

Interdisciplinarity@WMU- Phase One planning Template

1. **Brief Overview:** Provide a brief overview of the proposed interdisciplinary initiative. What types of questions would the initiative ask? What types of complex problems would it seek to solve?

TITLE: Science Education PhD (Online)

MISE currently offers a PhD in Science Education. This degree is well respected nationally and internationally. It is a large program, with ~40 students currently enrolled. The WMU Science Education program is unusual nationally in that it is housed in the College of Arts and Sciences and has faculty with joint appointments in the WMU Science Departments. Thus it is more science-focused than many other Science Education PhD programs, which are more commonly offered by Colleges of Education.

Graduates are successful in their chosen careers. Many graduates go on to tenure track positions in science departments at institutions such as University of Utah, Clemson University, and Florida International University.

This proposal is to allow students to complete the PhD program completely online. Because of the quality, reputation, and unique science focus of this program, we believe that there is demand for the program for students who cannot physically relocate to Kalamazoo for five years. Having the program online would allow access for geographically bound students as well as students with full or part time jobs.

This online possibility would be offered while continuing to offer the current in-person PhD program. Students could choose to complete their PhD completely online, partially online and partially in person, or completely in person. Although we have not worked through the details, one way to do this would be to offer the core courses for the program online and in person in alternate years. Another possibility would be to offer courses in HyFlex format (with both online and in-person students in the same class).

2. **Impacted units:** What existing units, programs, and colleges would be involved in the proposed initiative? What other possibilities for collaboration across campus or in the broader community might exist now or in the future?

These changes only impact MISE. In the future it might be possible to expand this program from Science Education to STEM Education, thus involving CEAS and MATH.

These changes would also have some impact on departments such as EMR and SOC who offer social science research methods classes that our PhD students take as part of their program.

- 3. Impact on teaching, learning, and curricula:** Describe the anticipated impact of the proposed initiative on teaching, learning, and curricula. How might this initiative help to grow enrollment, including by reaching new audiences of learners through continuing education, dual enrollment, or professional certification? How will the proposed initiative positively impact the training of undergraduate and graduate students? How does it enhance our institutional commitment to diversity, equity, and inclusion?

This program change would increase enrollment by allowing students who currently cannot enroll in the Science Education PhD program the opportunity to enroll. This will increase the quality and number of students. In addition, while most in-person students in our PhD program require assistantships to complete the program, we would not expect to provide funding for students enrolling in the program online. Our PhD program is already fairly diverse, with a good gender distribution as well as students from many racial and ethnic groups as well as sexual identities. We expect the expanded program would be equally or more diverse, thus contributing to the overall diversity of WMU.

- 4. Impact on research and creative activity:** Describe the anticipated impact of the proposed initiative on research and creative activity. How will this initiative promote discovery and creative scholarship? How might it result in increased external funding?

Having more PhD students at WMU means that there will be more research activity. As part of the PhD program, all students are expected to publish at least one journal article, and many publish much more. There may also be more opportunities for increased external funding to support this innovative program and/or the research done by students and faculty associated with the program.

- 5. Efficiencies and/or cost savings:** How might the proposed initiative contribute to increased efficiencies and/or cost savings, for example by reducing administrative positions (e.g. chairs/directors), sharing staff support services and/or by sharing facilities?

Allowing the PhD program to be offered online would require minimal changes to the program, while simultaneously increasing enrollment. As noted earlier, we expect that students taking the program online would be self-funded, while most in-person students are not able to enroll without an assistantship.

- 6. Impact on course offerings and workload:** At present, proposed initiatives will only be feasible and sustainable if they can be supported by existing resources, including instructional capacity, faculty and staff time, and facilities. Will the proposed initiative streamline existing course or program offerings? Could the initiative help create more equitable and sustainable workload for faculty, for example, by reducing the need to offer under enrolled courses, reducing the frequency of course offerings or eliminating the need to teach some courses?

With more students in the program, there will be increased workload. This will mainly come in the form of increased advising and mentoring. Although most of the courses in our PhD program exceed the enrollment minimums, we do anticipate that this proposal will result in increased class sizes for many of our courses.

As mentioned earlier, students in our PhD students take research methods in other courses (such as EMR and SOC). These departments already offer courses online. However, this program may increase demand for these online courses. Also, given the change in the budget

model, special arrangements may need to be made if COAS (MISE) students take courses in CEHD (EMR).

7. Additional Information: What additional information would you like to provide in support of this proposal?

8. Contact

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