Graduate Faculty Senate
Meeting Minutes

January 25, 2022 1:30-3:00 PM

Jeni Hart, Anita Cowan, Miriam Butler, Sue Boren,
Keith Greenwood, Alan Parrish, Chi-Ren Shyu, Yuwen Zhang, Christopher Daniggelis, Ashley Siebenaler,
Azlin Mustapha, Lissa Behm-Morawitz, Gui DeSouza, Sounak Chakraborty, Dana Martin, Dana Martin,
Amanda Hoffman, Wenjun Ma, Julija Sukys, Angie Zapata, Ashli Lester, Corinne Valdivia, Wilson
Freyermuth, Damon Hall, Michelle Brimecombe, Ryan Murray, Kathleen Miller, Mick Calcutt, Grant Scott,
Gregory Sullivan, Delinda Van Garderen, Stevie Neuman, Julija Sukys

1. Call to order
   1:32pm

2. Acceptance of the agenda

3. Approval of minutes from November 30, 2021 meeting
   Motion to approve – Julia Sukys
   Seconded - Yuwen Zhang-seconded
   Minutes were approved

4. Committee Reports:
   a. Academic Affairs – Prof. Sue Boren, chair
      i. Course Approvals
         Several courses are recommended for approval by academic affairs committee
         13 courses waiting for approval, 10 ready for vote. Committee are holding several courses for
         approval for additional information.
         Those courses recommended for approval were approved by senate.

         ii. Program Approvals – Minor Changes
             Minor changes in name of following programs
             a. EdSp in Educational Leadership and Policy Analysis
                Going from blended to 100% online.
                Credits changed from 42 to 30 (some question regarding the change of hours)
                *Vote moved to February to find out more information regarding the change in credit hours.

             b. MS in Biomedical Sciences
                Changed from Veterinary sciences to Biomedical sciences, no changes to curriculum.
                Gui DeSouza – Motion to approve
                - seconded
                Abstain – Gui DeSouza
                Vote - approved

             c. PhD in Biomedical Sciences
                Keith Greenwood – Moved for approval
                Seconded – Miriam Butler
iii. New Programs

a. PhD in Human Development and Family Science (Dr. Ashley Lester)
   Refer to proposal below.
   There is expected to be approximately 25 to 40 applicants per year. Some senators have hesitation because of the effect on existing HES programs such as architectural studies and textile apparel management. Currently the PhD program is in the graduate school since the dissolve of the HES.
   Senators are Recommended to take back and review.
   Tabled to gather more info and clarification

b. MS in Sports and Recreation Management (Dr. Michelle Brimecombe)
   See proposal below.
   Currently the program is coursework only but could change as the program grows. It consists of 30 credit hours. The course is very popular with undergraduates and department believes that it could be a good draw for graduate students. A thesis is not required currently but they are asked to create a scientific paper.
   All master programs much have a capstone. Thesis or technical report, internship, or reflection of what they learned in the program. All need a culminating experience of program.
   Tabled to get more detail on program

c. MBA in Business Administration (Dr. Ryan Murray)
   See proposal below
   Motion to approve - Julija Sukys
   Seconded - Chi-Ren Shyu
   Yes-11
   Abstain-0
   No-0
   Approved.

d. BA in Public Administration and Policy-accelerated program (Dr. Kathleen Miller)
   See proposal below
   Discussion – none
   Motion to approve – Julija Sukys
   Seconded – Amanda Hoffman
   Yes-11
   No-0
   Abstention-0
   Approved.

e. Graduate Certificate in Autism Education (Dr. Delinda Van Garderen)
   See proposal below
   Motioned to approve – Julia Sukys
   Seconded – Amanda Hoffmann
Yes 14
No 0
Abstention 0
Approved

f. Graduate Certificate in Positive Coaching (Dr. Gregory Sullivan)
   See proposal below
   Motioned to approve – Julija Sukys
   Seconded – Damon Hall
   Yes 14
   No-0
   Abstain 0
   Approved.

g. Graduate Certificate in Health Data Science (Dr. Grant Scott)
   See proposal below
   Motioned to approve – Julija Sukys
   Seconded – Chi-Ren Shyu
   Yes-14
   No-0
   Abstain – 0
   Approved

h. Graduate Certificate in Geospatial Analytics (Dr. Grant Scott)
   See proposal below
   Motion to approve – Gui DeSouza
   Seconded – Julija Sukys
   Yes -14
   No 0
   Abstain 0

b. Awards – Prof. Chris Daniggelis, chair

c. Policy subcommittee – Prof. Julija Sukys, chair

5. Report: Graduate Professional Council – Ms. Amanda Hoffmann, GPC Representative
   GPC sending survey to students about their comfortability with return to campus.

6. Report: Liaison to Faculty Council – Prof. Corinne Valdivia
   Faculty council has passed motion on shared governance; a faculty poll will be sent to all faculty.
   The University set a goal to have all faculty trained as mentors. Graduate School offering mentoring program.

8. Resolutions

9. Adjournment
   3:22
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810: PhD in Human Development and Family Science

**4iiiia**

**810: PHD IN HUMAN DEVELOPMENT AND FAMILY SCIENCE**

*Vote Required for Approval*

View Voting Results (http://catalog.missouri.edu/programadmin/810/)

Votes Cast: 1

Yes 100%

No 0%

In Workflow

1. Form Check (whitneycm@missouri.edu)
2. H_D_FS Chair (blohman@umsystem.edu)
3. CIP Code Rvw (eimersm@missouri.edu)
4. EDUC CC 2 (adkinsde@missouri.edu)
5. EDUC Dean (fellabaumje@missouri.edu; nicholssl@missouri.edu)
6. Workflow Rvw (whitneycm@missouri.edu)
7. AAC-GFS Vote (borens@health.missouri.edu; freyermthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu;
Approval Path
   Carla Whitney (whitneycm): Approved for Form Check
   Brenda Lohman (blohman): Approved for H_D_FS Chair
   Mardy Eimers (eimersm): Approved for CIP Code Rvw
4. Thu, 18 Nov 2021 17:56:46 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
5. Thu, 18 Nov 2021 18:21:59 GMT
   Jennifer Fellabaum-Toston (fellabaumje): Approved for EDUC Dean
6. Fri, 19 Nov 2021 17:03:53 GMT
   Carla Whitney (whitneycm): Approved for Workflow Rvw

New Program Proposal
Date Submitted: Tue, 26 Oct 2021 14:44:55 GMT
Viewing: PhD in Human Development and Family Science
Last edit: Thu, 18 Nov 2021 17:52:42 GMT
Changes proposed by: lestera

Contact Information:

Proposer User ID:
lestera

First Name:
Ashlie

Last Name:
Lester

E-mail:
lestera@missouri.edu

Phone:
573/882-1301

Department:
Human Devl & Family Science

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?
I am the Primary Contact

Collaborating Writers: Are there any other individuals from MU who were integrally involved in the writing of this proposal?
Yes

Contact Information for Collaborating Writer(s): Enter the User ID(s) of the collaborating writer(s). Use the green plus sign to add rows as needed.

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<tr>
<th>User ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>Email</th>
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<td>bjlb5f</td>
<td>Brenda</td>
<td>Lohman</td>
<td><a href="mailto:blohman@umsystem.edu">blohman@umsystem.edu</a>; 882-6852</td>
<td>Human</td>
<td></td>
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Program Characteristics:

**Campus:**
University of Missouri - Columbia

**Type of Program:**
Doctorate

**Emphasis Areas:** Do you have plans at this point to have emphasis areas to go with this degree?
No

**Specify program level:**
Graduate

**Program Title:** List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.

How it is listed here is what will display on the transcript (and diploma if a degree).

**Program Title:**
PhD in Human Development and Family Science

**College(s) or School(s) offering the program:** Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
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<tr>
<td>Education &amp; Human Development</td>
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</table>

**Unit(s) offering the program:** Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
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<tbody>
<tr>
<td>Human Development &amp; Family Science</td>
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</table>

**Total credits required for graduation/completion:**
72

**Mode of Program Delivery:** Select the option below which best fits the program.

Traditional Program – All courses for the program are delivered face-to-face, in writing or orally. No online technology used. May have video of the class that is used during the initial delivery and viewed later.

Delivery Site(s): Select the option below which best describes the physical locations where the program will be delivered. This would include face-to-face sites or sites for receiving remote delivery. This would not include online delivery.

MU Campus

**CIP Code:** Use the "Find" link to search the government database for applicable CIP Code.
Term Start: Estimate the first term students will enroll.
Fall 2021

Term Graduate: Estimate the first term students will graduate.
Fall 2023

Fit with University Mission and Other Academic Programs:

Alignment:

Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.

Our doctoral program has existed for decades as an emphasis area in the PhD in Human Environmental Sciences program; with the dissolution of the College of Human Environmental Sciences, we are proposing to have a stand-alone Doctor of Philosophy in Human Development and Family Science. Our goals and objectives of the program remain the same: to educate the next generation of HDFS researchers and leaders.

We are a research-intensive department, producing on average $4.2 Million in research expenditures per year (5-year average) with a mission to produce scholarship to understand growth and relationships in diverse contexts, and our doctoral program is designed to prepare future scholars. The courses, assistantships, and co-curricular experiences (e.g., HDFS lecture series) allow students to develop and master research-based skills, such as designing and executing research studies, analyzing quantitative and qualitative data, evaluating programs, writing grants, and collaborating on research teams. The program’s focus on preparing scholars aligns with the mission of the department and with the strategic goals of the University (especially student success, research and creative works, and inclusive excellence).

Duplication within the state:

Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?
No

Market Analysis - Need/Demand:

Market Analysis – Need for Program:

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.

Our doctoral program has been successful for decades, and it is evident there is a demand for students trained in our department. In a 2017 market demand survey of family science graduate programs, consulting firm EAB found growing employer demand for leadership and supervisory skills, program evaluation, grant-writing, and professional skills like written and oral communication and some statistical software programs. These are all skills graduates of our doctorate program develop.

In the last eight years, we have admitted an average of 4.15 PhD students and graduated an average of 5.13 students per year. With the end of the pandemic, the hiring of vacated faculty lines, and the improved marketing resources afforded by the College of Education and Human Development, we are confident that we will be able to increase our incoming cohorts to at least 5 PhD students each year, with a goal of 5-10 per year. Our post-graduation employment rate for the last 10 years is 100%, and our alumni go on to academic positions (e.g., faculty, postdocs) around the country and research and leadership positions in government, research firms, and non-profit sectors. The high employment rate and the varied sectors in which our students find employment indicates that 1) our program prepares students well for the job market, and 2) the skills students developed in our program are in demand and transferable.

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.
100% of PhD graduates are employed within 6 months of graduation. Alumni work both within and outside of higher education; graduates have worked in Extension, federal and state government agencies, research institutions, and health and human services agencies in Missouri, in the US, and across the world. In addition to the impact graduates have in their employment after graduation, students have a tremendous impact on our community while they are on-campus. Doctoral students are teaching assistants, research assistants, and graduate instructors, and they help us fulfill the research, teaching, and Extension missions of the University for MU students and citizens. Our students help teach and mentor undergraduate students; they live and buy things in this community, and they have opportunities for outreach and engagement activities (like community teaching).

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>Total</td>
<td>25</td>
<td>27</td>
<td>30</td>
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</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.
Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.

There is sufficient student demand for this program. In a 2017 market demand survey of family science graduate programs, consulting firm EAB found growing employer demand for leadership and supervisory skills, program evaluation, grant-writing, and professional skills like written and oral communication and some statistical software programs. Each year we reject approximately half of our applications due to not meeting quality standard, lack of fit with the department, or not having advisor capacity (average rejection rate over the past 8 years is 55%). Our post-graduation employment rate for the last 10 years is 100%, and our alumni go on to academic positions (e.g., faculty, postdocs) around the country and research and leadership positions in government, research firms, and non-profit sectors.

Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:

There are no new expenses associated with the proposed program. Currently, our graduate student stipends are paid through external fellowships, research assistantships (using funds from faculty members’ start-up or grant funds) and teaching assistantships (using revenue from tuition and supplemental fees). Our faculty are actively working to increase the proportion of assistantships funded in the department from external grants.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:

We anticipate no large sums of additional revenue by moving our doctoral program from an emphasis area in HES to a stand-alone PhD. We will see modest gains in revenue as our student numbers begin to rise to prepandemic levels and with the hiring of a replacement faculty member in the Endowed Milsap Professor position.

Business and Marketing Plan - Recruiting and Retaining Students:

Marketing Strategy: How will the program be marketed to attract new students to it?

Because we already have a doctoral program (it currently exists as an emphasis area in the PhD in Human Environmental Sciences), our marketing work has been ongoing. We are continuing to market our program to future researchers with our department’s Marketing and Recruitment Committee and with the resources available to us by the College of Education and Human Development’s Strategic Communication’s office. Our website, marketing materials, and social media presence are continually updated and congruent with the University of Missouri’s branding requirements. The Director of Graduate Studies holds in-person and virtual information sessions to market the graduate programs in HDFS, and we strategically target populations with electronic mailings (e.g., advisors of undergraduate HDFS and related disciplines at MU and other institutions; students who have completed the GRE and who have indicated their interest in HDFS-related study; students in terminal Master’s HDFS or related programs; students who have enrolled in the McNair program)

We are targeting the following populations:

a). high-achieving undergraduates in HDFS and related disciplines at the University of Missouri and beyond

b). high-achieving graduate students in terminal Master’s programs in HDFS or related disciplines at other institutions

c). high-achieving students from under-represented minority groups.

2. We send targeted emails to students on the McNair and National name exchange lists. We have a successful history of acquiring recruitment funds from the Grad School to offer one-year fellowships for students from historically underrepresented groups ($40,000 over the last 5 years).

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.

We already have a strong program and a excellent national reputation, so we anticipate moderate growth in the
PhD program to 5-10 incoming PhD students each year (our 5-year average cohort size is 4.15 per year).

Retaining Students: Describe the plans to retain students through graduation.

Our program has an excellent retention rate of 97% over 5 years. We have many strategies to retain students, including a comprehensive handbook, an in-person student orientation, professional development seminars for incoming students and for advanced PhD students, regular feedback on student progress, established support networks (e.g., peer mentorship program, engaged student organizations), fiscal support (e.g., assistantships, professional development funds, fellowship and scholarship opportunities), and varied opportunities for professional experience (e.g., teaching and research assistantships, community teaching opportunities).

Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved.

Our program is already strong. We have increased communications to relevant populations and are offering more regular, virtual information sessions about HDFS graduate programs; we anticipate that will yield the one or three additional students needed to meet our goal of an incoming cohort of 5-10 students.
Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?

We don’t anticipate this at all, but if the 5-year average incoming cohort is 3 or under and the 5-year average of graduating students is 3 or under, I would expect needing additional resources from the university to jumpstart our marketing. If those numbers decline to 2 or under (5-year average), I expect the program to be put on hiatus.

Program Goals and Objectives:

Program Goals and Objectives: Briefly describe the goals and objectives of the program.

Our doctorate program has existed for decades as an emphasis area in the PhD in Human Environmental Sciences program; with the dissolution of the College of Human Environmental Sciences, we are proposing to have a stand-alone Doctor of Philosophy in Human Development and Family Science. Our goals and objectives of the program remain the same: to educate the next generation of HDFS researchers and leaders.

Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.

Students will be able to demonstrate mastery in five content areas: 1) human development and family science theory, 2) research methods, 3) major research findings in HDFS, 4) diversity in human development and families, 5) professional standards and ethics.

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

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Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

All PhD students must have at least 72 post-Baccalaureate credit hours in the following areas: (1) HDFS content, (2) research methods/statistics, (3) collateral area of study, and (4) research/practica. Following coursework, students complete a comprehensive exam (either a take-home written exam or a systematic literature review eligible for publication), and a dissertation. After the successful defense of the dissertation, the student has completed the doctoral program.

This is an on-campus-only degree program. Planned academic activities include classwork, assistantships, research labs, and lecture and professional development series offered by the Department and University.

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.

Program Requirements:

Degree Requirements

Courses. All PhD students must have at least 72 post-Baccalaureate credit hours, 30 of which may be from an MA/MS program. Students who are admitted directly into the PhD program with only a Bachelor's degree are required to complete a Master of Science degree. The following coursework is required: (1) HDFS content, (2) research methods/statistics, (3) collateral area of study, and (4) research/practica. The following are minimums of hours required in each area.

Content Courses (minimum 21 hours): These are the courses that will not only provide students with a strong foundation in HDFS theory and concepts, but also support their line of research.

Research Methods/Statistics (minimum 21 hours): These courses will help students learn to understand and conduct research well.

Collateral (9-15 hours): The collateral area represents a focused area of study (e.g., gerontology, women's and gender studies, quantitative statistics) that you choose.

