in health, including telehealth and precision medicine.
- 2. Establish models of interprofessional training and provision of care to rural settings through clinical/experiential opportunities to students in the health professions, including integration of telehealth precision medicine services into care.
- 3. Enhance the SSOP and CoH outreach programs focused on community engagement and community-driven solutions to improving healthcare.
- 4. Support and develop partnerships with communities, clinics and healthcare systems, clinical specialists, researchers, and health initiatives across the state to establish innovative models to improve access to and quality of care.
- 5. Expand research on health outcomes associated with delivering and implementing telehealth and precision medicine to rural and tribal patients.
- 6. Create a sustainable model for the Institute's clinical services through the development of revenues from billing and reimbursement, extramural grants, and contracts from health systems and government agencies.

C. What specific need is being responded to in developing the proposed Institute/Center?

The SSOP will launch the L.S. Skaggs Institute for Health Innovation as an innovative statewide hub for education, research, and telehealth and precision medicine services true to CoH and SSOP missions. The SSOP has been working toward this vision for several years, and the challenges presented by the COVID-19 pandemic have demonstrated the urgent need for more equitable access to telehealth and precision medicine technologies, combined with leadership, innovation, and quality training opportunities in these areas.

With over 53% of Montanans living in rural areas and a population density of 6.9 people/mile², rurality poses unique challenges in providing healthcare throughout our state. Currently, 54 of 56 counties in Montana are designated as health professional shortage areas (HPSAs) (Designated HPSA Statistics, June 2020, HRSA; https://data.hrsa.gov/tools/shortage-area/hpsa-find), leaving many Montanans without access to basic health services. In a largely rural state

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

with a chronic shortage of healthcare professionals, many Montanans struggle to obtain the healthcare services they need. Despite having a higher burden of chronic, many rural Montanans do not have a primary care provider, and many have to drive significant distances to access clinical care. Access to specialty clinical services and the latest medical innovations remain further out of reach. Advances in precision medicine—utilizing a patient's genetics, lifestyle, and environment to guide care—promise to transform healthcare. The most readily adoptable tool of precision medicine—pharmacogenetics—uses a patient's genetic profile to select the safest and most effective medication(s). With >99% of patients carrying information in their genes that can be used to tailor medications, pharmacogenetic testing holds benefits for both healthcare systems and patients

(https://www.biorxiv.org/content/10.1101/2020.05.30.125583v2). Yet implementation of pharmacogenetics in clinical practice has been troublingly uneven, with rural and tribal communities being left almost entirely behind. Disparities may continue to worsen under current models of care, but pharmacists can help address shortfalls in primary care services, manage population health initiatives, and serve as essential experts in precision medicine and pharmacogenetics for rural and tribal Montanans.

D. Describe how the Institute/Center benefits the department, college, or institution.

The Institute will provide clinical training opportunities for PharmD students in telehealth and precision medicine, as well as developing future training programs and micro-credentials for practicing health professionals, and will expand to provide opportunities for training in interprofessional team-based care for CoH health professions students. Interprofessional experiences are requirements for PharmD program accreditation and for other health professions programs, and this Institute creates training and experiential opportunities for our students that are not always readily available.

The Institute provides a platform and collaborative opportunities for research and training for graduate and health professions students in the cutting-edge fields of precision medicine and telehealth. Precision medicine is a broad area of research that includes pharmacogenetics as previously described, but also includes discovering mechanisms of disease pathology, identifying sources of interindividual variability, and developing personalized therapeutics. UM is already a well-known leader in pharmacogenetics in rural and underserved populations and the Institute provides opportunities for broadening precision medicine research applications. Paired with the SSOP's established telehealth and rural outreach programs, the growth and integration of these programs with pharmacogenetic consultation services places UM SSOP as a leader in this innovative approach to improve access to care and reduce health disparities.

E. Describe the Institute/Center's relationship to the University mission.

Student Success: The SSOP prepares graduates (PharmD, MS, PhD) for rapidly changing fields of pharmacy and pharmaceutical sciences, and trains students to be highly skilled researchers and scholars, educators, and patient-centered healthcare providers. The SSOP and CoH have a longstanding commitment to recruiting and training American Indian students, and developing research programs to address health disparities in American Indian communities.

Excellence and Innovation: The Institute will expand access to telehealth and precision medicine across the state and train students in these rapidly developing areas. Exciting opportunities include teaching and learning using clinical simulation, tele-education, and new

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

experiential learning opportunities. The Institute is poised to be the first in the US to implement pharmacogenetic testing for rural and tribal populations, a program that will yield an enormous database for a myriad of future research projects.

"Mission First, People Always": the SSOP has a long history of partnering with Montana's rural and tribal communities, preparing trainees to provide high-level care and access to cutting-edge research, and remains committed to addressing health disparities and inequities. This new Institute will increase our capacity and outreach in these important areas.

Partner with Place: Building and maintaining strong partnerships with communities, healthcare systems, and state agencies is a cornerstone of our Institute. The SSOP has existing collaborations with several statewide clinical and pharmacy initiatives, utilizes healthcare systems as training sites for students, and has extensive ties with health systems serving high proportions of rural and underserved populations, including American Indian, pediatric, and geriatric patients across the state of Montana.

