Montana University System

INTENT TO PLAN FORM

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

MSU-Dept. of History & Philosophy, College of Letters and Sciences

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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
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.
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Signature/Date

College/School Dean: [Signature] July 19, 2019

Chief Academic Officer: [Signature] 7/23/19

Chief Executive Officer: [Signature] July 23, 2019

Flagship Provost*: [Signature] 7/23/19

Flagship President*: [Signature] July 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.