Research and Practica (minimum 23 hours): Built into the plan of study is 2 credit hours of professional development seminars (HDFS 8087), 6 credit hours of research practica (HDFS 9210), 3 credit hours of teaching practicum (HDFS 9100), and 12 dissertation hours (HDFS 9090).

Comprehensive Exam. Students are eligible to take comprehensive exams once they have completed courses. Students may choose a take-home exam option, or a critical literature review option. Both options require an oral defense with the committee and will be evaluated on students' mastery of theory, HDFS content, research methods, and collateral area.

Dissertation. Following the successful completion of the comprehensive exam, students are considered doctoral candidates and will begin the dissertation process. First, students will propose their dissertation research to the committee. The proposal should include a well-developed literature review, carefully thought out hypotheses or research questions, and a detailed plan for the research methods to be used. Second, students will complete the research needed for the dissertation, and defend the dissertation to the committee. Once successfully defended, the student has completed the doctoral program.

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.
Adjunct 0

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?
No

Provide brief explanation:
Not applicable

Reviewer Comments:
Denice Adkins (adkinsde) (Thu, 18 Nov 2021 17:52:42 GMT): Please note: This is NOT a new program, just a re-homing of an existing program between colleges when the department was moved. HDFS reports that there was no other way to put this program into the system other than by calling it a new program. -Denice Adkins for EDUC2
809: MS IN SPORT AND RECREATION MANAGEMENT

Vote Required for Approval

View Voting Results (http://catalog.missouri.edu/programadmin/809/)

Votes Cast: 2

Yes 100%
No 0%

In Workflow

1. Form Check (whitneycm@missouri.edu)
2. NAT_R Chair (marketp@missouri.edu)
3. CIP Code Rvw (eimersm@missouri.edu)
4. CAFNR CC Vote (lupoa@missouri.edu; choseo@missouri.edu; nilonc@missouri.edu; clarkea@missouri.edu; upahj@missouri.edu; parcellj@missouri.edu; tummonsj@missouri.edu; strauchtl@missouri.edu; freyermuths@missouri.edu; petersonca@missouri.edu; finked@missouri.edu; medrh7; schumacherl@missouri.edu)
5. CAFNR CC Chair (lupoa@missouri.edu)
6. CAFNR Dean (gartonb@missouri.edu)
7. Workflow Rvw (whitneycm@missouri.edu)
8. CAFNR Dean (gartonb@missouri.edu)
9. AAC-GFS Vote (borens@health.missouri.edu; freyermuthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu; desouzag@missouri.edu; wma@missouri.edu)
10. AAC-GFS Chair (borens@health.missouri.edu)
11. GFS Pres (parrishar@health.missouri.edu)
12. Grad Dean Rvw (hartjl@missouri.edu)
13. Provost (martensmp@missouri.edu; bearyj@missouri.edu)
14. UM (schaffin@umsystem.edu; zlkhd4@missouri.edu)

Approval Path

1. Tue, 02 Nov 2021 21:08:55 GMT
   Carla Whitney (whitneycm): Approved for Form Check
2. Wed, 03 Nov 2021 01:55:24 GMT
   Patrick Market (marketp): Approved for NAT_R Chair
3. Fri, 12 Nov 2021 15:03:14 GMT
   Mardy Eimers (eimersm): Approved for CIP Code Rvw
4. Wed, 08 Dec 2021 19:34:18 GMT
   7/13 votes cast.
   Yes: 100% No:
   0%
   Approved for CAFNR CC Vote
5. Wed, 08 Dec 2021 21:33:14 GMT
   Anthony Lupo (lupoa): Approved for CAFNR CC Chair
6. Thu, 09 Dec 2021 17:00:54 GMT
   Bryan Garton (gartonb): Approved for CAFNR Dean
7. Thu, 09 Dec 2021 17:40:57 GMT
   Carla Whitney (whitneycm): Approved for Workflow Rvw
8. Thu, 09 Dec 2021 17:48:23 GMT
   Bryan Garton (gartonb): Approved for CAFNR Dean

New Program Proposal

Date Submitted: Tue, 12 Oct 2021 16:25:13 GMT
Contact Information:

Proposer User ID:
mjbyk3

First Name:
Michelle

Last Name:
Brimecome

E-mail:
mjbyk3@missouri.edu

Phone:
573/882-9517

Department:
School of Natural Resources

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?
I am the Primary Contact

Collaborating Writers: Are there any other individuals from MU who were integrally involved in the writing of this proposal?
Yes

Contact Information for Collaborating Writer(s): Enter the User ID(s) of the collaborating writer(s). Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>First Name</th>
<th>Last Name</th>
<th>Email</th>
<th>Phone</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>massengaled</td>
<td>Dana</td>
<td>Massengale</td>
<td><a href="mailto:massengaled@missouri.edu">massengaled@missouri.edu</a></td>
<td>573/884-9773</td>
<td>School of Natural Resources</td>
</tr>
<tr>
<td>sxdb</td>
<td>Shuangyu</td>
<td>Xu</td>
<td><a href="mailto:sxu@missouri.edu">sxu@missouri.edu</a></td>
<td>573/884-8014</td>
<td>School of Natural Resources</td>
</tr>
</tbody>
</table>

Program Characteristics:

Campus:
University of Missouri - Columbia

Type of Program:
Masters

Emphasis Areas: Do you have plans at this point to have emphasis areas to go with this degree?
No

Specify program level:
Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.
How it is listed here is what will display on the transcript (and diploma if a degree).

**Program Title:**

MS in Sport and Recreation Management

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Agriculture, Food &amp; Natural Resources</td>
</tr>
</tbody>
</table>

Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Natural Resources</td>
</tr>
</tbody>
</table>

**Total credits required for graduation/completion:**

30

**Mode of Program Delivery:** Select the option below which best fits the program.

E-Learning Program – 100% of the program is online. May have proctored exams for courses.

**CIP Code:** Use the "Find" link to search the government database for applicable CIP Code.

31.0504 - Sport and Fitness Administration/Management.

**Term Start: Estimate the first term students will enroll.**

Fall 2022

**Term Graduate: Estimate the first term students will graduate.**

Spring 2024

**Fit with University Mission and Other Academic Programs:**

Alignment:

Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.

Support for this program is strong, because the Online MS degree directly addresses several aspects of CAFNR’s strategic plan, including key aspects such as building a culture with increased emphasis on high-impact research and scholarship, as well as serving industry and community needs by producing a stream of workforce-ready graduates.

The complexity, globalization, and impacts the sport and recreation industries have on society create the demand and need for the precise preparation. The sport and recreation management curriculum will emphasize the unique business, management, marketing and ethical principles and practices necessary to succeed in these industries. Ultimately, the program will prepare professionals who are critical thinkers, interdisciplinary in their approach, and capable of effectively managing and marketing sport and recreation enterprises in vastly different markets. The Sport and Recreation Management curriculum will provide both skill-based and theoretical frameworks in business management with an applied practice to sport and recreation management.

**Duplication within the state:**

Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?
No

Market Analysis - Need/Demand:

Market Analysis – Need for Program:

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.

Competitor Analysis

89 institutions are listed as conferring online master’s degrees in 2018 or 2019, in the programs of interest: Sport and Fitness Administration/Management; Sport Studies; or Hospitality Administration/Management, General (CIP codes 31.0504, 31.0508, and 52.0901, respectively). 16 of these programs are from the region, using Missouri/Illinois/Kansas/Arkansas/Iowa/ Oklahoma/ Nebraska/Tennessee and Kentucky as the region. 50 programs are from public institutions, and 39 at private. A link to the program, term length, and tuition rate have been included for each program with over fifty 2019 conferrals. While 89 institutions are listed as offering online master’s degrees in Sport and Recreation Management nationwide in 2019, Concordia University-Irvine reported the most conferrals in AY2019 at 420 conferrals. 61 institutions reported conferrals for an online master’s degree in Sport and Recreation Management in 2015. In the AY2015-AY2019 timeframe, the total number of online master’s degrees conferred in Sport Recreation and Management increased from 2,576 to 3,139 conferrals. In AY2019, average conferrals for public and private institutions listed as offering these programs online was therefore 35 conferrals (please refer to Attachment 3 for detail)

Jobs Report

A detailed jobs report was conducted during March of 2021 as a part of the demand analysis (please see Attachment 3 for detail). However, this analysis was collected during a global pandemic as a result the data may be skewed. The committee tasked with completing this report and creating this proposal suggests the data to be collected again in the Spring/Summer of 2022.

The jobs report used the filters of: Last 12 months (Mar. 1, 2020 - Feb. 28, 2021) AND Nationwide AND ((Education: Master's degree(specified)) AND (Program of study: Sport and Fitness Administration/Management (specified) OR Program of study: Sports Studies (specified) OR Program of study: Hospitality Administration/Management, General (specified))) AND (Included Postings: All New Jobs) yielding 1,403 available positions.

Within these results the top three career categories were: 1) coaches and scouts; 2) postsecondary teachers, all other; and 3) medical and health services manager. The ‘top titles’ within advertised postings were: 1) executive director; 2) general manager;

and 3) performance specialist. The top skills in greatest demand (which would all be greatly covered in our online course’s) are: 1) communication skills; 2) planning; and 3) teamwork/collaboration.

Local Support from Missouri Parks and Recreation Association

Missouri Parks and Recreation Association (MPRA) is a non-profit association who provides opportunities for Missouri residents to enjoy parks, recreation, sport, and leisure activities.

The non-profit association, whose members that work to provide opportunities for all the state’s citizens to enjoy quality leisure activities. “MPRA strives to maintain high standards of professional ethics and practices by promoting continuing education for its membership. The association encourages the support of college and university curricula to enhance research and assure a well-trained stream of future professionals” (Home, 2021). As of June 2021, MPRA works with 2224 practitioners, 113 parks and recreation agencies, and has 36 partners all of which our new degree program could benefit from Home. (2021). MPRA. https://www.mopark.org/.

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.

The proposed program would enhance the University’s ability to develop opportunities in natural resources, specifically sport and recreation management. The online degree is innovative, flexible, and draws on the strengths of the current faculty and courses in the School of Natural Resources. It would increase the number of high-quality postsecondary credentials
to meet the demands of the economy in the region, state, and an increasingly global market. Future employment opportunities for parks and recreation management graduates with degrees at every level are exceptional in both the near and long term. The discipline of sport and recreation management is exploding as a field of study, with a dramatic increase in the need for individuals with post baccalaureate education and training. Sport and recreation employers often require advanced degrees from accredited institutions as part of job requirements and/or for promotion. The principal target student population for the sport and recreation management degree are working professionals who have received their undergraduate degree and are pursuing career advancement or changing fields.

Missouri, including Columbia, the Kansas City metropolitan area and St Louis, offer an abundance of sport and recreation related businesses that provide potential student population as well as places of internship for program completion.

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>15</td>
<td>17</td>
<td>20</td>
<td>22</td>
<td>25</td>
</tr>
</tbody>
</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>15</td>
<td>17</td>
<td>20</td>
<td>22</td>
<td>25</td>
</tr>
</tbody>
</table>

Market Analysis – Student Demand for Program:

Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.

For this occupation, the number of jobs at the master’s level is expected to increase over the next 8-10 years, with a predicted employment trend of 1.40%, an average rate of growth (total labor market 4.24%). The median salary in the nation for graduates of these master’s programs is $51,000. 89 institutions are listed as conferring online master’s degrees in 2018 or 2019, in the programs of interest: Sport and Fitness Administration/Management; Sport Studies; or Hospitality Administration/Management, General (CIP codes 31.0504, 31.0508, and 52.0901, respectively). A detailed market research report is attached to this proposal as well.

Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:

The estimated costs of this program included: one teaching faculty member salary and benefits along with support from projected support from MU Financial Aid, MU Mission Support, MU Student Services and CAFNR Student Services. All together, each course would cost approximately between 24,570 - 29,467 to run with an estimated enrollment of 15-20 students. Detailed calculations are provided in the uploaded document.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:

Using the FY2022 UG Subject Area & Course Revenue-Cost Estimator for projected enrollments of 15 and 20 respectively. It is estimated each course will earn a profit ranging from 4,662.00 to 9,509.00. It is the recommendation of this committee that six eight-week online courses are run on a yearly basis. Therefore, the new online program will earn a profit ranging from 27,972.00 to 57,054 annually. Detailed calculations are provided in the uploaded document.

Business and Marketing Plan - Recruiting and Retaining Students:
Marketing Strategy: How will the program be marketed to attract new students to it?

The target market(s) for the Sport and Recreation Management Online MS Degree Program will be: 1) graduate students looking to have a flexible course load and tailor their studies to an area of interest (e.g., recreation, sport, inclusion and diversity, management and administration); 2) students graduating with their BS or BA with a desire to pursue a career in the sport and/or recreation industries; 3) working professionals who are looking to advance in their careers; and 4) individuals looking to start their careers in sport and/or recreation management. This potential student outreach will be conducted through various ways:

1) The use of the Universities Graduate Programs Office and MU Online admissions teams. The admissions teams will be invited to sit with faculty in the program once a year to update them on the happenings in and out of the classroom. A ‘facts sheet’ will be provided to them as well highlighting what we do in the program and what is going on in the industry.
2) The use of Missouri Online will be utilized. Faculty will work closely with the marketing personnel to ensure website information is correct (while highlighting the program well), social media (accounts for the program are created) posts are happening on a weekly basis, and to ensure advertising the program is conducted throughout the Midwest for the program.
3) Employers within the Midwest will be identified and contacted about the program (e.g., MPRA as highlighted in the document). It will be the goal of this program to create a ‘pipeline’ of professional individuals wishing to pursue an advance degree in sport and recreation management.
4) The use of the Athletics Department. This should be a natural marriage for both departments. Faculty will work closely with the coaches and current undergraduate student athletes to highlight the program. Coaches are a great recruiting tool for incoming students, and they will be armed with the correct information as they bring in student athletes to the sport and recreation community.

In addition to the above-mentioned marketing strategies. We plan to add to our marketing mix by recruiting students on our own campus who receive B.S. degrees in related in fields (e.g., business management, journalism). Recruiting students who have earned their BS or BA from other universities in our state, regionally, nationally, and internationally will be perused. One such strategy (depending on cost) will be using resources such as the GRE exam search service, GEM Consortium and other online directories to identify potential candidates who have demonstrated graduate-level readiness for our program.

Finally, social media campaigns will be utilized frequently. The existing program’s outlets will be utilized on a weekly basis to generate excitement surrounding the program. New social media outlets will be created and managed by the faculty teaching in the program to highlight it and the students enrolled.

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.

As the program grows the marketing strategy will evolve as needed. The basic strategy outlined in the above question will still remain, however, marketing efforts will be made to showcase alumni, current students, innovative collaborations between industry and classroom ten fold. By enhancing these additional strategies along with our recruitment marketing it will provide us with a better market positioning.

Retaining Students: Describe the plans to retain students through graduation.

Advising, mentoring and communication strategies will be put in place before the program is officially launched. Students will have a faculty member assigned to assist them through the program who teaching in sport or recreation management. Email blasts, newsletters, and zoom session open hours will be provided to all students to help create a sense of belongingness to the program.

Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved.

The plans are outlined above in the various questions in this application. Marketing, communication, recruitment efforts will be made in a consistent manner. Once a student is enrolled they will receive attention to retain them (advising, mentoring, communication) while creating a sense of belongingness. Finally, when students graduate we will continue to work with them as alumni (e.g., inviting them to connect with us at various levels).
Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?

While it is not the anticipation that this program would be put on hiatus but check’s and balances will be placed along the way. This program would be monitored by faculty and administration on a semester basis for enrollment and recruitment. It will be assessed each academic year for improvements or changes needing to be made. If, enrollment numbers do not reach or maintain at 20 students decisions would be made around year five.

Program Goals and Objectives:

Program Goals and Objectives: Briefly describe the goals and objectives of the program.

The Online Master of Science (MS) degree in Sport and Recreation Management at the University of Missouri will strive to offer quality and flexible education integrating masters level work in sport management and recreation management. In addition, the degree will introduce students to innovative course work, potential research opportunities and internships. Our students will be provided an inter- and multi-disciplinary understanding to address management traditions, trends, concerns, and issues as they apply to the sport and recreation industries.

The general goals of the Online MS in Sport and Recreation Management are as follows:

1. Graduates will be competent in critical thinking and information gathering to make sound decisions.
2. Graduates will be prepared to start their career or advance their career in the sport and/or recreation industries.

3. Graduates will be ready to make management decisions while applying theoretical and practical processes they have learned in the program.

Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.

The SLO’s listed below are an umbrella for what the program will value and stand on. They are in alignment with the University, CAFRN, and the School of Natural Resources. Each learning objective will govern the program to ensure a well rounded quality product is being produced for all of our stakeholders.

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Student Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>
Understand and discuss the categorical effects of diversity, including how people differ based on race, sex, gender, (dis)ability, sexual orientation, religious beliefs, and social class on the sport and recreation industries.

Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

After conducting a competitor analysis and research surrounding this proposal (see attached document for detail), the proposed flexible curriculum will be comprised of ten courses equaling 30 credit hours for graduation.

Each student must complete three core courses identified (PRST 8089, PRST 8400, and PRST 8430) and will be allowed to select seven electives depending on their career path of choice in sport or recreation management.

Courses will be completely online 6 week courses (keeping with industry standards) in both asynchronous and synchronous format depending on the course and instructor.

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.

Program Requirements:

The proposed flexible curriculum will be comprised of ten courses equaling 30 credit hours for graduation.

Students must complete the following three core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRST 8400</td>
<td>Constructs of Leisure</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8430</td>
<td>Research Methods in Parks, Recreation and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8090</td>
<td>Thesis Research in Parks, Recreation, Sport and Tourism</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Students will then choose seven courses depending on their area of interest and study. The following courses have been identified:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRST 7208</td>
<td>Administration and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>PRST 7260</td>
<td>Sustainable Tourism</td>
<td>3</td>
</tr>
<tr>
<td>PRST 7333</td>
<td>Park and Sport Facility Operations</td>
<td>3</td>
</tr>
<tr>
<td>PRST 7340</td>
<td>Recreation Land Management</td>
<td>3</td>
</tr>
<tr>
<td>PRST 7357</td>
<td>Domestic and International Tourism: Resources, Market, and Impacts</td>
<td>3</td>
</tr>
<tr>
<td>PHST 7385</td>
<td>Legal Aspects of Sport</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8080</td>
<td>Foundations of Sport</td>
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</tr>
<tr>
<td>PRST 8088</td>
<td>Sport and Leisure Economics</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8436</td>
<td>Visitor Behavior and Policy</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8450</td>
<td>Administration in Leisure Service Delivery</td>
<td>3</td>
</tr>
<tr>
<td>PRST 8460</td>
<td>Financial Operations in Leisure Service Delivery</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Information on New Course(s): For any new course(s) being planned but not yet proposed in CIM Courses, provide the information requested in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Curriculum Designator</th>
<th>Level of course</th>
<th>Title</th>
<th>Expected Enrollment</th>
<th>Mode of delivery</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation, Sport &amp; Tourism</td>
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<td>Strategic Marketing Recreation</td>
<td>20</td>
<td>Online</td>
<td></td>
</tr>
<tr>
<td>PRST - Parks, Recreation, Sport &amp; Tourism</td>
<td>8XXX</td>
<td>Sport and Recreation in Society</td>
<td>20</td>
<td>Online</td>
<td></td>
</tr>
</tbody>
</table>
Courses outside your School/College: Outside of general education requirements or electives, indicate all of the schools and colleges from which you are including one or more of their courses as a required course for your program.

   Agriculture, Food & Natural Resources

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure Track</td>
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</tr>
<tr>
<td>Non-Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Post-Doc Fellows</td>
<td>0</td>
</tr>
<tr>
<td>Grad Tchng/Research Asst</td>
<td>0</td>
</tr>
<tr>
<td>Adjunct</td>
<td>0</td>
</tr>
</tbody>
</table>

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?

   Yes

Name of accrediting agency:

   The Commission on Sport Management Accreditation

Timeline and process for achieving accreditation:

   7 years (including data collection)

Relevant Documentation:

If you have any additional documentation supporting your proposal, attach those items here. Once files are selected, they will be listed in the Files To Be Uploaded box. Once the proposal is saved, they will be listed in the Uploaded Files box.

   Online MS in Sport Rec New Degree Preproposal 10-12-2021.docx
   Sport and Recreation Management Masters UPDATE MU Market Research July 2021.pdf

Reviewer Comments:

   Carla Whitney (whitneycm) (Tue, 02 Nov 2021 21:08:49 GMT): Put courses in class list.
   Carla Whitney (whitneycm) (Tue, 16 Nov 2021 17:45:51 GMT): Changed title to say MS instead of spelled out. Key: 809
4iiic

**407: MBA IN BUSINESS ADMINISTRATION**

**History**
1. Dec 11, 2020 by cladmin-rpospisil
2. Jun 10, 2021 by Sandra Gummersheimer (gummersheimers)
3. Nov 1, 2021 by Carla Whitney (whitneycm)

**Program Change Proposal**
Viewing: MBA in Business Administration
Last approved: Mon, 01 Nov 2021 16:45:24 GMT
Last edit: Mon, 01 Nov 2021 16:45:05 GMT

**Contact Information:**

Proposer User ID:
whitneycm

First Name:
Carla

Last Name:
Whitney

E-mail:
whitneycm@missouri.edu

Phone:
573/882-6794

Department:
Registrar

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?

I am entering data for the Primary Contact

MU Primary Contact: Use the search below to locate the

Primary Contact. User ID:
gummersheimers

First Name:
Sandra

Last Name:
Gummersheimer

Email:
gummersheimer@missouri.edu

Phone: 573/882-3307

Department: School of Business

Collaborating Writers: Are there any other individuals from MU who were integrally involved in the writing of this proposal?
No

Program Status:

Status: If you are proposing to inactivate this academic program, change the status using the dropdown to Inactive. Otherwise, leave as active and note your changes on the rest of the form below.
Active

Program Characteristics:

Campus: University of Missouri - Columbia

Type of Program: Masters

Emphasis Areas: Do you have plans at this point to have emphasis areas to go with this degree?
No

Specify program level:
Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.

How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title: MBA in Business Administration

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
</tr>
</tbody>
</table>

Total credits required for graduation/completion:
45

Mode of Program Delivery: Select the option below which best fits the program.

Entire program offered in two or three of the above modes - entire program is offered with a choice of different delivery modes. For example, students can choose to take the entire program online, or come to campus for the entire program in a traditional offering.

Specify which modes of delivery are options for students in this program:
Crosby MBA is 100% online
Dual programs could be a mix of campus (programs outside the College of Business) and online
(MBA portion)

Delivery Site(s): Select the option below which best describes the physical locations where the program will be
delivered. This would include face-to-face sites or sites for receiving remote delivery. This would not include
online delivery.

MU Campus

CIP Code: Use the "Find" link to search the government database for applicable CIP Code.

52.0101 - Business/Commerce, General.

Collaboration within the state:

Collaboration: Are there plans to collaborate with existing complementary programs on campus, across the
UM System, and/or in the state?

No

Feasibility: Describe if collaboration is even feasible.

Not currently feasible.

Program Curriculum:

Program Structure

Accelerated Program: Does this change proposal include a new accelerated option within an existing
program(s)?

Yes

Accelerated Requirements: The template is available at https://gradschool.missouri.edu/wp-
content/uploads/2021/01/Accelerated-Graduate-Program-Proposal-Template.docx to provide additional
required information, and attach it here. Also, in the Program Requirements question below, add the new
accelerated requirements to the bottom of the existing requirements.

Attach File

Crosby MBA- Accelerated proposal- 5-4-21.docx

Dual Degree: Does this change proposal include a new dual degree option with existing programs?

Yes

Dual Degree Requirements: 1) In the Program Requirements question below, add the new dual degree
requirements to the bottom of the existing requirements. The dual degree requirements should include an
explanation of how the degrees combine, and a list of the courses that apply exclusively to each degree
and the courses that are shared between the two degrees. 2) In the Change
Justification section further down the form, in the Justification for changes question, include a rationale for
the dual degree program (why it makes sense to offer the degrees as a dual program option).

Program Requirements: Describe all requirements for the program. This content will be displayed in the
Program Requirements area of the online University Catalog.

Program Requirements:

Degree Requirements

Crosby MBA

Required course work in Quantitative Analysis, Finance, Management, Marketing, and Professional
Development provides a comprehensive business education for Crosby MBA students. Our
curriculum assures that graduates enter the 21st century business world with tools that will
enable them to be successful.

The program consists of 45 credit hours, including foundation and advanced coursework. The
delivery format is online and includes 1.5 credit hour (8-week modules) courses to allow for focused attention to a particular topic, as well as 3 credit (16 week) courses. The structure of the Crosby MBA allows students to concentrate in a specific area of business, develop a broad managerial focus, or complement business training with coursework from other areas on campus. For graduation, MBA students must earn a cumulative grade point average of 3.0 or better.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTCY 8310</td>
<td>Accounting for Managers</td>
<td>3</td>
</tr>
</tbody>
</table>

**BUSINESS CORE FOUNDATIONS (12)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINANC 8110</td>
<td>Managerial Finance I</td>
<td>1.5</td>
</tr>
<tr>
<td>FINANC 8220</td>
<td>Economics for Managers</td>
<td>1.5</td>
</tr>
<tr>
<td>MANGMT 8390</td>
<td>Organizational Behavior and Management: Dyadic, Group and Organizational Processes</td>
<td>1.5</td>
</tr>
<tr>
<td>MANGMT 8960</td>
<td>Introduction to Strategic Management</td>
<td>1.5</td>
</tr>
<tr>
<td>MRKTNG 8460</td>
<td>Managerial Marketing</td>
<td>1.5</td>
</tr>
<tr>
<td>MRKTNG 8470</td>
<td>Advanced Marketing Management</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Professional Skills & Competencies (15)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS_AD 7050</td>
<td>MBA Communications Practice</td>
<td>1.5</td>
</tr>
<tr>
<td>BUS_AD 7340</td>
<td>Business Ethics and Leadership</td>
<td>1.5</td>
</tr>
<tr>
<td>BUS_AD 8500</td>
<td>Business Problem Analysis: Field Project</td>
<td>3</td>
</tr>
<tr>
<td>JOURN 7242</td>
<td>Strategic Communication Leadership</td>
<td>3</td>
</tr>
<tr>
<td>MANGMT 7450</td>
<td>Business Analytics</td>
<td>3</td>
</tr>
<tr>
<td>MANGMT 8010</td>
<td>MBA Professional Development - Executive Career Development</td>
<td>1.5</td>
</tr>
<tr>
<td>MRKTNG 8720</td>
<td>Global Business Environment (Elective Courses (6.0 credit hours))</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Specialty Content Courses (18) (Students choose one certificate either offered exclusively from or jointly with the Trulaske College of Business)**

- Assurance/Audit
- Center for the Digital Globe (with Center for the Digital Globe)
- Construction Management (with College of Engineering)
- Financial Management
- Global Supply Chain Management (with College of Engineering)
- Marketing Analytics

- Investments Life Science Innovation and Entrepreneurship (with College of Engineering and School of Medicine)
- Tax

**Elective Courses (3-6 credit hours)**

### Dual MBA/MSIE

The dual Master of Business Administration/Master of Science in Industrial Engineering (MBA/MSIE) Program is open to highly qualified individuals who hold a baccalaureate degree in industrial engineering from an accredited college or university. It is designed to serve those students who wish to combine the specialized skills of the industrial engineer with the general knowledge of the professional manager. The complex problems facing today's organizations often require that the engineer's analytical ability be applied simultaneously with the manager's integrative perspective. The dual program has been carefully structured to meet the student's educational goals while minimizing the course work necessary for obtaining both degrees. (58.5 total credit hours).

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSE 8110</td>
<td>Design and Analysis of Engineering Experiments</td>
<td>3</td>
</tr>
</tbody>
</table>

**Industrial Engineering Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSE Electives (12 Hours Required at 8000-Level)</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

**Shared Courses**

**IMSE Thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSE 8990</td>
<td>Research-Masters Thesis in Industrial Engineering</td>
<td>6</td>
</tr>
<tr>
<td>MBA Electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>
A joint degree program administered through the Trulaske College of Business and the Health Management and Informatics Department of the School of Medicine allows students to earn a Master of Business Administration (MBA) degree and a Master of Health Administration (MHA) degree simultaneously. Individuals interested in pursuing a managerial career in the medical services field will find that this program provides a deeper knowledge of finance, management, and marketing compared to their peers. If earned separately, each degree would take two years. The dual program is 73.5 total credit hours and allows students to graduate with both degrees in a total of three years.
A joint degree program administered through the Crosby MBA Program and the School of Law is available for those students who wish to earn a Master of Business Administration (MBA) degree and Juris Doctorate (JD) simultaneously. Individuals interested in pursuing law or business will find that this program provides them with a valuable set of skills to excel in this rapidly growing field. If earned separately, the JD degree would take three years and the MBA degree would take two years. This course of study may be completed in four years.

Entry into the Law School is in the fall. Entry into the Crosby MBA program is in the fall or spring. Students may begin either program first. However, during the first year of entering law school, only law classes will be taken. Law counts 6 MBA elective credits and the Crosby MBA counts 6 Law elective credits.

Students will work with both Law and MBA advisors to schedule classes over the 4 years a student is enrolled in both programs. NOTE: Both degrees will be awarded in the same semester and all requirements must be met for both programs before degrees are awarded.

Accelerated Master's Degree Program

As a generalist business degree, the MBA prepares students to work in many different fields by providing them with business understanding and competencies that are necessary for organizations of many types to be successful. Students will have a greater understanding of business functions such as accounting, marketing, and strategic management.

Accelerated master's degree programs allow exceptional students at Mizzou the opportunity to complete the requirements for both their bachelor’s and master’s degrees at an accelerated pace, usually with just one additional year.

Qualified students may earn up to 15 credit hours of graduate coursework while finishing their undergraduate degree. Students must apply and be admitted to an accelerated program before reaching 90 undergraduate credit hours. Students apply using the standard Graduate School application for admission (https://applygrad.missouri.edu/apply/).

Please refer to the Crosby MBA course list above and discuss interest in the MBA program with your undergraduate academic advisor.

eexecMBA

Total graduate course work necessary to qualify for the execMBA degree is 48 credit hours. For graduation, execMBA students must earn a cumulative grade point average of 3.0 or better.

The program curriculum, designed with executives in mind, is inventive, practical and market-fac ing. Students will build skills that increase self- and global-awareness, develop strategic risk-taking, and heighten influence. Delivery is a blend of approximately 75% online and 25% in-class coursework. Students will amplify global expertise and value in the marketplace with an 8- to 10-day international residency. This lock-step, cohort program – meaning students will take the same classes together in the same order – is conducive to personal interactions with the other high-level professionals.
International Residency (execMBA)

The international residency is an 8-10 day immersion in a foreign culture and its business practices during the summer between the first and second year in the program. It serves as an opportunity to apply classroom education to an international setting. Students will consult with businesses on strategic issues, network with local businesses and government officials, and explore international culture.

Program Requirements Change:

Minimal changes were made to the program requirements.

Admission Requirements: Describe any special admission procedures or qualifications required for this program which exceed regular university admission standards (ACT score, completion of core curriculum, portfolio, interview, etc) and provide a rationale. Indicate if no special qualifications are required.

No special qualifications are required over and above general admission standards.

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?

No

Provide brief explanation:

No subject specific accreditation available for this field of study.

Catalog Information:

Information provided in this section is used to automatically populate program information in the online university catalog when published each year in June.

Catalog year for changes: For all changes being made to the program, indicate the catalog year in which the changed information should begin to display.

2021-22

Change Justification:

Term effective: Select the term these changes are to be effective.

Fall 2021

Justification for changes:

Adding requirements to existing Dual/Accelerated they had in the 20-21 Catalog.

Change due to accreditation: Are the changes you are proposing precipitated by a change in the rules and requirements of your accrediting agency?

No
Academic Plan code:
  BUSAD_MBA

Reviewer Comments:
Roberto Koch (kochra) (Mon, 01 Nov 2021 16:08:27 GMT): Added dual degree attributes in myZou.
Jessica Bowen (bowenjc) (Mon, 01 Nov 2021 16:45:05 GMT): Updated formatting in course lists. changes will publish in 22/23 catalog.