Proudly tell the UM story: The novel training opportunities of this Institute will be an excellent recruitment tool for professional and graduate students into our programs. As the first to launch precision medicine implementation in rural and tribal settings, UM will be a model for the country. The COVID-19 pandemic has highlighted the need for transitioning to telehealth to provide clinical services, and the UM will deliver innovative interprofessional experiential training to prepare health professions students for expanded scopes of work.

3. Briefly describe the Institute/Center's anticipated activities.

A. Identify faculty expertise available for participation in the Institute/Center's activities.

The Institute includes a multidisciplinary team of faculty representing several departments and programs across the CoH. As part of the central functions of the Institute, we will work to expand these collaborative partnerships to include faculty in other departments/colleges and other MUS campuses that share an interest in improving health access and innovation, particularly for rural and tribal populations.

The Institute founding faculty and their affiliations are indicated in the table below.

Faculty	Department/Unit	College
Erica Woodahl, Professor	SSOP/BMED	СоН
Hayley Blackburn, Assistant Professor	SSOP/PHAR	СоН
Marketa Marvanova, Professor and Dean	SSOP	СоН
Howard Beall, Dean Emeritus	SSOP	СоН
Rory Johnson, Assistant Professor	SSOP/PHAR	СоН
Chris Migliaccio, Research Associate Professor	SSOP/BMED	СоН

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

Rachael Zins, Clinical Assistant Professor	SSOP/PHAR	СоН
Darin Bell, Clinical Associate Professor	FMRWM	СоН
Jennifer Bell, Clinical Assistant Professor	PT	СоН

SSOP: Skaggs School of Pharmacy; BMED: Biomedical and Pharmaceutical Sciences; PHAR: Pharmacy Practice; FMRWM: Family Medical Residency of Western Montana; PT: Physical Therapy; CoH: College of Health

B. Which departments on campus will be involved and how will the Institute/Center contribute to the academic programs of the institution?

As indicated above several schools/departments will be initially involved in the Institute, including the SSOP (Department of Biomedical and Pharmaceutical Sciences and Department of Pharmacy Practice), the School of Physical Therapy and Rehabilitation Science, and the Family Medical Residency of Western Montana. Additionally, because of the Institute's focus on interdisciplinary collaboration, it has the potential to expand and create connections with other units across UM particularly those affiliated with the University of Montana Health and Medicine (UMHM) initiative, including the School of Speech, Language, Hearing and Occupational Sciences; School of Public and Community Health Sciences; School of Social Work; Department of Psychology; and Department of Public Administration and Policy. Research projects within the Institute will support graduate students in a variety of programs.

4. Identify the organizational structure of the Institute/Center within the institution.

Dr. Erica Woodahl – Professor in the SSOP, Department of Biomedical and Pharmaceutical Sciences – will serve as the Director of the Institute. The Institute will report to the Dean of the SSOP and the Dean of the CoH.

A. Identify all agencies, organizations and/or institutions that will be involved.

The Institute will be housed within the CoH as a part of the SSOP. Partnerships within the UM, MUS, and across the state will be developed as the Institute is established and programs begin to grow. Key partners include:

- Confederated Salish and Kootenai Tribes
- CostCare
- Kalispell Regional Healthcare
- Montana Department of Health and Human Services
- Montana Geriatric Education Center
- Montana Hospital Association
- Montana Primary Care Association
- Montana Telehealth Alliance
- Partnership Health Center
- Shodair Children's Hospital
- University of Montana Health and Medicine

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

B. Identify advisory council information.

The Institute will form an External Advisory Board composed of experienced leaders in the fields of pharmacogenomics, precision medicine, telehealth, and tribal health and long-time community collaborators that are essential for the Institute's missions.

EAB Member	Position/Experience	Relevance to the Institute
Russ Altman, M.D., Ph.D.	Kenneth Fong Professor of Bioengineering, Genetics, Medicine, Biomedical Data Science, Stanford University, Palo Alto, CA	Dr. Altman is a world-renowned expert in pharmacogenomics and informatics (e.g. artificial intelligence and data science). Dr. Altman and Dr. Woodahl have collaborated on a machine learning project for pharmacogenetics that is under review. Dr. Altman consults on pharmacogenetics through his practice at Stanford and also serves as an expert on national and international implementation efforts.
Howard Beall, Ph.D.	Dean Emeritus, Skaggs School of Pharmacy, University of Montana, Missoula, MT	Dr. Beall was the former Dean of the Skaggs School of Pharmacy and was instrumental in launching this Institute through developing relations with The ALSAM Foundation.
Abdallah F. Elias, M.D.	Director, Department of Medical Genetics, Shodair Children's Hospital, Helena, MT	Montana's premier provider of psychiatric treatment for children and adolescents and comprehensive genetic services for people of all ages. Dr. Elias and Dr. Woodahl are long-term collaborators in the implementation of pharmacogenetics.
Jody Haines, M.H.A., F.A.C.H.E.	President, Montana Telehealth Alliance	Jody Haines has been a leader in Montana telehealth initiatives for many years, and has served as President of the Montana Telehealth Alliance since 2018.
LeeAnna Muzquiz, M.D.	Family Physician, Confederated Salish and Kootenai Tribes (CSKT), Tribal Health Department, St Ignatius, MT and Admissions Dean, School of Medicine, University of Washington, Seattle, WA	Dr. Muzquiz has been a Family Physician and former Medical Director for the CSKT Tribal Health Department for over 16 years. Dr. Muzquiz and Dr. Woodahl have worked closely for more than 13 years to establish the first partnership in the US to include American Indian patients in precision medicine and pharmacogenetics research.
TBD	Two members of the SSOP External Advisory Board (previously known as the Board of Visitors)	
TBD	Philanthropic partner identified in collaboration with the UM Foundation	

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

5. Identify first year and continuing finances necessary to support the Center/Institute, including the sources of funding.

