Montana University System

INTENT TO PLAN FORM

Program/Center/Institute Title: **BS in Mathematics, Statistics option**

Campus, School/Department: **Montana Technological University, CLSPS, Mathematical Sciences**

Expected Submission Date: **11/2019**

Contact Name/Info: **Dr. Rick Rossi (rossi@mtech.edu) Dr. Hilary Smith Risser (hrisser@mtech.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](http://mus.edu/che/arsa/academicproposals.asp).

1) Provide a description of the program/center/institute.
   The statistics option will replace a standalone degree in Statistics that was placed into moratorium. The majority of the existing statistics courses were added to the degree in Mathematical Sciences over 15 years ago in order to respond to the American Mathematical Society recommendations for undergraduate training in mathematics. The three courses Statistical Learning and Data Science I, Statistical Learning and Data Science II, and Bayesian Statistical Inference were added in 2017 to address the need for training in data science.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).
   Job forecasts have statistician as one of the top 10 jobs for demand and growth in the next decade. As business, industry, and government agencies collect and generate exponentially more data, the need for well-trained data analysts (i.e., statisticians) to collect and analyze data will grow also. In fact, the Bureau of Labor Statistics reports that the demand for statisticians is expected to grow by 33% from 2016 to 2026.

   US News rated statistician as the number 2 job in America for 2019 because “When businesses and government agencies need help making sophisticated decisions and solving complicated problems, they turn to statisticians.”

   USA Today has named statistician as the number 5 top job in America in 2019 for its “very good work environment, very low stress at work, and very good projected employment growth – making it one of very few careers to receive the highest marks available for all three categories.”

   Data science, which is primarily statistical analysis, offers tremendous job opportunities for graduates trained in statistics. There is tremendous demand and high paying jobs for data scientists trained in statistics.

3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.
   Currently the department offers two tracks. One option prepares students that wish to pursue a career in applied mathematics, and the other option prepares students that wish to attend graduate school in the
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mathematical sciences. We propose adding a third option to the existing mathematics major in statistics that will offer students outstanding job opportunities and the chance to attend graduate school in a program in statistics or data science. The proposed Statistics option is in alignment with the Montana Tech Strategic Plan and the Montana Tech Mission Statement.

4) Describe how the program/center/institute overlaps, complements, or duplicates existing efforts in the MUS. Describe efforts that will be made to collaborate with similar programs at other institutions. If no efforts will be made, please explain why.

Both The University of Montana and Montana State University offer statistics options.

Signature/Date

College/School Dean: [Signature] 9/18/19
Chief Academic Officer: [Signature] 9/18/19
Chief Executive Officer: [Signature] 9/19/19
Flagship Provost*: N/A
Flagship President*: N/A

*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.