Key: 407
Vote Required for Approval

View Voting Results (http://catalog.missouri.edu/programadmin/776/)

Votes Cast: 1

Yes 100%

No 0%

In Workflow
1. Form Check (whitneycm@missouri.edu)
2. Initial Prov Rvw (socaridesa@missouri.edu; bearyj@missouri.edu)
3. PUB_AF Chair (keiserl@missouri.edu)
4. A&S Dean (monniern@missouri.edu)
5. Workflow Rvw (whitneycm@missouri.edu)
6. A&S Dean (monniern@missouri.edu)
7. OUR admin (muregistrarcatalog@missouri.edu)
8. AAC-GFS Vote (borens@health.missouri.edu; freyermuthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu; desouzag@missouri.edu; wma@missouri.edu)
9. AAC-GFS Chair (borens@health.missouri.edu)
10. GFS Pres (parrishar@health.missouri.edu)
11. Grad Dean Rvw (hartjl@missouri.edu)
12. SAR (kochra@missouri.edu)
13. OUR catalog (muregistrarcatalog@missouri.edu; whitneycm@missouri.edu)

Approval Path
1. Fri, 19 Nov 2021 21:16:27 GMT
   Carla Whitney (whitneycm): Approved for Form Check
2. Thu, 02 Dec 2021 12:42:19 GMT
   Alexandra Socarides (socaridesa): Approved for Initial Prov Rvw
3. Thu, 02 Dec 2021 22:08:48 GMT
   Lael Keiser (keiserl): Approved for PUB_AF Chair
4. Thu, 02 Dec 2021 22:19:41 GMT
   Nicole Monnier (monniern): Approved for A&S Dean
5. Thu, 02 Dec 2021 22:27:04 GMT
   Carla Whitney (whitneycm): Approved for Workflow Rvw
6. Thu, 02 Dec 2021 22:36:33 GMT
   Nicole Monnier (monniern): Approved for A&S Dean
7. Tue, 07 Dec 2021 14:51:07 GMT
   Carla Whitney (whitneycm): Approved for OUR admin

History
1. Apr 23, 2021 by Jessica Bowen (bowenjc)
2. Apr 23, 2021 by Jessica Bowen (bowenjc)

Program Change Proposal
Date Submitted: Fri, 19 Nov 2021 18:45:34 GMT

Viewing: BA in Public Administration and Policy
Last approved: Fri, 23 Apr 2021 16:26:37 GMT
Last edit: Tue, 07 Dec 2021 14:48:29 GMT
Changes proposed by: millerkk

Contact Information:

Proposer User ID:
millerkk

First
Name:
Kathleen
Last
Name:
Miller
E-mail: millerkk@missouri.edu

Phone: 573/882-3471

Department:
  Truman School Gov & Pub Affrs

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?
  I am the Primary Contact

Program Status:

Status: If you are proposing to inactivate this academic program, change the status using the dropdown to Inactive. Otherwise, leave as active and note your changes on the rest of the form below.
  Active

Program Characteristics:

Campus:
  University of Missouri - Columbia

Type of Program:
  Bachelors

Emphasis Areas: Do you have plans at this point to have emphasis areas to go with this degree?
  No

Specify program level:
  Undergraduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.
  How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title:
  BA in Public Administration and Policy

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Arts &amp; Science</td>
</tr>
</tbody>
</table>

Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Public Affairs</td>
</tr>
</tbody>
</table>
Total credits required for graduation/completion:
120

Mode of Program Delivery: Select the option below which best fits the program.
Entire program offered in two or three of the above modes - entire program is offered with a choice of
different delivery modes. For example, students can choose to take the entire program online, or
come to campus for the entire program in a traditional offering.

Specify which modes of delivery are options for students in this program:
E-learning, Traditional and blended.

Delivery Site(s): Select the option below which best describes the physical locations where the program will be
delivered. This would include face-to-face sites or sites for receiving remote delivery. This would not include
online delivery.
MU Campus

CIP Code: Use the "Find" link to search the government database for applicable CIP Code.
44.0401 - Public Administration.

Collaboration within the state:

Collaboration: Are there plans to collaborate with existing complementary programs on campus, across the
UM System, and/or in the state?
No

Feasibility: Describe if collaboration is even feasible.
We have discussed sharing courses with the undergraduate program at UMSL and it would be
feasible to do so. This would be particularly useful in the online modalities.

Program Curriculum:

Program Structure

Accelerated Program: Does this change proposal include a new accelerated option within an existing
program(s)?
Yes

Accelerated Requirements: The template is available at https://gradschool.missouri.edu/wp-
content/uploads/2021/01/Accelerated-Graduate-Program-Proposal-Template.docx to provide additional
required information, and attach it here. Also, in the Program Requirements question below, add the new
accelerated requirements to the bottom of the existing requirements.

Attach File
Accelerated program proposal final version approved by faculty 11-8-21.docx

Dual Degree: Does this change proposal include a new dual degree option with existing programs?
No

Program Requirements: Describe all requirements for the program. This content will be displayed in the
Program Requirements area of the online University Catalog.

Program Requirements:

Major Program Requirements
Students will need to complete 120 credit hours consisting of College of Arts and Science
requirements, University of Missouri general education requirements
(http://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/),
University graduation requirements,
(http://catalog.missouri.edu/academicdegreerequirements/universityrequirements/) and the
program requirements listed below to confer the degree.
### Core Curriculum

<table>
<thead>
<tr>
<th>Public Affairs Courses</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUB_AF 1000</td>
<td>Principles of Public Policy Administration</td>
</tr>
<tr>
<td>POL_SC 4320</td>
<td>Public Policy</td>
</tr>
<tr>
<td>PUB_AF 4XXX</td>
<td>Program Assessment and Improvement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication Courses</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUN 3572</td>
<td>Argument and Advocacy</td>
</tr>
<tr>
<td>COMMUN 3460</td>
<td>Organizational Advocacy</td>
</tr>
<tr>
<td>COMMUN 4478</td>
<td>Communication Competencies for a Diverse Workplace</td>
</tr>
<tr>
<td>COMMUN 4473</td>
<td>Political Communication</td>
</tr>
<tr>
<td>COMMUN 4476</td>
<td>Organizational Communication</td>
</tr>
</tbody>
</table>

**Elective Courses (at least 9 credits from Public Affairs, other courses approved as electives are listed below) 9-24**

| PUB_AF 4175            | Early Childhood Policy | 3 |
| PUB_AF 4340            | Regional and Economic Development Policy | 3 |
| PUB_AF 4001            | Topics in Public Affairs | 3 |
| PUB_AF 4700            | Social Entrepreneurship | 3 |
| PUB_AF 4710            | The Nonprofit and Voluntary Sector | 3 |
| PUB_AF 4540            | Local Government Management | 3 |
| WGST 3240              | Nonprofit Work and the Pursuit of Social Justice | 3 |
| BL_STU 4303            | Black Studies in Race, Class, Gender, and U.S. Policy | 3 |
| SOCIOL 3230            | Education and Social Inequalities | 3 |
| SOCIOL 3330            | Environmental Justice | 3 |
| or PEA_ST 3330         | Environmental Justice | 3 |
| POL_SC 4140            | Congress and Legislative Policy | 3 |
| POL_SC 4370            | Law, Policy, and Regulation | 3 |
| ECONOM 3367            | Law and Economics | 3 |
| ECONOM 4315            | Public Economics | 3 |
| ECONOM 4345            | Economics of Education | 3 |
| ECONOM 4357            | Health Economics | 3 |
| SHV_LHN 3028           | Civic Leaders Internship | 3 |

* Course is under development.

^ Elective Coursework (at least three courses must be from Public Affairs):

Students select elective coursework that fulfills their career goals. The list below is not exhaustive but reflects courses departments have agreed to include. As the program rolls out, additional courses can be added to the list.

Accelerated Program Requirements:

An accelerated program provides students the opportunity to earn both a Bachelor’s and Master’s degree within five years, rather than six years if pursued consecutively. Many students approach their final year of undergraduate coursework well prepared for graduate study. This accelerated program allows students to complete several courses toward the MPA program during their final undergraduate semesters. Students then complete the requirements for the MPA with one additional year of coursework.

**Master of Public Affairs Curriculum**

The courses below will satisfy the dual enrollment and MPA requirements:

MPA Core Courses

- PUB AF 8110 Introduction to Public and Nonprofit Management
- PUB AF 8170 Public Policy Processes and Strategies
- PUB AF 8180 Research Methods and Inquiry in Public Affairs 1
- PUB AF 8181 Research Methods and Inquiry in Public Affairs 2
- PUB AF 8210 Public Service and Democracy
- PUB AF 8280 Internship in Public Affairs
Capstone Elective and Specialization Courses – 15 credits

Courses in Public and Nonprofit Management
- PUB AF 8150 Collaborative Governance
- PUB AF 8160 Organizational Dynamics and Leadership
- PUB AF 7340 Regional and Economic Development Policy
- PUB AF 7540 Local Government Management
- PUB AF 8510 Public Budgeting and Taxation
- PUB AF 8520 Human Resource Management
- PUB AF 8530 Strategic Management of Public Service Organizations
- PUB AF 7110 The Nonprofit and Voluntary Sector
- PUB AF 8720 Budgeting and Financial Management in the Nonprofit Sector

Course in Public Policy
- PUB AF 8190 Economic Analysis for Public Affairs
- PUB AF 8420 Public Program Evaluation
- PUB AF 8430 Public Policy Analysis
- PUB AF 7340 Regional and Economic Development Policy
- PUB AF 7175 Early Childhood Policy
- PUB AF 8171 Environmental Policy

Program Requirements Change:
Significant changes were made to the program requirements.

Courses outside your School/College: Outside of general education requirements or electives, indicate all of the academic units from whose course(s) you are newly adding to or removing from the program requirements.

Arts & Science

Admission Requirements: Describe any special admission procedures or qualifications required for this program which exceed regular university admission standards (ACT score, completion of core curriculum, portfolio, interview, etc) and provide a rationale. Indicate if no special qualifications are required.

Applicants must submit an application form through the Graduate School application portal, along with the application fee, statement of interest, and three letters of recommendation. Applicants must have completed 90 hours at the undergraduate level with a GPA of 3.0 or higher. The GRE exam is not required for admission.

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?
No

Provide brief explanation:
We do not have plans to accredit our BA program. NASPAA does not accredit undergraduate degrees, though there is an undergraduate program working group that we will engage.

Catalog Information:

Information provided in this section is used to automatically populate program information in the online university catalog when published each year in June.

Catalog year for changes: For all changes being made to the program, indicate the catalog year in which the changed information should begin to display.
2022-23

Change Justification:
Term effective: Select the term these changes are to be effective.
   Fall 2022

Justification for changes:
This proposal outlines the accelerated BA in Public administration and Policy and Master of Public Affairs. The accelerated program is for highly motivated students with the ability to complete a bachelor’s and master’s degree at an accelerated pace. Students in the Public Administration and Policy major become eligible for the accelerated program after completing 90 credit hours with a cumulative GPA of at least 3.0.

The Truman School MPA program extends a long history of public service education at MU, which is enhanced with the launch of the BA in Public Administration and Policy in fall 2021. Career paths for students with an MPA degree are wide ranging, including state, regional, and local government, the nonprofit sector, and academic institutions. Over 96% of the most recent graduating cohort from the MPA program have found meaningful employment within six months of graduating.

Change due to accreditation: Are the changes you are proposing precipitated by a change in the rules and requirements of your accrediting agency?
No

For Registrar use only:

Academic Owner:
   C03900

Academic Plan code:
   PUBADPL_BA

Comments:

Additional Comments:
   This proposal was approved by the Truman School faculty on November 5, 2021

Reviewer Comments:
Carla Whitney (whitneycm) (Wed, 01 Dec 2021 14:36:00 GMT): Changing to Significant Change per Dr. Martens Email.
Carla Whitney (whitneycm) (Tue, 07 Dec 2021 14:48:29 GMT): Updating workflow, Dr. Martens

changed back to minimal. Key: 776
4iiie

798: GRADUATE CERTIFICATE IN AUTISM EDUCATION

Vote Required for Approval

View Voting Results (http://catalog.missouri.edu/programadmin/798/)
Votes Cast: 1

Yes 100%

No 0%

In Workflow
1. Form Check (whitneycm@missouri.edu)
2. SPC_ED Chair (vangarderend@missouri.edu)
3. CIP Code Rvw (eimersm@missouri.edu)
4. EDUC CC 2 (adkinsde@missouri.edu)
5. EDUC Dean (fellabaumje@missouri.edu; nicholssl@missouri.edu)
6. Workflow Rvw (whitneycm@missouri.edu)
7. AAC-GFS Vote (borens@health.missouri.edu; freyermuthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu; desouzag@missouri.edu; wma@missouri.edu)
8. AAC-GFS Chair (borens@health.missouri.edu)
9. GFS Pres (parrishar@health.missouri.edu)
10. Grad Dean Rvw (hartjl@missouri.edu)
11. Provost (martensmp@missouri.edu; bearyj@missouri.edu)
12. UM (schauffin@umsystem.edu; zlkhd4@missouri.edu)
13. MDHE/CBHE (schauffin@umsystem.edu; zlkhd4@missouri.edu)
14. SAR (kochra@missouri.edu)
15. IR (urbank@missouri.edu)
16. OUR catalog (muregistrarcatalog@missouri.edu; whitneycm@missouri.edu)

**Approval Path**
1. Mon, 04 Oct 2021 16:52:38 GMT
   Carla Whitney (whitneycm): Approved for Form Check
   Delinda Van Garderen-Anderson (vangarderend): Rollback to Initiator
   Carla Whitney (whitneycm): Approved for Form Check
   Delinda Van Garderen-Anderson (vangarderend): Approved for SPC_ED Chair
5. Wed, 06 Oct 2021 16:47:37 GMT
   Mardy Eimers (eimersm): Approved for CIP Code Rvw
6. Sun, 10 Oct 2021 01:46:05 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
7. Thu, 21 Oct 2021 16:20:03 GMT
   Jennifer Fellabaum-Toston (fellabaumje): Rollback to EDUC CC 2 for EDUC Dean
8. Thu, 28 Oct 2021 21:50:20 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
9. Tue, 16 Nov 2021 15:11:30 GMT
   Jennifer Fellabaum-Toston (fellabaumje): Approved for EDUC Dean
10. Tue, 16 Nov 2021 22:08:57 GMT
    Carla Whitney (whitneycm): Approved for Workflow Rvw

**New Program Proposal**

**Date Submitted:** Mon, 04 Oct 2021 19:45:09 GMT

**Viewing:** Graduate Certificate in Autism Education

**Last edit:** Mon, 04 Oct 2021 19:45:07 GMT

**Changes proposed by:** colleyf

**Contact Information:**

**Proposer User ID:**

colleyf
First Name: Frances
Last Name: Colley
E-mail: colleyf@missouri.edu
Phone: 573/882-2659
Department: Learning Teaching & Curriculum

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?

I am entering data for the Primary Contact

MU Primary Contact: Use the search below to locate the

Primary Contact. User ID: vangarderend
First Name: Delinda
Last Name: Van Garderen-Anderson
Email: vangarderend@missouri.edu
Phone: 573/884-7075
Department: Special Education

Program Characteristics:

Campus: University of Missouri - Columbia

Type of Program: Certificate

Specify program level: Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.

How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title: Graduate Certificate in Autism Education

College(s) or School(s) offering the program: Select the college or school offering the program. If more than
one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Human Development</td>
</tr>
</tbody>
</table>

1

Education & Human Development
Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education</td>
</tr>
</tbody>
</table>

**Eligible students:**
Any person, open to non-degree seeking and degree-seeking students (free standing certificate program)

**Total credits required for graduation/completion:**
12

**Mode of Program Delivery:** Select the option below which best fits the program.
E-Learning Program – 100% of the program is online. May have proctored exams for courses.

**CIP Code:** Use the "Find" link to search the government database for applicable CIP Code.
13.1001 - Special Education and Teaching, General.

**Term Start:** Estimate the first term students will enroll.
Fall 2022

**Term Graduate:** Estimate the first term students will graduate.
Fall 2022

**Program Director:** Enter the User ID of the program director responsible for the student support services.
**Program Director User ID:** randolphj

**Program Director Name:**
Jena Randolph

**Academic Advisor(s):** Enter the User ID(s) of the academic advisor(s) responsible for advising students in this program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>randolphj</td>
<td>Jena Randolph</td>
</tr>
</tbody>
</table>

**Advisory Committee:** Provide the information requested for the member(s) of the advisory committee for this program. Committee members may include representation from the professional, business or government sectors which the program is designed to serve. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delinda Van Garderen</td>
<td>Professor</td>
<td>Special Education</td>
</tr>
<tr>
<td>Chad Rose</td>
<td>Associate Professor</td>
<td>Special Education</td>
</tr>
</tbody>
</table>

**Participating Faculty:** Enter the User ID(s) of the faculty member(s) participating in this academic program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>randolphj</td>
<td>Jena Randolph</td>
</tr>
</tbody>
</table>

**Additional Student Support Services:** Describe any additional advising and support services that will be provided to students in this program.
Access to IDE, Campus Writing Program, and Office of Disabilities, as well as the Special Education Director of Graduate Studies and departmental Office of Graduate Studies.
Fit with University Mission and Other Academic Programs:

Alignment:

**Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.**

The proposed certificate, Autism Education (AE), is aligned with Campus Strategic Plan to increase student success. AE will increase the number of graduate student options, by offering a new competitive option for graduate students seeking specialized instruction to provide evidence-based services to individuals with autism.

The certificate may be completed as a stand alone, thereby increasing student enrollment for working educators who are not interested in completing an entire graduate degree, but who are seeking further education to be able to support the growing number of students with autism being served in schools, with diverse and complex needs.

It is important to note, that since the courses proposed in the AE program are already developed and part of an established graduate degree, the certificate has the potential to entice students to extend beyond the certificate, and commit to the complete degree program instead once participating. This provides opportunity to further extend the relationship with student engagement for those who may have otherwise been hesitant to attempt to enroll in a graduate program.