The Institute will be launched with philanthropic support from The ALSAM Foundation that has committed \$8M to the Institute, pending a \$2M match. The budget for this proposal describes the use of this \$10M over a 5-year period to support new construction, initial start-up personnel, and operations. This will include faculty/staff to support teaching, research, community outreach, and clinical services provided by the Institute, as well as staff to support the administrative and technical demands of this endeavor. Investments in new building space, equipment, and infrastructure will be required to accommodate growth in program operations.

A primary goal of the Institute is to develop long-term plans for financial sustainability and growth to extend beyond the initial \$10M in philanthropic support detailed in this proposal. Towards that end, UM SSOP faculty have been working with UM Blackstone LaunchPad to develop a business model and sustainability plan to project revenues for the Institute. The Institute will have multiple sources of revenue, including billing and reimbursement for pharmacogenetic consultations and telehealth services through fees and contracts with health systems and insurance providers The Institute will also generate income by developing continuing education and micro-credential opportunities. SSOP faculty have a strong history of securing grant funding for research including current funding from the National Institutes of Health (NIH), Department of Health and Human Services (DPHHS), and Montana Geriatric Education Center (MTGEC) that support precision medicine and telehealth work within this Institute. We also have a grant pending to the Federal Communications Commission (FCC) COVID-19 Telehealth Program that would support Institute activities. The Institute will continue to seek opportunities for additional extramural funding through grants and contracts, including the NIH, DPHHS, Human Resources & Services Administration (HRSA), and foundations such as the Montana Healthcare Foundation and Headwaters Foundation. Philanthropic support for the Institute will be a continued priority for the UM Foundation. We anticipate that the Institute will become sustainable within five years, and projections generated with help from the Blackstone LaunchPad demonstrate a potential revenue of \$1M to \$1.5M annually to support and grow Institute programs. New faculty and staff will be added as appropriate to meet the needs of the Institute as it grows.

A. Will additional faculty and other resources be required to implement this Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.

No other faculty or resources are requested beyond the philanthropic gift from The ALSAM Foundation and the attached budget detail.

B. Are other, additional resources required to ensure the success of the proposed Center/Institute? If yes, please describe the need and indicate the plan for meeting this need.

The Institute has the potential for explosive growth serving unmet needs for Montanans, improving health outcomes and reducing healthcare disparities across the state. This is particularly evident in the implementation of pharmacogenetics and other precision medicine innovations where health systems in the state have not implemented pharmacogenetics into routine clinical care, yet they are eager for the guidance and consultation this Institute will provide. This need is even more critical in rural and tribal communities.

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

Additionally, the COVID-19 pandemic has illuminated the urgent need for more equitable access to healthcare provided by telehealth. Comprehensive telehealth services may be most beneficial for those patients living in rural and underserved communities. Expansion of our successful SSOP ImProving Health Among Rural Montanans (IPHARM) program represents an area of opportunity for new grants and contracts to assist in efforts to improve access to healthcare in Montana.

- 6. Describe other similar Centers/Institutes or research capacities in the state and surrounding region.
 - A. Describe the relationship between the proposed Center/Institute and any similar Centers/Institutes, programs, or research capacities within the Montana University System.

Several MUS Centers/Institutes are oriented toward research and program development to reduce health disparities and to develop a healthcare workforce to meet the needs of rural Montana. These do not significantly overlap in scope with the proposed Institute, but represent exciting opportunities for future collaborations and partnerships in areas of mutual interest. These Centers/Institutes include the following:

- UM Rural Institute for Inclusive Communities (RIIC) is funded through the U.S. Administration for Community Living and is committed to creating better lives for rural people with disabilities (http://ruralinstitute.umt.edu/). The RIIC will serve as an important resource for our Institute that plans to work within some of the rural communities in which RIIC is already engaged. Dr. Woodahl has had several meetings with Meg Traci, Research Associate Professor in RIIC, about the importance of including diverse populations into precision medicine research and was featured on a RIIC blog post on the subject: http://ruralinstitute.umt.edu/398-people-aren-t-one-size-fits-all-erica-woodahl-pioneers-precision-medicine-in-montana.
- UM Center for Population Health Research (CPHR) supports state-of-the-art approaches for identifying, modifying, and testing intervention strategies applicable to the health of children residing in rural communities (http://health.umt.edu/cphr/default.php). While our proposed Institute does not focus in this area, researchers within CPHR may serve as important partners for developing rural networks and leveraging the expertise contained within each of our programs through multidisciplinary collaboration.
- **MUS IPE Institute**, co-led by UM and MSU, works to enhance interprofessional education (IPE) and collaborative health care practice throughout the state, and serves as a centralized IPE resource for students and educators (https://www.umt.edu/umhm/interprofessional-education-montana/default.php). We intend to work closely with the IPE Institute as we plan to offer training opportunities for multiple health disciplines within the context of the Institute. Dr. Blackburn serves on the IPE Clinical and Simulation Committee for the IPE Institute as a representative from the CoH.
- MSU Center for American Indian and Rural Health Equity (CAIRHE) supports community-based participatory research projects, primarily with Montana's American Indian communities (http://www.montana.edu/cairhe/projects/index.html). Dr. Woodahl has conducted community-based participatory research projects with the CSKT community for 13 years, but her work does not overlap with the goals of the CAIRHE. Dr. Woodahl has existing relationships with CAIRHE leaders and looks forward to learning from their expertise as the Institute expands beyond the Flathead Reservation to other tribal communities in Montana.
- The American Indian/Alaska Native Clinical and Translational Research Center (AIANCTR) is a consortium of 7 institutions (including UM and MSU) to explore the health disparities in Native communities in Alaska and Montana (https://www.montana.edu/aian/). The AIANCTR allocates

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

substantial resources to support pilot research projects across both states focused on the health of Native people. Dr. Woodahl's research has been supported by these pilot projects in the past, but there is no overlap in the scope of work.

While there are other entities in the West with similarities in their focus on rural health or precision medicine, the Institute is unique in its integration of precision medicine, telehealth, and interprofessional education to address rural health challenges. These regional Centers/Institutes may also represent opportunities for future partnership and collaboration, but do not directly compete with or duplicate the mission of the Institute:

- Colorado Center for Personalized Medicine (https://www.cobiobank.org/) is building a Biobank for research participants to donate a genetic sample to the Biobank where it is linked to their electronic health record within the University of Colorado (UC) Health system. Researchers can access this Biobank and use the data to address questions about how genetics can affect health outcomes. There is no direct benefit to participants for contributing to the Biobank, which is a contrast to our Institute which will use genetic data to directly guide prescribing for patients. The UC Anschutz Medical Campus has implemented pharmacogenetics into the UC Health system, however, implementation in an academic medical center is very different than in the health systems that the Institute is partnered with in Montana. Dr. Woodahl has relationships with UC researchers and looks forward to learning about their experiences and we move towards implementation in Montana.
- University of Washington (UW) Institute of Translational Health Research
 (https://www.iths.org/) is dedicated to translating basic science research into clinical practice for the benefit of patients in the Washington, Wyoming, Alaska, Montana, Idaho (WWAMI) region. Dr. Woodahl served in the ITHS Regional Collaborations Workgroup for years and has several colleagues active within ITHS. The UW does not have a pharmacogenetics implementation program, but SSOP faculty look forward to continuing research collaborations with UW faculty and developing new areas of synergy.
- The **WWAMI Rural Health Research Center** (http://depts.washington.edu/uwrhrc/index.php) based in the Department of Family Medicine at the UW School of Medicine, and focuses on rural health research, access to care, and workforce development, but does not focus its efforts on pharmacogenetics or other pharmacist-driven telehealth initiatives.
- Idaho State University Institute of Rural Health (https://www.isu.edu/irh/) is also focused on improving health outcomes through a multifaceted approach to research, education, and service, but does not have a presence in Montana and does not specifically focus on pharmacogenetic implementation or interprofessional workforce development.
- B. In cases of substantial duplication, explain the rationale for the proposed Center/Institute.

Not applicable.

7. Assessment: How will the success of the center/institute be measured?

Measurement of success of the Institute will be measured by its achievements in each of the following core areas of its mission:

- **Education/Training:** Success in this area will be measured through quantitative measures (e.g., number of students and fellows participating in experiential/clinical opportunities, number of

RESEARCH CENTER AND INSTITUTE PROPOSAL FORM

health professions served, learning outcomes, micro-credentials granted, etc.), and through qualitative feedback from faculty, clinical personnel, and trainees.

- **Research/Scholarship**: Success in this area will be measured through the number of extramural grants, publications, abstracts, and presentations related to the work of the Institute in peer-reviewed arenas. Growth in the number of research faculty, collaborations, and graduate students will also be used to track success.
- Outreach/Clinical Services: Success in this area will be measured through quantitative and qualitative measures, such as number of communities/patients served, patient demographics, number of clinical services offered, acceptance rate of clinical recommendations, and feedback from partners and those being served by the Institute. Metrics will be developed to ensure clinical services are delivered to rural and tribal communities.

Additionally, revenues and other quantitative indicators of sustainability and potential for growth (e.g., number of contracts/partnerships) will be monitored closely by the Director and the External Advisory Board as a measure of success and a guide for expanding the breadth and scope of efforts.

8. State the internal campus review and approval process which has occurred prior to submission to the Commissioner's Office. Indicate, where appropriate, involvement by faculty, students, community members, professional constituencies, etc.

Only one application to The ALSAM Foundation is allowable per institution.