The certificate presents an add on option to students who are seeking graduate degrees in other areas of study, who understand the need for specialized instruction in working effectively with students with autism. Potential graduate students to benefit from this program are degree seeking general educators, special educators, early childhood special educators, speech-language pathologists, occupational therapists, school psychologists, counselors, and other school-based service providers.

Additionally, because the certificate courses are entirely online, it allows opportunity for distance learners to participate.

There is a significant increase in the need of students with autism being served in schools, and a shortage of educators prepared to meet student needs.

Additionally, in clinical based related service programs, the scope of work that must be covered for certification allows very little time to dedicate to specifically to learning about evidence based practices to support children with autism.

**Duplication within the state:**

**Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?**

Yes

**Similar MU/UM Program Name: List the name and campus of the similar program.**

UMSL has one certificate in Autism

**Rationale: Describe the areas of duplication, the rationale for proposing a program similar to one at MU/UM, and any potential impact on the related program.**

Our program will be more competitive because 1) our program is completely online; 2) fewer hours required to complete; 3) the courses are more specific to Autism; and 4) the director of the program works at the Thompson Center, which serves as a collaborative element for our program. Students who are not in the St. Louis area who are unable to drive to campus to complete the face-to-face requirements will be able to access ours.

**Market Analysis - Need/Demand:**

**Market Analysis – Need for Program:**

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.
There are only 42 national online certificates in the country; and there are only 2 located in Missouri. The market is being driven for a need for rigorous, quality online programs for Special Education teachers. There was a 16% growth in 2019 in online programs for Special Education with a decline in on-campus programs by -18%.

The field of special education has traditionally had the highest rates of teacher mobility and attrition (Billingsley, 2004a, 2004b; Boe, 2014; Boe et al., 2008). Shortages were so widespread at one point that 98% of school districts in the U.S. reported shortages of qualified special education teachers (McLesky & Billingsley, 2008). In 2017–18, 46 states reported special education teacher shortages (U.S. Department of Education Office of Postsecondary Education, 2017; Education Commission of the States, 2021). Sadly, such shortages often result in positions staffed with uncertified teachers. For example, a 2019 press release from the American Association of Colleges for Teacher Education (AACTE) reports that 90% of high-poverty schools struggle to find qualified special education teachers (Thurman, 2019). Despite mandates for all teachers to be highly qualified in the content they teach, including strong discipline content knowledge in mathematics, too many students receive special education services from teachers who are not highly qualified (Kennedy & Ihle, 2012).

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.

Annually, the U.S. Department of Education, Office of Postsecondary Education (2017) identifies areas of teacher shortages by state. In a news release, April 16, 2021, the Missouri Department of Elementary and Secondary Education (DESE) highlighted a significant need to address teacher shortage in Missouri. Of note, “In the 2019-2020 school year, there were 6,200 open teaching positions in Missouri. ... Educator preparation programs at institutions of higher education, with a decline of over 25 percent in teacher candidate enrollment over the past six years, are not producing enough new teachers to fill our classrooms.”

Additionally, the Individuals with Disabilities Education Act (IDEA, 2004) requires students with disabilities, including students with learning disabilities to have access to the general education curriculum to the fullest extent possible. As such 64% of students with disabilities spend at least 80% of their day in the general education classroom (U.S Department of Education, 2020). General Education teachers are expected to teach special education students in their classrooms.

There is a need for more specialized and highly trained general educators, special educators & related service providers.

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Market Analysis – Student Demand for Program:

Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.

There are only 42 national online certificates in the country; and there are only 2 located in Missouri. The market is being driven for a need for rigorous, quality online programs for Special Education teachers. There was a 16% growth in 2019 in online programs for Special Education with a decline in on-campus programs by -18%.
Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:

No increased resource costs: instructor for the courses and advisor of the program already currently teaches and advises for the masters program in Autism.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:

All revenue from certificate students will be new revenue.

Business and Marketing Plan - Recruiting and Retaining Students:

Marketing Strategy: How will the program be marketed to attract new students to it?

Being this is an online program, we will be partnered with Missouri Online for advertising and recruitment. With that partnership they are able to support us in a variety of ways. We will work with our dedicated program coordinator, who will serve as the primary point person to assist in logistical and coordination efforts for the program, from ideation to implementation and throughout the program lifecycle. Their marketing division will support us with brand awareness and program specific marketing to our student demographic. We will advertise through the department website; and we will distribute information to state-wide teachers (i.e. general educators, special educators, and related service providers) through Missouri DESE. We will distribute information faculty relationships with other Missouri Education agencies (i.e. MOCEC and MOCASE.) We will advertise through select national educational conferences. We will utilize targeted advertising through social media.

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.

Based on change in degree conferrals from UMSL (2015-2019), who had 100% degree growth, we anticipate the same. As the program growth and word of mouth testimonials draw in additional students, we will reduce our marketing budget via venues such as conferences.

Retaining Students: Describe the plans to retain students through graduation.

New students are provided with orientation information and personalized attention from the advisor. Students are also encouraged to use university resources such as IDE, Office of Disabilities, et al.

Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved.

In addition to the marketing strategy listed above, the certificate program, unlike our masters program, does not require a GRE, which with this barrier removed will encourage more students to apply. Additionally, Missouri Online’s Student Lifecycle support team will aid us in guiding our potential students to support on enrollment, financial aid & billing questions as they begin their path to becoming an enrolled student.

Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?

Since the courses for this proposed program are already running for a specific Masters program, the certificate will only be closed if the courses are not filling and able to run.

Program Goals and Objectives:

Program Goals and Objectives: Briefly describe the goals and objectives of the program.

The certificate provides advanced and specialized study in special education. Course offerings and program content are organized so that participants develop a perspective about special education in their specialized area of study within a variety of contexts (e.g., individual, group, historical, and cultural) and across a range of educational environments (e.g., school, community, family). Specific emphasis is placed on empirically validated best practices for assessment, teaching and learning.
Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.

The Autism Education Certificate will prepare highly qualified educators (general educators and special educators) and related service providers to provide evidence-based practices and supports to children with autism and their families. Scholars completing the certificate program will be able to deliver EBPs that are effective across developmental domains, can ameliorate negative effects, and improve long-term outcomes of student achievement.

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Student Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  An understanding of the historical, legal, and scientific foundations that influence current practices, trends, and issues in special education</td>
</tr>
<tr>
<td>2  Research and writing skills that enable them to propose, review and evaluate research in the professional literature, and translate research into practices</td>
</tr>
<tr>
<td>3  Assessment and evaluation skills for designing, implementing, and evaluating instruction and</td>
</tr>
<tr>
<td>4  An understanding of the interactive context of families, community, schools, and society and their impact on students with exceptionalities intervention programs for students who display learning and/or behavioral difficulties or other exceptionalities</td>
</tr>
<tr>
<td>5  Collaboration and leadership skills that promote active participation in the professional community Advanced knowledge across the discipline and within area(s) of specialization</td>
</tr>
</tbody>
</table>

Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

The program structure is a 12 hours (4 course) plan of study using coursework that is delivered 100% E-Learning, taught asynchronous.

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.

Program Requirements:

Requirements

Students complete a set 12 hours (4 course) program of study. Courses can be taken in any order. Students eligible for the certificate program must hold a bachelor’s degree in the field of education, special education, or related services. Eligible students may or may not be concurrently enrolled in a graduate program.

Required Courses (9 Hours Total)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC_ED 8601</td>
<td>Introduction to Autism</td>
<td>3</td>
</tr>
<tr>
<td>SPC_ED 8604</td>
<td>High Functioning Students with Autism</td>
<td>3</td>
</tr>
<tr>
<td>SPC_ED 8603</td>
<td>Social Competency for Students with Autism</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective Course Options (3 Hours Total)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPC_ED 8602</td>
<td>Methods of Instruction for Students with Autism</td>
<td>3</td>
</tr>
<tr>
<td>SPC_ED 8606</td>
<td>Assessment in Autism, Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPC_ED 8605</td>
<td>Young Children with Autism</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Non-Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Post-Doc Fellows</td>
<td>0</td>
</tr>
<tr>
<td>Grad Tchng/Research Asst</td>
<td>0</td>
</tr>
<tr>
<td>Adjunct</td>
<td>0</td>
</tr>
</tbody>
</table>

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?

No

Provide brief explanation:

This program does not provide initial or secondary certification in the state of Missouri

Gainful Employment:

Certificate web site:

to be housed on Missouri Online and CEHD websites

Tuition for program: Based on current tuition rates, calculate the total tuition for completing this program within normal time.

$4975.20

Associated fees: Based on current fee rates, calculate the total fees for completing this program within normal time.

$862.80

Books and supplies: Based on current costs, calculate the total typical costs for books and supplies for completing this program within normal time.

$800

Related occupational titles and codes: As part of the federal disclosure, MU is required to report prospective occupations for certificate holders. Titles can be found in the US Department of Labor’s database, O’Net Online at http://www.onetonline.org. Click Find Occupations. Type a keyword into the search box. Click go. Scan the list for feasible titles. Click on a title to review its summary. If it matches the certificate, copy the job title, occupational code, and URL into the table below.

Provide at least 10 occupations. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Occupational Code</th>
<th>URL for Summary Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Teachers</td>
<td>25-2021.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2021.00">https://www.onetonline.org/link/summary/25-2021.00</a></td>
</tr>
<tr>
<td>Middle School Teachers</td>
<td>5-2022.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2022.00">https://www.onetonline.org/link/summary/25-2022.00</a></td>
</tr>
</tbody>
</table>
### Graduate Certificate in Autism Education

<table>
<thead>
<tr>
<th>Program Description</th>
<th>Code</th>
<th>Salary</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary School Teachers</td>
<td>25-2031.00</td>
<td>2031.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2031.00">https://www.onetonline.org/link/summary/25-2031.00</a></td>
</tr>
<tr>
<td>Special Education Middle School Teachers</td>
<td>25-2057.00</td>
<td>2057.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2057.00">https://www.onetonline.org/link/summary/25-2057.00</a></td>
</tr>
<tr>
<td>Special Education Elementary Teachers</td>
<td>25-2056.00</td>
<td>2056.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2056.00">https://www.onetonline.org/link/summary/25-2056.00</a></td>
</tr>
<tr>
<td>Special Education Secondary Teachers</td>
<td>25-2058.00</td>
<td>2058.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2058.00">https://www.onetonline.org/link/summary/25-2058.00</a></td>
</tr>
<tr>
<td>Special Education Preschool Teacher</td>
<td>25-2051.00</td>
<td>2051.00</td>
<td><a href="https://www.onetonline.org/link/summary/25-2051.00">https://www.onetonline.org/link/summary/25-2051.00</a></td>
</tr>
<tr>
<td>Speech Language Pathologist</td>
<td>29-1127.00</td>
<td>1127.00</td>
<td><a href="https://www.onetonline.org/link/summary/29-1127.00">https://www.onetonline.org/link/summary/29-1127.00</a></td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>29-1122.00</td>
<td>1122.00</td>
<td><a href="https://www.onetonline.org/link/summary/29-1122.00">https://www.onetonline.org/link/summary/29-1122.00</a></td>
</tr>
<tr>
<td>School Psychologists</td>
<td>19-3034.00</td>
<td>3034.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-3034.00">https://www.onetonline.org/link/summary/19-3034.00</a></td>
</tr>
</tbody>
</table>

**Catalog Information:**

Information provided in this section is used to automatically populate program information in the online university catalog when published each year in June.

**Program Description:** In one short but thorough paragraph, describe the program. This official description will be included in the online university catalog and other initiatives supporting student success. The description should include the following three elements: 1) general description of the academic subject area, explaining the area, how it is relevant today, and interest areas that would draw a person to the program; 2) highlights of the program, including descriptions of core and advanced areas of study, special activities within the program such as internships, hands-on learning, research, field operations, study abroad, mentoring, shadowing, etc; 3) careers and opportunities associated with the program, discussing typical professions and work settings, additional educational opportunities, and top prospects in employment.

This certificate prepares personnel to effectively implement evidenced-based practices for students along the full continuum of autism spectrum disorders (ASD). It enables educators to integrate all areas of curriculum to effectively assess and develop social competence benchmarks for students with ASD.

**Reviewer Comments:**

**Carla Whitney (whitneycm) (Mon, 04 Oct 2021 16:52:32 GMT):** Updated Title to fit with naming convention and put requirements in course list.

**Delinda Van Garderen-Anderson (vangarderend) (Mon, 04 Oct 2021 19:31:55 GMT):** Rollback: Fran - won't let me edit/ type re "graduate"

**Jennifer Fellabaum-Toston (fellabaumje) (Thu, 21 Oct 2021 16:20:03 GMT):** Rollback: Per our discussion in the Curriculum Committee today -- rolling back for Committee consideration and potential faculty vote.

Key: 798
790: Graduate Certificate in Positive Coaching and Athletic Leadership

In Workflow

1. Form Check (whitneycm@missouri.edu)
   2. ESC_PS Chair (slatenc@missouri.edu; offuttcc@missouri.edu)
   3. CIP Code Rvw (eimersm@missouri.edu)
   4. EDUC CC 2 (adkinsde@missouri.edu)
   5. EDUC Dean (fellabaumje@missouri.edu; nicholssl@missouri.edu)
   6. Workflow Rvw (whitneycm@missouri.edu)
   7. AAC-GFS Vote (borens@health.missouri.edu; freyermuthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu; desouzag@missouri.edu; wma@missouri.edu)
   8. AAC-GFS Chair (borens@health.missouri.edu)
   9. GFS Pres (parrishar@health.missouri.edu)
   10. Grad Dean Rvw (hartjl@missouri.edu)
   11. Provost (martensmp@missouri.edu; bearj@missouri.edu)
   12. UM (schaffin@umsystem.edu; zlkhd4@missouri.edu)
   13. MDHE/CBHE (schaffin@umsystem.edu; zlkhd4@missouri.edu)
   14. SAR (kochra@missouri.edu)
   15. IR (urbank@missouri.edu)
   16. OUR catalog (muregistrarcatalog@missouri.edu; whitneycm@missouri.edu)

Approval Path

1. Tue, 27 Jul 2021 16:20:38 GMT
   Carla Whitney (whitneycm): Approved for Form Check
2. Thu, 02 Sep 2021 18:19:01 GMT
   Carla Whitney (whitneycm): Approved for ESC_PS Chair
3. Fri, 17 Sep 2021 20:11:59 GMT
   Mardy Eimers (eimersm): Approved for CIP Code Rvw
4. Thu, 30 Sep 2021 22:17:18 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
5. Fri, 01 Oct 2021 15:53:40 GMT
   Jennifer Fellabaum-Toston (fellabaumje): Rollback to EDUC CC 2 for EDUC Dean
6. Fri, 01 Oct 2021 20:02:21 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
7. Mon, 04 Oct 2021 15:10:12 GMT
   Jennifer Fellabaum-Toston (fellabaumje): Rollback to EDUC CC 2 for EDUC Dean
8. Sun, 10 Oct 2021 01:47:37 GMT
   Denice Adkins (adkinsde): Approved for EDUC CC 2
   Jennifer Fellabaum-Toston (fellabaumje): Rollback to EDUC CC 2 for EDUC Dean
10. Thu, 18 Nov 2021 22:51:03 GMT
    Denice Adkins (adkinsde): Approved for EDUC CC 2
    Jennifer Fellabaum-Toston (fellabaumje): Approved for EDUC Dean
12. Thu, 16 Dec 2021 16:01:45 GMT
    Carla Whitney (whitneycm): Approved for Workflow Rvw
13. Sat, 15 Jan 2022 01:27:03 GMT
    4/7 votes cast.
    Yes: 100% No: 0%
    Approved for AAC-GFS Vote
14. Sat, 15 Jan 2022 01:30:23 GMT
    Suzanne Boren (borens): Approved for AAC-GFS Chair

New Program Proposal

Date Submitted: Sat, 24 Jul 2021 17:07:04 GMT
Viewing: Graduate Certificate in Positive Coaching and Athletic Leadership

Last edit: Wed, 12 Jan 2022 01:00:24 GMT
Changes proposed by: gss9cp

Contact Information:

Proposer User ID: gss9cp

First Name: Gregory
Last Name: Sullivan
E-mail: gsullivan@missouri.edu

Phone: 573/882-7738

Department: Educ, School, & Counsel Psych

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?
I am the Primary Contact

Collaborating Writers: Are there any other individuals from MU who were integrally involved in the writing of this proposal?
No

Program Characteristics:

Campus: University of Missouri - Columbia

Type of Program: Certificate

Specify program level: Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.