- The proposal to The ALSAM Foundation has been in development for the past 18 months in consultation with key stakeholders within the UM CoH and around the state of Montana. UM President Seth Bodnar, Dean of the SSOP Dr. Howard Beall (now retired), and CoH Director of Development Tim Sorensen traveled to Salt Lake City, UT several times to meet with Ronny Cutshall, the President of The ALSAM Foundation, to ensure that our proposed Institute met the mission of The ALSAM Foundation.
- After being invited to submit a full application, we submitted a final proposal in December 2019.
- On February 12, 2020, a team led by SSOP faculty Drs. Erica Woodahl, Hayley Blackburn, and Dr. Howard Beall pitched the proposal to The ALSAM Foundation with President Bodnar, Dr. Reed Humphrey (at that time Dean of the CoH), and Mr. Sorensen.
- On February 14, 2020, The ALSAM Foundation notified President Bodnar that they would make an \$8M gift to establish the Institute pending a \$2M match from outside funding (e.g. grants, contracts, other philanthropic support).

REQUEST TO PLAN FORM

ITEM 190-1007-R0920

September 2020

Item Name

Skaggs Center for Telehealth and Precision

Medicine**

Program/Center/Institute Title: **Note: name is tentative and contingent on

approval by philanthropic donor, The ALSAM Foundation (a foundation of the Skaggs Family)

University of Montana Skaggs School of Campus, School/Department:

Pharmacy

Expected Final Submission Date:

Planned 6-digit CIP code: **51.2001**

November

Erica Woodahl, Ph.D.; Professor, Department of Biomedical and Pharmaceutical Sciences; Skaggs School of Pharmacy; erica.woodahl@umontana.edu; (406) 243-4129

Hayley Blackburn, PharmD; Assistant Professor, Department of Pharmacy Practice; Skaggs Contact Name/Info: School of Pharmacy; hayley.blackburn@umontana.edu; (406) 243-6769

Marketa Marvanova, PharmD, PhD, BCGP, BCPP, FASCP; Dean, Skaggs School of Pharmacy;

marketa.arvanova@umontana.edu; (406) 243-5112

This form is meant to increase communication, collaboration, and problem-solving opportunities throughout the MUS in the program/center/institute development process. The completed form should not be more than 2-3 pages. For more information regarding the program/center/institute approval process, please visit http://mus.edu/che/arsa/academicproposals.asp.

1) Provide a description of the program/center/institute.

The Skaggs Center for Telehealth and Precision Medicine in the Skaggs School of Pharmacy (SSOP) will consist of three primary components, each providing the potential for integration of direct clinical services for patients, support for healthcare professionals and healthcare institutions across Montana, experiential learning opportunities for trainees (students and fellows), and innovative opportunities for collaborative research:

- 1. An interprofessional telehealth effort will provide telehealth services across the state, while simultaneously providing hands-on training opportunities for Doctor of Pharmacy (PharmD) students and the opportunity to partner with other health professions (e.g. physical therapy, family medical residents) within the College of Health (CoH) as the Center grows. The Center will provide opportunities for interprofessional team-based care that would otherwise be inaccessible for many Montanans.
- 2. <u>Precision medicine innovations</u>—such as pharmacogenetics—will be integrated into clinical services in the Center and consultations will be offered statewide to healthcare professionals via telehealth and virtual access. The University of Montana (UM) is a leader in pharmacogenetics with rural and tribal populations. The Center will also provide new research opportunities to both graduate and health professions students in the areas of precision medicine, pharmacogenomics, and implementation science.
- 3. Expansion of rural health outreach programs will build upon our successful SSOP ImProving Health Among Rural Montanans (IPHARM) program, helping identify patients with poor access to healthcare services and connecting them to care. Mobile units will provide capacity to travel to rural communities for face-to-face care services by interprofessional teams of students and faculty. Patients identified through rural outreach and mobile services will be linked into local services and referred for follow-up care.

REQUEST TO PLAN FORM

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student, state, and workforce demands. (Please cite sources).

The SSOP will launch the Skaggs Center for Telehealth and Precision Medicine as an innovative statewide hub for education, research, and telehealth and precision medicine services true to CoH and SSOP missions. The SSOP has been working toward this vision for several years and the challenges presented by the COVID-19 pandemic have demonstrated the urgent need for more equitable access to telehealth and precision medicine technologies, combined with leadership, innovation, and quality training opportunities in these areas.

With over 53% of Montanans living in rural areas and a population density of 6.9 people/mile², rurality poses unique challenges in providing healthcare throughout our state. Currently, 54 of 56 counties in Montana are designated as health professional shortage areas (HPSAs) (Designated HPSA Statistics, June 2020, HRSA; https://data.hrsa.gov/tools/shortage-area/hpsa-find), leaving many Montanans without access to basic health services. In a largely rural state with a chronic shortage of healthcare professionals, many Montanans struggle to obtain the healthcare services they need. Despite having a higher burden of chronic, many rural Montanans do not have a primary care provider, and many have to drive significant distances to access clinical care. Access to specialty clinical services and the latest medical innovations remain further out of reach. Advances in precision medicine—utilizing a patient's genetics, lifestyle, and environment to guide care—promise to transform healthcare. The most readily adoptable tool of precision medicine—pharmacogenetics—uses a patient's genetic profile to select the safest and most effective medication(s). With >99% of patients carrying information in their genes that can be used to tailor medications, pharmacogenetic testing holds benefits for both healthcare systems and patients (https://www.biorxiv.org/content/10.1101/2020.05.30.125583v2). Yet implementation of pharmacogenetics in clinical practice has been troublingly uneven, with rural and tribal communities being left almost entirely behind. Disparities may continue to worsen under current models of care, but pharmacists can help address shortfalls in primary care services, manage population health initiatives, and serve as essential experts in precision medicine and pharmacogenetics for rural and tribal Montanans.

The Center will provide training opportunities for PharmD students in telehealth and precision medicine, as well as developing future training programs for practicing professionals, and will expand to provide opportunities for training in interprofessional team-based care for CoH health professions students. Interprofessional experiences are requirements for PharmD program accreditation and for other health professions programs, and this Center creates a training and experiential opportunities for our students that are not always readily available.

3) Describe any significant new resources (financial, staff, facility, new curricula) needed to launch and sustain the program/center/institute.

A recent philanthropic commitment of \$8M has been made for the construction of a new addition to the Skaggs building on the UM campus, which will house the Skaggs Center for Telehealth and Precision Medicine, with another \$2M that will be secured through additional philanthropic and grant support. Establishing the Center will require hiring full- and part-time staff (e.g. program manager, IT personal, and bioinformaticist) and additional strategic faculty, staff, and fellow positions will be added based upon future growth of the Center.

This Center will not result in significant curricular changes, but will expand and enhance current experiential learning and training opportunities and available clinical rotations within our existing PharmD curriculum.

4) Describe any efforts or opportunities you have identified for collaboration either within the institution or between MUS institutions (i.e. articulation, course-sharing, research collaboration).

Within the SSOP, this Center will build on collaborations between the Department of Biomedical and Pharmaceutical Sciences and the Department of Pharmacy Practice and will provide opportunities for students in

REQUEST TO PLAN FORM

the PharmD program and the Pharmaceutical Sciences and Drug Design graduate program. CoH programs prepare students, residents, and fellows to serve in the health professions and train graduate students in cutting-edge biomedical research. The CoH mission is to promote UM as a leader in the training of an interprofessional healthcare and research workforce that can address health disparities in rural and underserved communities in Montana, culturally proficient education, and community interactions and engagements. The establishment of this Center provides future opportunities for collaborations between these programs.

The SSOP is a leading partner in the campus-wide UM Health & Medicine (UMHM) initiative that serves to bridge health-related studies and develop external partnerships to help identify state workforce, technology, and innovation needs. UMHM is heavily focused on interprofessional education, and this Center will provide students with vital tools to work collaboratively within a rapidly changing healthcare landscape. The growing prevalence of telehealth and tele-education will allow for even more cross-unit and cross-campus collaboration for students and faculty, as they will be able to work with partners who are leveraging similar technology and engaging in other efforts to address rural health disparities. We envision the potential for future collaborations and partnerships with other units on campus, other health professions programs within MUS, state agencies, and health systems to promote workforce development and engage in innovative programs and research.

5) Describe how the program/center/institute fits with the institutional mission, strategic plan, existing institutional program array, and academic priorities as described in the most recent Academic Priorities and Planning Statement.

Student Success: The SSOP prepares graduates (PharmD, MS, PhD) for rapidly changing fields of pharmacy and pharmaceutical sciences, and trains students to be highly skilled researchers, educators, and patient-centered healthcare providers. The CoH has a longstanding commitment to recruiting and training American Indian students, and developing research programs to address health disparities in American Indian communities.

Excellence and Innovation: The Center will expand access to telehealth and precision medicine across the state and train students in these rapidly developing areas. Exciting opportunities include teaching and learning using simulation, tele-education, and new experiential learning opportunities. The Center is poised to be the first in the US to implement pharmacogenetic testing for rural and tribal populations, a program that will yield an enormous database for a myriad of future research projects.

"Mission First, People Always": the SSOP a long history of partnering with Montana's rural and tribal communities, preparing trainees to provide high-level care and access to cutting-edge research, and remains committed to addressing health disparities and inequities. This new Center will increase our capacity and outreach in these important areas.

Partner with Place: Building and maintaining strong partnerships with communities, healthcare systems, and state agencies is a cornerstone of our Center. The SSOP has existing collaborations with several statewide clinical and pharmacy initiatives, utilizes healthcare systems as training sites for students, and has extensive ties with health systems serving high proportions of rural and underserved populations, including American Indian, pediatric, and geriatric patients across the state of Montana.

Proudly tell the UM story: The novel training opportunities of this Center will be an excellent recruitment tool for professional and graduate students into our programs. As the first to launch precision medicine implementation in rural and tribal settings, UM will be a model for the country. The COVID-19 pandemic has highlighted the need for transitioning to telehealth to provide clinical services, and the UM will deliver innovative interprofessional experiential training to prepare health professions students for expanded scopes of work.