How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title:
Graduate Certificate in Positive Coaching and Athletic Leadership

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Educational, School &amp; Counseling Psychology</td>
</tr>
</tbody>
</table>
Eligible students:
Any person, open to non-degree seeking and degree-seeking students (free standing certificate program)

Total credits required for graduation/completion:
15

Mode of Program Delivery: Select the option below which best fits the program.
E-Learning Program – 100% of the program is online. May have proctored exams for courses.

CIP Code: Use the "Find" link to search the government database for applicable CIP Code.
31.0504 - Sport and Fitness Administration/Management.

Term Start: Estimate the first term students will enroll.
Spring 2022

Term Graduate: Estimate the first term students will graduate.
Fall 2022

Program Director: Enter the User ID of the program director responsible for the student support services. Program Director User ID:
gss9cp
Program Director Name:
Gregory Sullivan

Academic Advisor(s): Enter the User ID(s) of the academic advisor(s) responsible for advising students in this program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>lineberryd</td>
<td>David Lineberry</td>
</tr>
</tbody>
</table>

Advisory Committee: Provide the information requested for the member(s) of the advisory committee for this program. Committee members may include representation from the professional, business or government sectors which the program is designed to serve. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Scotta Morton</td>
<td>Assistant Athletics Director, Mental Performance &amp; Psychological Services</td>
<td>University of Missouri Athletics</td>
</tr>
</tbody>
</table>

Participating Faculty: Enter the User ID(s) of the faculty member(s) participating in this academic program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>neierl</td>
<td>Leigh Neier</td>
</tr>
<tr>
<td>jhny</td>
<td>Joseph Mills</td>
</tr>
<tr>
<td>gsg</td>
<td>Graham Higgs</td>
</tr>
<tr>
<td>gjp7z6</td>
<td>Gabriel Paoletti</td>
</tr>
<tr>
<td>gss9cp</td>
<td>Gregory Sullivan</td>
</tr>
</tbody>
</table>

Additional Student Support Services: Describe any additional advising and support services that will be provided to students in this program.
All advising and support services typically available to graduate students would also be available to students.

Fit with University Mission and Other Academic Programs:
Alignment:

Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.

A certificate option for the Positive Coaching and Athletic Leadership program would align with campus, college, and department goals in many ways. The certificate program would be a derivative of the highly successful M.Ed. program in Positive Coaching and Athletic Leadership. The program represents a blending of sports and performance psychology, positive psychology, coaching theories, and leadership theories. Many of our students are coach/educators and require a M.Ed. degree for advancement and
tenure within their school systems. This program represents a great option for many in that field; since fall of 2016, the program has had an average enrollment in excess of 200 students for each semester. In recent years we have had an increase in inquiries about a certificate program from individuals who are interested in our content but do not require a master's degree. Many of these inquiries come from individuals interested in positive coaching and leading who may already have a graduate degree or are not in the education field.

The coaching and athletic landscape is changing dramatically with a shift towards an understanding that optimal performance and optimal well-being are not mutually exclusive. Our degree and certificate program not only focuses on the performance and well-being of others but also on that of the coach and athletic leader. A certificate in positive coaching and athletic leadership would enable students to be successful at MU and beyond as it focus on their optimal performance and well-being (Strategy I: Student Success).

To date, the Positive Coaching and Athletic Leadership program has represented the opportunity for MU faculty to share their research and creative works. For example, program director, Dr. Greg Sullivan, has utilized a number of his peer-reviewed articles as well as his 2019 book Servant Leadership in Sport: Theory and Practice that highlight the connection between faculty research and practical application. These same works would be employed in the certificate program (Strategy II: Research and Creative Works)

A focus of the Positive Coaching and Athletic Leadership program has been the impact we can have on the lives of athletes and peers within the athletic field and beyond. It is fair to say that we are a unique program and have directly, and indirectly, positively impacted the lives of thousands of athletes across the country. In many ways, Mizzou has become synonymous with positive coaching and leadership and is a prime example of excellence in engagement and outreach. A certificate program would represent another pathway to increasing that engagement and outreach (Strategy III: Engagement and Outreach).

The Positive Coaching and Athletic Leadership program has been a model of inclusive excellence on both faculty and student representation and in our coursework. Essential to the success of our program is the belief that inclusive excellence is built into our M.Ed. and certificate programs. One of the required certificate courses is evidence of that. ESC_PS 8280, Coaching for Inclusive Excellence, explores culture, race, gender identities, and sexual identities to more closely understand athletes lived experiences. By recognizing our own biases, or blind spots, coaches and athletic leaders will build organizational cultures where athletes of all identities feel valued and capable (Strategy IV: Inclusive Excellence).

Finally, the Positive Coaching and Athletic Leadership program allows our faculty and graduates to be stewards of MU. The simple fact that this program exists highlights MU's priority and values. A certificate program in this field increases the transparency of our values and goals and provides an ease of access to information that allows us to create more stewards for these priorities and values (Strategy V: Planning, Operations and Stewardship).

Duplication within the state:

Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?

No

Market Analysis - Need/Demand:

Market Analysis – Need for Program:

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.

According to the Bureau of Labor Statistics, employment of coaches is projected to grow 12 percent from 2019 to 2029, much faster than the average for all occupations. Increasing participation in high school and college sports may boost demand for coaches. These projections are supported by the popularity of our M.Ed. program in coaching and athletic leadership

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.

A certificate program that educates coaches in positive approaches will enhance the athletic experience for thousands of athletes. For example, it is estimated that there are approximately 180,000 high school athletes within the state of Missouri and hundreds of thousands of athletes participating at the grassroots
level. Our certificate program would focus on teaching skills that transcend sport for athletes that can be used in school and beyond. Examples of this would include internal motivation, resilience, grit, optimism, self-esteem, positive relationships, and a process orientation. Under the right circumstances, there is a great deal that an athlete can learn from their sport participation. A key element is an educated coach that understand the role that they can play in enhancing the sport experience. It is estimated that 70 to 80% of youth withdraw from sport by the age of 13. We believe that a positive and educated coach can be positively impactful on those numbers and allow for increased sport participation.

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
</tr>
</tbody>
</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.
Market Analysis – Student Demand for Program:

Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.

Our M.Ed. program has been in demand since its inception in 2012. Here are our M.Ed. enrollment numbers from 2016-2020:

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall 2016</th>
<th>Spring 2017</th>
<th>Summer 2017</th>
<th>Fall 2017</th>
<th>Spring 2018</th>
<th>Summer 2018</th>
<th>Fall 2018</th>
<th>Spring 2019</th>
<th>Summer 2019</th>
<th>Fall 2019</th>
<th>Spring 2020</th>
<th>Summer 2020</th>
<th>Fall 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
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</tbody>
</table>

It should also be pointed out that awareness of our program is increasing. Missouri Online has selected our program for growth and is making significant financial investments in program awareness and growth. Providing additional information about a certificate program will enhance growth as well.

Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:

Our department has just hired an additional staff person that enables our current online staff personnel to focus additional time to growing our online programs. Our certificate program would be 100% online and would not require any additional support staff, space, library resources or equipment. As we have been chosen for scaling, we are monitoring the growth of our program for the need for additional adjunct faculty. For a full class (30 students) adjuncts with a Ph.D. are paid $6,000 per class.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:

New gross revenue to be generated by a Positive Coaching and Athletic Leadership Certificate program. 10 students ($463.45 x 15 credit hours) = $69,517.40

20 students ($463.45 x 15 credit hours) =

$139,035.00

30 students ($463.45 x 15 credit hours) = $208,552.50

Business and Marketing Plan - Recruiting and Retaining Students:

Marketing Strategy: How will the program be marketed to attract new students to it?

Strategy 1: Additional efforts through strategic marketing campaign as designed and directed by Mizzou Online creating awareness of the M.Ed. and Certificate programs

Strategy 2: Continued outreach by program director to national governing bodies, coaches associations, etc. Strategy 3: Alumni and social media outreach

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.
The Positive Coaching and Athletic Leadership program is working with Missouri Online to market and grow the program. We have entered into a 3-year agreement for marketing the program and Missouri Online is making significant time and financial commitments to growing the program. Now represents an opportune time to increase enrollment for both master's level and certificate programs. Missouri Online has projected growth of 205 new masters students for Academic Year 2021.

Retaining Students: Describe the plans to retain students through graduation.

We have a great track record of success in engaging and monitoring the progress of our students. Recently, our department, Education, School, & Counseling Psychology has formed a committee to identify, contact, and counsel at risk online students. This is a new initiative and highlights the importance of student retention. Within our individual program, I, as the program director, reach out to individual instructors to share the names of any underperforming students which enables me to monitor student success and alert the committee to any potential retention issues.
Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved. The primary plan to ensure program enrollment outcomes are to continue to work closely with Missouri Online and their marketing efforts. We believe that awareness of a non-degree seeking option will drive enrollment numbers higher.

Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?
As described, the Positive Coaching and Athletic Leadership M.Ed. program is strong and vibrant. Even if certificate enrollment falls below projections, it is our belief that we can continue to offer the certificate option. As long as we are offering the same courses and there are seats available, we can offer them to both M.Ed. and certificate students.

Program Goals and Objectives:

Program Goals and Objectives: Briefly describe the goals and objectives of the program.
Positive Coaching and Athletic Leadership (PCAL) Program
Mission: Employing the principles of Positive Psychology, Sports Psychology, and Coaching and Leadership theories, our program exists to enhance the well-being and achievement of athletes, followers, leaders, and coaches.

Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.
We exist to empower self-aware graduates who value:
the idea that other people
matter research-informed
decision-making
the idea that athlete well-being and competitive excellence are not
mutually exclusive other-centered leadership approaches
their role as advocates for Positive Coaching and Athletic Leadership

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Student Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>5</td>
</tr>
</tbody>
</table>

Serve as a Positive Coaching and Athletic Leadership advocate.
Advocate for solutions that promote goal attainment, athlete wellbeing, and competitive excellence.
Evaluate and critique cultural, race, and gender identity theories through the lens of Coaching and Leadership Principles.

Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

A Certificate Program in Positive Coaching and Athletic Leadership
15 Credit hours
100% online and asynchronous
General areas of study: positive psychology, sports psychology, excellence in diversity, sports leadership

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.
Program Requirements:

Certificate Program in Positive Coaching and Athletic Leadership Requirements

Required Courses (15 Credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC_PS 7195</td>
<td>Sport and Applied Coaching Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ESC_PS 7200</td>
<td>Positive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ESC_PS 8195</td>
<td>Applied Positive Coaching</td>
<td>3</td>
</tr>
<tr>
<td>ESC_PS 8280</td>
<td>Coaching for Inclusive Excellence</td>
<td>3</td>
</tr>
<tr>
<td>ESC_PS 8300</td>
<td>Positive Leadership in Sport</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Non-Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Post-Doc Fellows</td>
<td>0</td>
</tr>
<tr>
<td>Grad Tchg/Research Asst</td>
<td>0</td>
</tr>
<tr>
<td>Adjunct</td>
<td>0</td>
</tr>
</tbody>
</table>

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?
No

Provide brief explanation:
There is no accrediting body for this degree program.

Gainful Employment:

Certificate web site:
https://online.missouri.edu/degrees-programs/mu/education/positive-coaching-and-athletic-leadership/med

Tuition for program: Based on current tuition rates, calculate the total tuition for completing this program within normal time.
$5923

Associated fees: Based on current fee rates, calculate the total fees for completing this program within normal time.
$1028.25

Books and supplies: Based on current costs, calculate the total typical costs for books and supplies for completing this program within normal time.
$400

Related occupational titles and codes: As part of the federal disclosure, MU is required to report prospective occupations for certificate holders. Titles can be found in the US Department of Labor’s database, O*Net Online at http://www.onetonline.org. Click Find Occupations. Type a keyword into the search box. Click go. Scan the list for feasible titles. Click on a title to review its summary. If it matches the certificate, copy the job title, occupational code, and URL into the table below.

Provide at least 10 occupations. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Occupational Code</th>
<th>URL for Summary Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletics Coach</td>
<td>27-2022.00</td>
<td><a href="https://www.onetonline.org/link/summary/27-">https://www.onetonline.org/link/summary/27-</a></td>
</tr>
</tbody>
</table>
Program Description: In one short but thorough paragraph, describe the program. This official description will be included in the online university catalog and other initiatives supporting student success. The description should include the following three elements: 1) general description of the academic subject area, explaining the area, how it is relevant today, and interest areas that would draw a person to the program; 2) highlights of the program, including descriptions of core and advanced areas of study, special activities within the program such as internships, hands-on learning, research, field operations, study abroad, mentoring, shadowing, etc; 3) careers and opportunities associated with the program, discussing typical professions and work settings, additional educational opportunities, and top prospects in employment.

The online Positive Coaching program is intended for all athletic coaches and sports coordinators who have completed a bachelor’s degree program, and now wish to obtain a graduate certificate. The program is well-suited for athletic coaches at all levels of sport participation, as well as any individuals in educational or other settings, who provide instructional, leadership or counseling services to students or to others.

The required core courses focus on identifying and applying the most pertinent and impactful aspects of sport, coaching and positive psychology. The core courses also focus on leading individuals, teams and groups to experience the fulfillment and happiness associated with striving for and achieving excellence. Emphasis is on the understanding, skills and strategies of highly effective teaching, learning and leading.

The electives emphasize the development of professional knowledge and awareness of key topical issues and areas pertinent to preparing to serve as competent, caring and committed coaches for others. Course topics include:

Administration of athletics
programs Ethical and legal aspects of athletics Athlete training and conditioning Gender and multicultural issues in sports Positive coaching Positive interventions contributing to coordinated school health programs Healthier total school or organizational environments

Degree Requirements
This is a 15 credit hour program. Students take 15 hours of required core course work.

Relevant Documentation:
If you have any additional documentation supporting your proposal, attach those items here. Once files are selected, they will be listed in the Files To Be Uploaded box. Once the proposal is saved, they will be listed in the Uploaded Files box.

Grad Cert in Positive Coaching and Athletic Leadership PC) Form.docx

Reviewer Comments:
Carla Whitney (whitneycm) (Tue, 27 Jul 2021 16:08:39 GMT): Adding Graduate to the title to match naming scheme. Put course list into table.
Carla Whitney (whitneycm) (Thu, 02 Sep 2021 18:18:57 GMT): Approving per Chris Slaten. E-mail 9/2/2021.
Jennifer Fellabaum-Toston (fellabaumje) (Fri, 01 Oct 2021 15:53:40 GMT): Rollback: New programs, including certificates should go through Curriculum Committee to a vote of the faculty.
Jacqueline Beary (bearyj) (Wed, 12 Jan 2022 01:00:24 GMT):

Added PC form Key: 790

4iiig

796: GRADUATE CERTIFICATE IN HEALTH DATA SCIENCE

Vote Required for Approval
View Voting Results (http://catalog.missouri.edu/programadmin/796/)

Votes Cast: 2
Yes 100%
No 0%

In Workflow

1. Form Check (whitneycm@missouri.edu)
2. INFOINST Chair (shyuc@missouri.edu)
3. CIP Code Rvw (eimersm@missouri.edu)
4. GRAD Dean (hartjl@missouri.edu)
5. Workflow Rvw (whitneycm@missouri.edu)
6. AAC-GFS Vote (borens@health.missouri.edu; freyermuthr@missouri.edu; neumans@missouri.edu; martindan@health.missouri.edu; mustaphaa@missouri.edu; desouzag@missouri.edu; wma@missouri.edu)
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13. SAR (kochra@missouri.edu)
14. IR (urbank@missouri.edu)
15. OUR catalog (muregistrarcatalog@missouri.edu; whitneycm@missouri.edu)

Approval Path
1. Thu, 30 Sep 2021 18:17:41 GMT
   Carla Whitney (whitneycm): Approved for Form Check
2. Thu, 30 Sep 2021 18:22:08 GMT
   Chi-Ren Shyu (shyuc): Approved for INFOINST Chair
   Mardy Eimers (eimersm): Approved for CIP Code Rvw
4. Thu, 07 Oct 2021 16:12:28 GMT
   Jennifer Hart (hartjl): Approved for GRAD Dean
5. Tue, 19 Oct 2021 19:54:54 GMT
   Carla Whitney (whitneycm): Approved for Workflow Rvw

New Program Proposal
Date Submitted: Sat, 25 Sep 2021 13:53:59 GMT
Viewing: Graduate Certificate in Health Data Science
Last edit: Wed, 12 Jan 2022 00:39:01 GMT
Changes proposed by: scottgs

Contact Information:

Proposer User ID:
scottgs

First Name:
Grant

Last Name:
Scott

E-mail:
scottgs@missouri.edu

Phone:
573/884-6648
Department:
Electrical Eng & Computer Sci

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group? I am the Primary Contact

Collaborating Writers: Are there any other individuals from MU who were integrally involved in the writing of this proposal? No

Program Characteristics:

Campus:
University of Missouri - Columbia

Type of Program:
Certificate

Specify program level:
Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.

How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title:
Graduate Certificate in Health Data Science

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Graduate School</td>
</tr>
</tbody>
</table>

Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
<thead>
<tr>
<th>Units (Departments, Divisions, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>MU Informatics</td>
</tr>
</tbody>
</table>

Eligible students:
Any person, open to non-degree seeking and degree-seeking students (free standing certificate program)

Total credits required for graduation/completion:
12

Mode of Program Delivery: Select the option below which best fits the program.
Entire program offered in two or three of the above modes - entire program is offered with a choice of different delivery modes. For example, students can choose to take the entire program online, or come to campus for the
entire program in a traditional offering.

**Specify which modes of delivery are options for students in this program:**
Both online courses and on-campus courses from the Data Science and Analytics program can be taken by students pursuing this graduate certificate.

**Delivery Site(s):** Select the option below which best describes the physical locations where the program will be delivered. This would include face-to-face sites or sites for receiving remote delivery. This would not include online delivery.
MU Campus

**CIP Code:** Use the "Find" link to search the government database for applicable CIP Code.
11.0199 - Computer and Information Sciences, Other.
Term Start: Estimate the first term students will enroll.
Fall 2022

Term Graduate: Estimate the first term students will graduate.
Spring 2024

Program Director: Enter the User ID of the program director responsible for the student support services.
Program Director User ID:
scottgs
Program Director Name:
Grant Scott

Academic Advisor(s): Enter the User ID(s) of the academic advisor(s) responsible for advising students in this program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>wheeleral</td>
<td>Adrianna Lynn</td>
</tr>
</tbody>
</table>

Advisory Committee: Provide the information requested for the member(s) of the advisory committee for this program. Committee members may include representation from the professional, business or government sectors which the program is designed to serve. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew Roberts</td>
<td>Lead Data Scientist, Cerner Intelligence</td>
<td>Cerner</td>
</tr>
<tr>
<td>Balathasan Girtharan (Giri)</td>
<td>Machine Learning and Deep Learning Lead</td>
<td>Bayer - Monsanto</td>
</tr>
<tr>
<td>Tom Henry</td>
<td>Chief Data Officer &amp; VP</td>
<td>Schnucks Markets</td>
</tr>
</tbody>
</table>

Participating Faculty: Enter the User ID(s) of the faculty member(s) participating in this academic program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>shyuc</td>
<td>Chi-Ren Shyu</td>
</tr>
<tr>
<td>setslr</td>
<td>Lincoln Sheets</td>
</tr>
<tr>
<td>ttgs</td>
<td>Grant Scott</td>
</tr>
<tr>
<td>ejm301</td>
<td>Edward Mirielli</td>
</tr>
<tr>
<td>green</td>
<td>Timothy Green</td>
</tr>
</tbody>
</table>

Additional Student Support Services: Describe any additional advising and support services that will be provided to students in this program.
The Data Science and Analytics program will provide advising and support services for this certificate.

Fit with University Mission and Other Academic Programs:

Alignment:

Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.
As awareness has spread of the DSA MS program and the field of Data Science in general, there has been a steady inquiry from existing on-campus students about the program. This Graduate Certificate will allow on-campus graduate students to supplement their graduate coursework with DSA courses to increase their value and marketability while attaining advanced degrees in other fields.
These students will be primarily from related fields of graduate study, including Statistics, Informatics, Health Management Informatics, and other health care related fields. Additionally, we expect this number to increase as data, specifically Big Data, continues to evolve as the new modality of scientific discovery and research. Furthermore, as the University is awarded external funding for research and training programs related to Big Data; demands for training of graduate students, staff, and post-doctoral faculty will continue to increase. Leveraging the existing MS DSA curriculum in training on-site graduate students is a natural and optimal way to support these efforts. This certificate aligns with the strategic plan in regards to enhancing research and increasing engagement and outreach.
Duplication within the state:

Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?
No

Market Analysis - Need/Demand:

Market Analysis – Need for Program:

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.
During a July 9th, 2021 meeting with Provost Ramchand, information was shared with me to indicate there was a need and market demand for this certificate based on their studies in Adult-Learner and Workforce Development needs of Missouri and the region.

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.
Across the region, the need to advance and skill up existing workforce for our new data-driven and data-intensive society has emerged.
Additionally, graduate students and researchers across a variety of disciplines are seeing increased demand for large scale data analytics.

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Market Analysis – Student Demand for Program:

Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.
The DSA program, in general, has seen increased demand for certificates within the last couple years. This certificate will allow a specialization linking data science and various fields of health care.

Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:
The Data Science and Analytics program has an existing MS Degree with a Bio-Health emphasis area that includes the delivery of all courses that are part of this certificate.
The only additional resources necessary will be increased graduate teaching assistant support for existing courses to accommodate increased enrollment.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:
The new to MU revenue is expected to be for 12 credit hours, at graduate tuition fees as well as the associated differential fees that are in place for the Data Science and Analytics Online program or the Institute for Data Science and Informatics (on-campus).
Business and Marketing Plan - Recruiting and Retaining Students:

Marketing Strategy: How will the program be marketed to attract new students to it?
We will piggy-back the marketing of this new certificate to go along with existing marketing efforts for the MS DSA and Certificate for external / New-to-MU students. Additionally, we will conduct outreach efforts with collaborators within IDSI to reach existing graduate students who may find value in adding this to their existing plan of study.

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.
We expect the graduate certificate to grow incrementally over the first couple years, they level-off at at a steady state of approximately 30 students per year.
Retaining Students: Describe the plans to retain students through graduation.
The DSA program uses a cohort model, which is known to increase retention and graduation rates. Our existing, successful techniques to foster a cohesive social learning experience for students will be leveraged for students of this certificate.

Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved.
We will work with the Office of eLearning for the online and continuing education component, which is where we expect the New-to-MU students to originate. We have been engaged in a cooperative campaign to increase DSA program awareness and enrollment scaling for the past year and will continue this in the future. We will continue outreach through IDS I to increase awareness among existing graduate students and research members of the community.

Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?
Since this certificate will be a sub-set of the MS Data Science and Analytics - BioHealth Emphasis, the only additional resource expected for successful delivery is additional graduate teaching assistant support. If the certificate has low uptake and enrollment, the courses will still be supported by the MS and will simply require less learning support for lower existing courses enrollment.

Program Goals and Objectives:
Program Goals and Objectives: Briefly describe the goals and objectives of the program.
The objective of the Graduate Certificate in Health Data Science is to enable students from multiple different graduate programs at the University of Missouri, as well as professionals in the workforce, to receive education and training in the emerging field of Data Science as applied to the fields of healthcare, social sciences, health professions, and other disciplines. Data science skills are increasingly necessary for all fields of advanced study due to the emergence of large-scale data and the incumbent challenges across academia and industry. This certificate will support the University of Missouri’s strategic goals of increasing outreach and education for professional development and continuing education.

Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.
At the conclusion of the Graduate Certificate in Health Data Science and Analytics, students will:
1. Have experience in applying state-of-the-art data science tools and techniques to solve industry, academic, and/or business data and decision-making challenges.
2. Have a comprehensive understanding of modern data analytics, statistical analysis, and visualization tools that facilitate timely, large data analysis for health care.
3. Be able to effectively communicate to a broad audience the relevant information derived from large data collections using a variety of visualization and presentation methods.
4. Understand the fundamental and advanced data concepts related to health data, such as balancing privacy and de-identified data with advanced analytics.

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Student Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
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<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>
Students will learn advanced techniques for Health Data Science, including Research informatics and clinical trials, Advanced Statistical methods (survival analysis, time series, mixed models), Advanced Health Data Machine Learning, Clinical Decision Support standards (SMART, FHIR)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Students will learn of the Ethics and Regulations of Protected Health Data</td>
</tr>
<tr>
<td>4</td>
<td>Students will learn of the specialized concerns of health related data, such as Statistical Analysis of Health Data (One and two sample testing, regression, matched data analysis, ANOVA, power analysis, sample size calculations)</td>
</tr>
<tr>
<td>5</td>
<td>Students will understand Health Data Ontologies (ICD-9/10, CPT, SNOMED, LOINC, others)</td>
</tr>
<tr>
<td>6</td>
<td>Students will learn advanced techniques for Health Data Science, including Research informatics and clinical trials, Advanced Statistical methods (survival analysis, time series, mixed models), Advanced Health Data Machine Learning, Clinical Decision Support standards (SMART, FHIR)</td>
</tr>
</tbody>
</table>
Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

All courses will be available in the DSA modular cohort structure delivery, using online or on-campus, based on student selected course section.

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.

Program Requirements:

Requirements
A total of 12 credit hours of coursework is required for the Certificate.

The following three courses, each 3-credit hours, are required: Required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA_SCI 7010</td>
<td>Introduction to Data Science and Analytics</td>
<td>3</td>
</tr>
<tr>
<td>DATA_SCI 7020</td>
<td>Statistical and Mathematical Foundations for Data Analytics</td>
<td>3</td>
</tr>
<tr>
<td>DATA_SCI 8130</td>
<td>Data Science for Health Care</td>
<td>3</td>
</tr>
<tr>
<td>Electives: 3 Additional credit hours</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DATA_SCI 8140</td>
<td>Advanced Methods in Health Data Science</td>
<td>3</td>
</tr>
<tr>
<td>DATA_SCI 8160</td>
<td>Population Health Analytics</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: 3 Additional credit hours of Data Science Electives

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Non-Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Post-Doc Fellows</td>
<td>0</td>
</tr>
<tr>
<td>Grad Tchg/Research Asst</td>
<td>0</td>
</tr>
<tr>
<td>Adjunct</td>
<td>0</td>
</tr>
</tbody>
</table>

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?

No

Provide brief explanation:

This is a graduate certificate. Accreditation will be pursued when an appropriate accrediting organization is established for Data Science.

Gainful Employment:

Certificate web site:

dsa.missouri.edu

Tuition for program: Based on current tuition rates, calculate the total tuition for completing this program within normal time.

$4975.2

Associated fees: Based on current fee rates, calculate the total fees for completing this program within normal time.
$8880

Books and supplies: Based on current costs, calculate the total typical costs for books and supplies for completing this program within normal time.

$0

Related occupational titles and codes: As part of the federal disclosure, MU is required to report prospective occupations for certificate holders. Titles can be found in the US Department of Labor’s database, O*Net Online at http://www.onetonline.org. Click Find Occupations. Type a keyword into the search box. Click go. Scan the list for feasible titles. Click on a title to review its summary. If it matches the certificate, copy the job title, occupational code, and URL into the table below.

Provide at least 10 occupations. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Occupational Code</th>
<th>URL for Summary Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Scientists and Specialists, Including Health</td>
<td>19-2041.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-2041.00">https://www.onetonline.org/link/summary/19-2041.00</a></td>
</tr>
<tr>
<td>Health Informatics Specialists</td>
<td>15-1211.01</td>
<td><a href="https://www.onetonline.org/link/summary/15-1211.01">https://www.onetonline.org/link/summary/15-1211.01</a></td>
</tr>
<tr>
<td>Epidemiologists</td>
<td>19-1041.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-1041.00">https://www.onetonline.org/link/summary/19-1041.00</a></td>
</tr>
<tr>
<td>Data Scientists</td>
<td>15-2051.00</td>
<td><a href="https://www.onetonline.org/link/summary/15-2051.00">https://www.onetonline.org/link/summary/15-2051.00</a></td>
</tr>
<tr>
<td>Social Science Research Assistants</td>
<td>19-4061.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-4061.00">https://www.onetonline.org/link/summary/19-4061.00</a></td>
</tr>
<tr>
<td>Bioinformatics Scientists</td>
<td>19-1029.01</td>
<td><a href="https://www.onetonline.org/link/summary/19-1029.01">https://www.onetonline.org/link/summary/19-1029.01</a></td>
</tr>
<tr>
<td>Social Scientists and Related Workers, All Other</td>
<td>19-3099.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-3099.00">https://www.onetonline.org/link/summary/19-3099.00</a></td>
</tr>
<tr>
<td>Health Technologists and Technicians, All Other</td>
<td>29-2099.00</td>
<td><a href="https://www.onetonline.org/link/summary/29-2099.00">https://www.onetonline.org/link/summary/29-2099.00</a></td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists</td>
<td>19-1042.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-1042.00">https://www.onetonline.org/link/summary/19-1042.00</a></td>
</tr>
<tr>
<td>Biostatisticians</td>
<td>15-2041.01</td>
<td><a href="https://www.onetonline.org/link/summary/15-2041.01">https://www.onetonline.org/link/summary/15-2041.01</a></td>
</tr>
</tbody>
</table>

Catalog Information:

Information provided in this section is used to automatically populate program information in the online university catalog when published each year in June.

Program Description: In one short but thorough paragraph, describe the program. This official description will be included in the online university catalog and other initiatives supporting student success. The description should include the following three elements: 1) general description of the academic subject area, explaining the area, how it is relevant today, and interest areas that would draw a person to the program; 2) highlights of the program, including descriptions of core and advanced areas of study, special
activities within the program such as internships, hands-on learning, research, field operations, study abroad, mentoring, shadowing, etc; 3) careers and opportunities associated with the program, discussing typical professions and work settings, additional educational opportunities, and top prospects in employment.

The Graduate Certificate in Health Data Science will enable students from multiple different graduate programs at the University of Missouri, as well as professionals in the workforce, to receive education and training in the emerging field of Data Science as applied to the fields of healthcare, social sciences, health professions, and other disciplines. Data science skills are increasingly necessary for all fields of advanced study due to the emergence of large-scale data and the incumbent challenges across academia and industry.

Relevant Documentation:

If you have any additional documentation supporting your proposal, attach those items here. Once files are selected, they will be listed in the Files To Be Uploaded box. Once the proposal is saved, they will be listed in the Uploaded Files box.

Graduate Certificate in Health Data Science.docx
Grad Cert in Health Data Science (PC) Form.docx

Comments:

Additional Comments:
Graduate Certificate developed at request of Provost Ramchand (July 9th, 2021 meeting). Approved by DSA Faculty, Sept 23, 2021.

Reviewer Comments:
Carla Whitney (whitneycm) (Thu, 30 Sep 2021 18:17:34 GMT): Put Requirements in course table.
Jacqueline Beary (bearyj) (Wed, 12 Jan 2022 00:39:01 GMT):

Added PC form Key: 796
8. GFS Pres (parrish@health.missouri.edu)
9. Grad Dean Rvw (hartjl@missouri.edu)
10. Provost (martensmp@missouri.edu; bearyj@missouri.edu)
11. UM (schaffin@umsystem.edu; zlkhd4@missouri.edu)
12. MDHE/CBHE (schaffin@umsystem.edu; zlkhd4@missouri.edu)
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2. Thu, 30 Sep 2021 18:34:14 GMT
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New Program Proposal
   Date Submitted: Sat, 25 Sep 2021 14:02:47 GMT

Viewing: Graduate Certificate in Geospatial Analytics
Last edit: Thu, 30 Sep 2021 18:21:39 GMT
   Changes proposed by: scottgs

Contact Information:

Proposer User ID:
   scottgs

First Name:
   Grant

Last Name:
   Scott

E-mail:
   scottgs@missouri.edu

Phone:
   573/884-6648
Department:
   Electrical Eng & Computer Sci

Primary Contact: The Primary Contact should be an individual who was integrally involved in the writing of this proposal, and will be able to answer questions regarding its content. Are you the Primary Contact for this proposal, or are you submitting this proposal on behalf of another individual/group?
   I am the Primary Contact

Program Characteristics:

Campus:
   University of Missouri - Columbia

Type of Program:
   Certificate

Specify program level:
   Graduate

Program Title: List the exact name of the program. If a degree, include the abbreviation for the degree (i.e. BA, BS, MS, PhD). If a minor, graduate minor, certificate or graduate certificate, include this first in the program title. If an emphasis, first list the parent degree title (i.e. BA in Undergraduate Studies), followed by "with Emphasis in", followed by the emphasis title.
   How it is listed here is what will display on the transcript (and diploma if a degree).

Program Title:
   Graduate Certificate in Geospatial Analytics

College(s) or School(s) offering the program: Select the college or school offering the program. If more than one, use the green plus sign to add rows for listing additional colleges, and use the green arrows to list the primary unit at the top.

<table>
<thead>
<tr>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Graduate School</td>
</tr>
</tbody>
</table>

Unit(s) offering the program: Select the unit offering the program. If more than one, use the green plus sign to add rows for listing additional units, and use the green arrows to list the primary unit at the top. Only units currently offering programs are in the list. See the blue help bubble for instructions if unit is not listed.

<table>
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<tr>
<th>Units (Departments, Divisions, etc.)</th>
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<tbody>
<tr>
<td>1 MU Informatics</td>
</tr>
</tbody>
</table>

Eligible students:
   Any person, open to non-degree seeking and degree-seeking students (free standing certificate program)

Total credits required for graduation/completion:
   12

Mode of Program Delivery: Select the option below which best fits the program.
   Entire program offered in two or three of the above modes - entire program is offered with a choice of different delivery modes. For example, students can choose to take the entire program online, or come to campus for the entire program in a traditional offering.