REQUEST TO PLAN FORM

Signature/Date	
Chief Academic Officer:	
Chief Research Officer*: 7/23/2020	
Chief Executive Officer:	
Flagship Provost**: Led Humplury D3FE78AF0D42425	
Flagship President**: Sulu Boduar	
*Center/Institute Proposal only	
**Not applicable to the Community Colleges	

Montana University System REQUEST TO PLAN – OCHE ANALYSIS

ITEM 190-1007-R0920

ITEM NAME: Skaggs Center for Telehealth and Precision Medicine

OCHE ANALYSIS						
Labor market outlook	N/A					
	While there are other MUS centers which also work on issues of rural health, telemedicine, precision medicine, and interprofessional education, the proposed centers activities, in OCHE's judgment, compliment rather than detract from these other efforts.					
	 MUS Institute for Interprofessional Education and Collaborative Practice in Health and Medicine 					
Related programs / centers / institutes	 MSU-Bozeman Montana Area Health Education Center Montana Office of Rural Health Center for American Indian and Rural Health Equity 					
	 UM-Missoula Center for Population Health Research Neural Injury Center National Native Children's Trauma Center Rural Institute: A Center for Excellence in Developmental Disabilities 					
Budget Impact	LOW	MEDIUM	opinental bi	HIGH		
	Only incidental costs		X	substantial commitment of resources relative to institutional budget		
	A recent philanthropic commitment of \$8M has been made for the construction of a new addition to the Skaggs building on the UM campus, which will house the Skaggs Center for Telehealth and Precision Medicine, with another \$2M that will be secured through additional philanthropic and grant support. Establishing the Center will require hiring full- and part-time staff (e.g. program manager, IT personal, and bioinformaticist) and additional strategic faculty, staff, and fellow positions will be added based upon future growth of the Center.					
CAO discussion and follow-up	OCHE noted that there could be good opportunities for research collaboration between the proposed Center, Montana's active INBRE program, and Montana AHEC.					
ARSA/BOR comment and direction for Level II proposal						

^{**}NOTE** Due to the use of an honorific name, the Level II paperwork for this proposal will return for BOR review at a future meeting. The materials submitted for BOR review will include a summary of comment received from the public in accordance with BOR policy 1004.1 "Naming of Buildings"

Executive Summary: Gift from The ALSAM Foundation to the University of Montana

During their lifetime, Samuel and Aline Skaggs understood that universities are vital to educating healthcare practitioners, advancing scientific research, and enhancing clinical practice and services. As the former head of Pay Less Drug Stores and Skaggs Drug Centers, Sam Skaggs is credited as being the first to combine food and drug retailing to create the modern superstore. Montana was the third state in which Mr. Skaggs expanded his successful business, leading the Skaggs family to feel a great fondness for this incredible state. Through that connection, the Skaggs family has generously supported the state's only Doctor of Pharmacy program, directing private support toward the construction of the Skaggs Building on the University of Montana campus and the creation of the Skaggs Scholars program in the Skaggs School of Pharmacy.

The original Skaggs Building composes the core of the College of Health, and acts as one of the University's most important research and health professions training facilities. Opened in 1999, with a substantial addition made in 2007, this building houses a diverse range of schools and programs, including the Skaggs School of Pharmacy, which includes the Department of Biomedical and Pharmaceutical Sciences and the Department of Pharmacy Practice. The Skaggs Building also houses the School of Physical Therapy and Rehabilitation Science, the School of Public and Community Health Sciences, and the Center for Translational Medicine, among others. With support from the Skaggs family, health science education and research within the College of Health has become nationally ranked and recognized.

Sam and Aline Skaggs created The ALSAM Foundation to ensure that their generosity could continue long after their passing. Headquartered in Salt Lake City, The ALSAM Foundation's philanthropic giving focuses on supporting pharmacy education and research throughout the western United States, empowering pharmacists, and serving tribal communities. In 2020, The ALSAM Foundation Board—led by President Ronny Cutshall and consisting of several relatives of Sam and Aline Skaggs—offered a generous \$8 million gift to the Skaggs School of Pharmacy at the University of Montana to enhance pharmacy education, research, and clinical services to improve access to healthcare throughout the state.

This gift will create an Institute which will promote the expansion of UM's telehealth programs for rural and tribal populations and allow Montanans to benefit from new and innovative medical advancements such as pharmacogenomics and precision medicine. With over 53% of Montanans living in rural areas and a large tribal population in the state, these new approaches to deliver health innovations and improve access to care will help address health disparities in underserved communities.

About the Skaggs School of Pharmacy

The Skaggs School of Pharmacy is a national leader in research and education, and is consistently considered among the top 50 Pharmacy Schools in the country. In the last 25 years, the pharmacy program has grown from offering only a Bachelor of Pharmacy degree to offering a Doctor of Pharmacy (Pharm.D.) degree, Ph.D. and M.S. degrees in three biomedical and pharmaceutical science graduate programs, and three dual-degrees (PharmD/MS, PharmD/MPH, and PharmD/MBA). The School is very active in community outreach, basic and clinical research, interprofessional training, and delivery of innovative clinical services to Montanans.