Specify which modes of delivery are options for students in this program:
Both online courses and on-campus courses from the Data Science and Analytics program can be taken by students pursuing this graduate certificate.

Delivery Site(s): Select the option below which best describes the physical locations where the program will be delivered. This would include face-to-face sites or sites for receiving remote delivery. This would not include online delivery.

MU Campus

CIP Code: Use the "Find" link to search the government database for applicable CIP Code.
11.0199 - Computer and Information Sciences, Other.

Term Start: Estimate the first term students will enroll.
Fall 2022

Term Graduate: Estimate the first term students will graduate.
Spring 2024

Program Director: Enter the User ID of the program director responsible for the student support services. Program Director User ID:
scottgs

Program Director Name:
Grant Scott

Academic Advisor(s): Enter the User ID(s) of the academic advisor(s) responsible for advising students in this program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wheeleral</td>
</tr>
<tr>
<td></td>
<td>Adrianna Wheeler</td>
</tr>
</tbody>
</table>

Advisory Committee: Provide the information requested for the member(s) of the advisory committee for this program. Committee members may include representation from the professional, business or government sectors which the program is designed to serve. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Henry</td>
<td>Chief Data Officer &amp; VP</td>
<td>Schnucks Markets</td>
</tr>
<tr>
<td>Jacky Zhao</td>
<td>Director, Data Science</td>
<td>Truckstop.com</td>
</tr>
<tr>
<td>Justin VanOpdorp</td>
<td>Chief Data Science and Analytics Officer</td>
<td>Lockton</td>
</tr>
<tr>
<td>Kyle Hamm</td>
<td>&quot;VP, Chief of Staff to Chief Supply Chain Officer&quot;</td>
<td>Schneider Electric</td>
</tr>
</tbody>
</table>

Participating Faculty: Enter the User ID(s) of the faculty member(s) participating in this academic program. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>scottgs</td>
<td>Grant Scott</td>
</tr>
<tr>
<td>tisziwt</td>
<td>Timothy Matisziw</td>
</tr>
<tr>
<td>ejm301</td>
<td>Edward Mirielli</td>
</tr>
<tr>
<td>:3p</td>
<td>K S M Tozammel Hossain</td>
</tr>
</tbody>
</table>

Additional Student Support Services: Describe any additional advising and support services that will be provided to students in this program.

The Data Science and Analytics program will provide advising and support services for this certificate.
Alignment:

Alignment with Campus Strategic Plan: Explain how the program aligns with campus goals and priorities as stated in the Campus Strategic Plan (refer to blue help bubble), as well as college and department goals.

As awareness has spread of the DSA MS program and the field of Data Science in general, there has been a steady inquiry from existing on-campus students about the program. This Graduate Certificate will allow on-campus graduate students to supplement their graduate coursework with DSA courses to increase their value and marketability while attaining advanced degrees in other fields.

These students will be from a variety of fields of graduate study that are increasingly incorporating location, proximity, and geospatial concepts into their research, such as Geography, Political Science, Social Sciences, Informatics, Health, and other STEM and non-STEM fields. Additionally, we expect the demand to increase as data, specifically Geospatial Big Data, continues to evolve to play an increasingly vital role in scientific discovery and research.

Furthermore, as the University is awarded external funding for research and training programs related to Big Data; demands for training of graduate students, staff, and post-doctoral faculty will continue to increase. Leveraging the existing MS DSA curriculum in training on-site graduate students is a natural and optimal way to support these efforts.

This certificate aligns with the strategic plan in regards to enhancing research and increasing engagement and outreach.

Duplication within the state:

Potential Duplications at MU or within UM: Does a similar program exist at MU or at another UM System school?

No

Market Analysis - Need/Demand:

Market Analysis – Need for Program:

Market Demand: Based on national, regional, state, or local market demand, justify the need for graduates of this program. Provide convincing data from sources such as MERIC or Bureau of Labor Statistics.

During a July 9th, 2021 meeting with Provost Ramchand, information was shared with me to indicate there was a need and market demand for this certificate based on their studies in Adult-Learner and Workforce Development needs of Missouri and the region.

Meeting Missouri’s Needs: Explain how the program will help meet Missouri’s academic, economic and societal needs.

Across the region, the need to advance and skill up existing workforce for our new data-driven and data-intensive society has emerged. Additionally, graduate students and researchers across a variety of disciplines are seeing increased demand for large scale data analytics. Specifically, the St. Louis community is making a push to become a geospatial industry hub, anchored by a new multi-billion dollar federal DoD facility and the expected necessary support contractors.

Student Enrollment Projections: Estimate the total student enrollment in the program for the fall semester for the first five years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Student Enrollment Projections - New to MU: Estimate the total enrollment of students new to MU in the fall semester for the first five years.
Market Analysis – Student Demand for Program:

Student Demand: Describe the evidence of sufficient student demand to support a viable program. The demand must be sufficient to project fiscal and academic viability within five years of the start of the program.

The DSA program, in general, has seen increased demand for certificates within the last couple years. This certificate will allow a specialization linking data science and location/geographic data needs.

Financial Projections:

Resources: Describe the resources necessary to launch and support the program, including estimates of instructional costs, student advising, support staff, space, library resources, equipment, etc:

The Data Science and Analytics program has an existing MS Degree with a Geospatial emphasis area that includes the delivery of all courses that are part of this certificate.

The only additional resources necessary will be increased graduate teaching assistant support for existing courses to accommodate increased enrollment.

New Revenue: Describe the new revenue to be generated from program enrollment by students NEW TO MU, including any new or additional fees to be collected:

The new to MU revenue is expected to be for 12 credit hours, at graduate tuition fees as well as the associated differential fees that are in place for the Data Science and Analytics Online program or the Institute for Data Science and Informatics (on-campus).

Business and Marketing Plan - Recruiting and Retaining Students:

Marketing Strategy: How will the program be marketed to attract new students to it?

We will piggy-back the marketing of this new certificate to go along with existing marketing efforts for the MS DSA and Certificate for external / New-to-MU students. Additionally, we will conduct outreach efforts with collaborators within IDSI to reach existing graduate students who may find value in adding this to their existing plan of study.

Projected program growth: Project how the program will grow over time and how marketing will change as the program grows.

We expect the graduate certificate to grow incrementally over the first couple years, they level-off at at a steady state of approximately 30 students per year.

Retaining Students: Describe the plans to retain students through graduation.

The DSA program uses a cohort model, which is known to increase retention and graduation rates. Our existing, successful techniques to foster a cohesive social learning experience for students will be leveraged for students of this certificate.

Achieving Enrollment Outcomes: Describe the plans to ensure program enrollment outcomes are achieved.

We will work with the Office of eLearning for the online and continuing education component, which is where we expect the New-to-MU students to originate. We have been engaged in a cooperative campaign to increase DSA program awareness and enrollment scaling for the past year and will continue this in the future.

We will continue outreach through IDSI to increase awareness among existing graduate students and research members of the community.

Exit Strategy: Provide information regarding the steps the department/academic unit will take if the program underperforms expectations. At what point would the academic unit believe the program needs to be put on hiatus or discontinued?

Since this certificate will be a sub-set of the MS Data Science and Analytics - Geospatial Emphasis, the only additional resource expected for successful delivery is additional graduate
teaching assistant support. If the certificate has low uptake and enrollment, the courses will still be supported by the MS and will simply require less learning support for lower existing courses enrollment.

Program Goals and Objectives:

Program Goals and Objectives: Briefly describe the goals and objectives of the program.

The objective of the Graduate Certificate in Geospatial Analytics is to enable students from multiple different graduate programs at the University of Missouri, as well as professionals in the workforce, to receive education and training in the emerging field of Data Science as it applied to the fields of Geographic Information Systems (GIS), location-based systems and services, and related fields (e.g., epidemiology). Data science skills are increasingly necessary for all fields of advanced study due to the emergence of large-scale data and the incumbent challenges across academia and industry.

Overall Description of Student Learning Objectives: Provide any overall descriptive information regarding the student learning objectives for this program.

At the conclusion of the Graduate Certificate in Geospatial Analytics, students will:
1. Gain knowledge and experience with the exploitation of geospatial data that is stored in a variety of formats and source locations, as well as experience developing geospatial visualizations of data, blending multiple geospatial data layers as well as non-spatial data.
2. Have a comprehensive understanding of modern geospatial data analytics, statistical analysis, and machine learning tools for Geospatial Big Data.
3. Be able to effectively communicate to a broad audience relevant information derived from large geospatial data collections using a variety of visualization and presentation methods.
4. Understand and leverage a variety of geospatial data formats, including raster data from airborne and spaceborne sensors, as well as derived vector data layers.

Listing of Student Learning Objectives: Include clearly stated student learning objectives for the program, indicating what students will know (concepts, terminology, methods, history, etc) and what students will be able to do when they complete the program. These should be broad enough to encompass all of the knowledge acquired during the course of study yet specific enough, using active verbs, to communicate clearly to students, parents and other stakeholders what students will know and be able to do. Most programs identify 6-10 student learning objectives. Refer to the blue help bubble for examples or additional assistance.

Provide a minimum of six student learning objectives in the table below. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Student Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Understanding foundation data science concepts, including Data Science Lifecycle, Data Preparation: Data Acquisition, Data Formatting, structuring, and cleansing, Pattern Analysis, Data Mining, Visualization</td>
</tr>
<tr>
<td>2 Understanding key elements of enterprise, scalable data storage, including Relational Database Systems, SQL-powered Analytics, Database Design and Data Engineering</td>
</tr>
<tr>
<td>3 Learning fundamental of geospatial data, including CRS, Projections, and Geospatial Concepts and Key Geospatial Data Formats</td>
</tr>
<tr>
<td>4 Students will be able to Leverage Geospatial Data within the Data Science Lifecycle, and use Enterprise tools for Raster and Vector Geospatial Analytics</td>
</tr>
<tr>
<td>5 Students will Develop the ability to perform spatial and geostatistical analysis techniques</td>
</tr>
<tr>
<td>6 Students will learn of Extensions of statistical and data science techniques into Geospatial domain, including the Interpretation of Geospatial Analytics</td>
</tr>
</tbody>
</table>

Program Curriculum:

Program Structure

General description: Provide a general description of the structure of the curriculum plan, such as the overall number of credit hours required, general areas of study, planned academic activities, etc. If the
program has an online option, explain if instruction is delivered in an asynchronous format, a synchronous format, or both.

All courses will be available in the DSA modular cohort structure delivery, using online or on-campus, based on student selected course section.

Program Requirements: Describe all requirements for the program. This content will be displayed in the Program Requirements area of the online University Catalog.

Program Requirements:

Requirements

A total of 12 credit hours of coursework is required for the Certificate. The following three courses, each 3-credit hours, are required:

Required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA_SCI 7010</td>
<td>Introduction to Data Science and Analytics</td>
<td>3</td>
</tr>
<tr>
<td>DATA_SCI 7030</td>
<td>Database and Analytics</td>
<td>3</td>
</tr>
<tr>
<td>DATA_SCI 8510</td>
<td>Geospatial Data Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Course Eligible for Substitution

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA_SCI 8530</td>
<td>Remote Sensing Data Analytics</td>
</tr>
</tbody>
</table>

Additional Faculty: For each level of expertise, provide the number of additional faculty that will be needed to deliver the program. If none, indicate 0.

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Non-Tenure Track</td>
<td>0</td>
</tr>
<tr>
<td>Post-Doc Fellows</td>
<td>0</td>
</tr>
<tr>
<td>Grad Tchn/Research Asst</td>
<td>0</td>
</tr>
<tr>
<td>Adjunct</td>
<td>0</td>
</tr>
</tbody>
</table>

Accreditation:

Plans to apply: Do you plan to apply for program specific accreditation?

   No

Provide brief explanation:

   This is a graduate certificate. Accreditation will be pursued when an appropriate accrediting organization is established for Data Science.

Gainful Employment:

Certificate web site:

dsa.missouri.edu

Tuition for program: Based on current tuition rates, calculate the total tuition for completing this program within normal time.

   $4975.2

Associated fees: Based on current fee rates, calculate the total fees for completing this program within normal time.

   $8880

Books and supplies: Based on current costs, calculate the total typical costs for books and supplies for completing this program within normal time.

   $0

Related occupational titles and codes: As part of the federal disclosure, MU is required to report prospective...
occupations for certificate holders. Titles can be found in the US Department of Labor’s database, O*Net Online at http://www.onetonline.org. Click

Find Occupations. Type a keyword into the search box. Click go. Scan the list for feasible titles. Click on a title to review its summary. If it matches the certificate, copy the job title, occupational code, and URL into the table below.

Provide at least 10 occupations. Use the green plus sign to add rows as needed.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Occupational Code</th>
<th>URL for Summary Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Sensing Scientists and Technologists</td>
<td>19-2099.01</td>
<td><a href="https://www.onetonline.org/link/summary/19-2099.01">https://www.onetonline.org/link/summary/19-2099.01</a></td>
</tr>
<tr>
<td>Precision Agriculture Technicians</td>
<td>19-4012.01</td>
<td><a href="https://www.onetonline.org/link/summary/19-4012.01">https://www.onetonline.org/link/summary/19-4012.01</a></td>
</tr>
<tr>
<td>Surveying and Mapping Technicians</td>
<td>17-3031.00</td>
<td><a href="https://www.onetonline.org/link/summary/17-3031.00">https://www.onetonline.org/link/summary/17-3031.00</a></td>
</tr>
<tr>
<td>Data Scientists</td>
<td>15-2051.00</td>
<td><a href="https://www.onetonline.org/link/summary/15-2051.00">https://www.onetonline.org/link/summary/15-2051.00</a></td>
</tr>
<tr>
<td>Atmospheric and Space Scientists</td>
<td>19-2021.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-2021.00">https://www.onetonline.org/link/summary/19-2021.00</a></td>
</tr>
<tr>
<td>Social Science Research Assistants</td>
<td>19-4061.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-4061.00">https://www.onetonline.org/link/summary/19-4061.00</a></td>
</tr>
<tr>
<td>Environmental Scientists and Specialists,</td>
<td>19-2041.00</td>
<td><a href="https://www.onetonline.org/link/summary/19-2041.00">https://www.onetonline.org/link/summary/19-2041.00</a></td>
</tr>
<tr>
<td>Including Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioinformatics Scientists</td>
<td>19-1029.01</td>
<td><a href="https://www.onetonline.org/link/summary/19-1029.01">https://www.onetonline.org/link/summary/19-1029.01</a></td>
</tr>
<tr>
<td>Cartographers and Photogrammetrists</td>
<td>17-1021.00</td>
<td><a href="https://www.onetonline.org/link/summary/17-1021.00">https://www.onetonline.org/link/summary/17-1021.00</a></td>
</tr>
<tr>
<td>Computer and Information Research Scientists</td>
<td>15-1221.00</td>
<td><a href="https://www.onetonline.org/link/summary/15-1221.00">https://www.onetonline.org/link/summary/15-1221.00</a></td>
</tr>
</tbody>
</table>

Catalog Information:

Information provided in this section is used to automatically populate program information in the online university catalog when published each year in June.

Program Description: In one short but thorough paragraph, describe the program. This official description will be included in the online university catalog and other initiatives supporting student success. The description should include the following three elements: 1) general description of the academic subject area, explaining the area, how it is relevant today, and interest areas that would draw a person to the program; 2) highlights of the program, including descriptions of core and advanced areas of study, special activities within the program such as internships, hands-on learning, research, field operations, study abroad, mentoring, shadowing, etc; 3) careers and opportunities associated with the program, discussing typical professions and work settings, additional educational opportunities, and top prospects in employment.

The Graduate Certificate in Geospatial Analytics will enable students from multiple different graduate programs at the University of Missouri, as well as
professionals in the workforce, to receive education and training in the emerging field of Data Science as it applied to the fields of Geographic Information Systems (GIS), location-based systems and services, and related fields (e.g., epidemiology). Data science skills are increasingly necessary for all fields of advanced study due to the emergence of large-scale data and the incumbent challenges across academia and industry.

Relevant Documentation:

If you have any additional documentation supporting your proposal, attach those items here. Once files are selected, they will be listed in the Files To Be Uploaded box. Once the proposal is saved, they will be listed in the Uploaded Files box.

Graduate Certificate in Geospatial Analytics.docx

Comments:

Additional Comments:

Graduate Certificate developed at request of Provost Ramchand (July 9th, 2021 meeting). Approved by DSA Faculty, Sept 23, 2021.

Reviewer Comments:

Carla Whitney (whitneycm) (Thu, 30 Sep 2021 18:21:39 GMT):

Put Requirements in course table. Key: 797