MEMORANDUM

FROM: Marketa Marvanova, Acting Dean, College of Health

TO: Montana University System Board of Regents

DATE: August 12, 2020

RE: Proposal to Name the Skaggs Building Addition

As Acting Dean of the College of Health and Dean of the Skaggs School of Pharmacy at the University of Montana, I would like to offer full support for the proposal to build and name an addition to the existing Skaggs Building on the University of Montana Mountain Campus in Missoula. Like for the original building, I believe it is appropriate to recognize the generosity of Samuel and Aline Skaggs by naming this addition in their honor through the creation of the tentatively named Skaggs Institute for Telehealth and Precision Medicine.

The Skaggs Institute for Telehealth and Precision Medicine will serve as a central hub through which pharmacy and other health professions students will be trained on cutting-edge health technologies and innovative clinical service delivery. In addition to its educational purpose, one of the primary missions of the Institute will be to provide telehealth services and precision medicine consultations to Montanans, especially those in rural and tribal communities, who lack access to these services despite needing them most. The Institute will allow pharmacy students within the Skaggs School of Pharmacy to be exposed to hands-on interprofessional education and provide clinical services to communities throughout the state. The Institute will provide the School of Pharmacy and College of Health with new avenues through which to expand its mission as the state's leading educator of health professionals and to contribute to improved health outcomes and access to care for Montanans via outreach and clinical services

Sam and Aline Skaggs made their first gift to the University of Montana 25 years ago. In the years since, their support for facilities and scholarships grew to total over \$11 million and breathed new life into what has become the Skaggs School of Pharmacy. Though Sam and Aline have both passed, this generosity continued in 2020, when The ALSAM Foundation made an additional contingent pledge of \$8 million for an addition to the Skaggs Building, which would create an oncampus hub for telehealth and precision medicine training and outreach and clinical services.

It is through the ongoing support of Skaggs family and The ALSAM Foundation that the Skaggs School of Pharmacy has continued to thrive in providing Doctor of Pharmacy education and clinical services. The Foundation's latest \$8 million commitment will be used to fund the brick and mortar elements of the Skaggs Institute for Telehealth and Precision Medicine. Therefore, I fully and strongly support naming the building in honor of the Skaggs family, as their many gifts have enabled the Skaggs School of Pharmacy and the College of Health to become regional and national leaders in health education and innovative clinical services.

Sincerely,

Marketa Marvanova

Professor and Dean, Skaggs School of Pharmacy

Acting Dean, College of Health



Date:

August 14, 2020

To:

Montana University System Board of Regents

From:

Seth Bodnar, President

RE:

Proposal to Name the Institute for Telehealth and Precision Medicine

The Skaggs family has had a remarkable impact on the University of Montana with its decades-long commitment to our nationally recognized pharmacy program. The family's most recent gift funds an addition to the Skaggs Building that will house an innovative new precision medicine program. In recognition of this generous gift, I offer my full support for the proposal to name the addition and the program it houses the Skaggs Institute for Telehealth and Precision Medicine.

This Institute will transform the way we deliver medicine and health care information, especially in rural communities. The Institute's research and outreach will serve as a catalyst for other health care entities and will elevate UM's prominence and recognition in this field.

Through their ALSAM Foundation, Samuel and Aline Skaggs' ongoing, generous commitment to UM's pharmacy and health care programs calls for the type of recognition being proposed with this naming.

Since 1995, the Foundation has partnered with UM to provide philanthropic support for UM's pharmacy program and students. The ALSAM Foundation supported the initial construction of the Skaggs Building, as well as additions to the building. It also provided a permanent endowment to support the Skaggs Scholars program for Native American and underrepresented students in UM's pharmacy school. ALSAM support allowed the Skaggs School of Pharmacy to add degree offerings, including a Doctor of Pharmacy degree, to graduate more than 1,500 pharmacists since 1990 and to excel in biomedical and pharmaceutical research.

UM is proud to bear the Skaggs name on our pharmacy school as one part of this family's long and regionally important legacy of philanthropic giving to support health care, higher education and local communities. Thousands of students and faculty, as well as the western Montana community, have already benefited from the pharmacy program. For years to come, students and communities will continue to benefit from the new Skaggs Institute for Telehealth and Precision Medicine.

The University of Montana proudly shares the Skaggs' belief that we must provide a robust education for the students of today and tomorrow. Our University is positioned as the flagship for America's future, fostering inclusive prosperity, expanding the boundaries of human knowledge and sustaining American democracy. We are grateful to donors like the ALSAM Foundation and the Skaggs family who bolster research, education and outreach through generous private giving. Thank you for your thoughtful consideration of this important request for the University of Montana.

L.S. Skaggs Institute for Health Innovation

Public comments were solicited by three Zoom meetings:

Wednesday, September 23, 2020 3-4 pm (students) Friday, September 25, 2020 3-4 pm (faculty/staff) Tuesday, September 29, 2020 3-4 pm (general public)

https://umontana.zoom.us/j/97637361355

Zoom meetings were attended by

- Hayley Blackburn, Assistant Professor, Skaggs School of Pharmacy
- Marketa Marvanova, Dean, Skaggs School of Pharmacy, Acting Dean College of Health
- Erica Woodahl, Professor, Skaggs School of Pharmacy

No public comments were given.

L.S. Skaggs Institute for Health Innovation

Public comments were solicited by an online Qualtrics survey: https://bit.ly/2G0hwDa. Survey was open September 22, 2020 – October 5, 2020.

No public comments were given (screenshot of survey below).

