Graduate Faculty Executive Committee
1:30 p.m. – 3:30 p.m., Room 52 Bascom Hall
January 11, 2019

AGENDA

1. (1:30) Automatic Consent approval of minutes from December 14, 2018

Approvals

2. (1:35) Request to establish a new named option, ECE MS: Research effective Fall 2019 (Barry Van Veen, Associate Chair of Electrical and Computer Engineering)

3. (1:45) Request to establish a new named option, Real Estate associated with the MS-Business: Real Estate and Urban Land Economics, Department of Real Estate and Urban Land Economics, School of Business, effective Fall 2019 (Timothy Riddiough, Department Chair, Real Estate and Urban Land Economics)

4. (1:55) Request to re-open the quiescent M.S.- Business: Operations and Technology Management, Department of Operations & Information Management, School of Business (Enno Siemsen, Associate Dean School of Business)

5. (2:05) Request to establish a new named option, Business Analytics associated with the MS-Business: Operations and Technology Management, School of Business, effective Fall 2019 (Enno Siemsen, Associate Dean School of Business)

Discussion Items

6. (2:15) Discussion of Digital / Online Education Principles (Steve Cramer, Vice Provost of Teaching and Learning & John Zumbrunnen, Chair, Political Science)

7. (2:45) Professional Development Updates / Discussion (Eileen Callahan, Director of Professional Development, Graduate School)
University of Wisconsin-Madison  
Graduate Faculty Executive Committee Meeting  
1:30 pm – 3:30 pm, Room 52 Bascom Hall  
December 14, 2018

MINUTES

Members Present: Florence Hsia, Yu Hen Hu, William Karpus, Steffen Lempp, Lisa Martin, Christa Olson, Nicole Perna, John Pfotenhauer, Pamela Potter, Parmesh Ramanathan, Gail Robertson, Tracy Schroepfer, John Sharpless, Bret Shaw, Shannon Stahl, Steph Tai, Monica Turner, Fernando Tejedo, Chris Walker

Members Absent: Lara Collier

Guests: Nicole Weissinger, Lennon Rodgers, Robert Radwin, Michele Besant, Kyung-Sun Kim, Carolyn Kelly, Andrew Winterstein, Bryan Husk, Rick Moss, Cynthia Jasper, John Zumbrunnen, Jon Pevehouse, Greg DeCroix

Staff: Amy Bergholz, Judy Bauman, Eileen Callahan, Lydia Gandy-Fastovich, Kirby Livingston, Ruth McAfee, Joshua Morrill, Emily Reynolds, Christopher Yue

Dean William Karpus called the meeting to order.

1. The minutes of November 9, 2018 were approved as a matter of automatic consent.

Approvals:

2. Dean Karpus introduced Lennon Rodgers from the College of Engineering who presented a Notice of Intent to establish a Master of Science in Design + Innovation to be hosted in College of Engineering. The interdisciplinary program has four tracks and requires 30 credits.

Motion: Moved and seconded to approve the Notice of Intent to proceed with the planning and development of a new Master of Science in Design + Innovation from the College of Engineering. The motion was passed unanimously.

3. Dean Karpus introduced Kyung-Sun Kim from the Information School (iSchool) who presented Notice of Intent to establish a Master of Science in Information to be hosted in Information School (iSchool). The program meets job market demand for students with data analysis and policy skills. The program is designed to fill a gap by providing additional computing skills to liberal arts students.

Motion: Moved and seconded to approve the Notice of Intent to proceed with the planning and development of a new Master of Science in Information from the Information School (iSchool). The motion was passed unanimously.

4. Dean Karpus introduced Andrew Winterstein from the Department of Kinesiology who presented a Notice of Intent to establish a Master of Science in Athletic Training from the Department of Kinesiology, School of Education. The program adapts to the evolution of the health sciences field
and is proactive toward forthcoming accreditation requirement changes. The 24-month program will require 50-60 credits.

**Motion:** Moved and seconded to approve the Notice of Intent to proceed with the planning and development of a new Master of Science in Athletic Training from the Department of Kinesiology, School of Education. The motion was passed unanimously with two abstentions.

5. Dean Karpus introduced Rick Moss from the School of Medicine and Public Health who presented a request to approve a new Degree/Major of Master of Science – Applied Biotechnology, Department of Cell and Regenerative Biology, School of Medicine and Public Health. The program will be taught in collaboration with eight other UW campuses. Students can apply through any of the campuses and will be awarded a degree by the admitting campus. The strategy is intended to attract students from a broader geographical area.

**Motion:** Moved and seconded to approve a new Degree/Major of Master of Science – Applied Biotechnology from the School of Medicine and Public Health. The motion was passed unanimously.

6. Dean Karpus introduced Cynthia Jasper from the School of Human Ecology who presented a request to establish a Graduate Certificate in Community-Engaged Scholarship from the Department of Civil Society and Community Studies, School of Human Ecology. The creation of the certificate is in response to a campus-wide survey which identified a desire for students to differentiate themselves in the job market.

**Motion:** Moved and seconded to approve a Graduate Certificate in Community-Engaged Scholarship from the department of Civil Society and Community Studies, School of Human Ecology. The motion passed unanimously.

7. Dean Karpus introduced Cynthia Jasper from the School of Human Ecology who presented a request to establish a Doctoral Minor in Community-Engaged Scholarship from the Department of Civil Society and Community Studies, School of Human Ecology.

**Motion:** Moved and seconded to approve a Doctoral Minor in Community-Engaged Scholarship from the Department of Civil Society and Community Studies, School of Human Ecology. The motion passed unanimously.

8. Dean Karpus introduced Ritt Deitz from the Department of French and Italian who presented a request to establish a new named option French Studies Summer Institute associated with the Master of French Studies, effective Summer 2019. The program accommodates a desire for existing French teachers to be able to participate on campus during the summer, then continue with online courses during the school year.

**Motion:** Moved and seconded to approve a new Named Option French Studies Summer Institute associated with the Master of French Studies, effective Summer 2019. The motion passed unanimously.
9. Dean Karpus introduced John Zumbrunnen from the Department of Political Science who presented a request to discontinue the Capstone Certificate in International Politics and Practice, Department of Political Science, College of Letters and Science. Any students previously admitted into the program will have the opportunity to complete the program if they wish. There are currently two students taking courses in the program.

Motion: Moved to approve an amendment to the original request by adding an effective date of Spring 2021. The motion passed unanimously with one abstention.

Motion: Moved and seconded to approve a request to discontinue the Capstone Certificate in International Politics and Practice, Department of Political Science, College of Letters and Science effective Spring 2021. The motion passed unanimously with one abstention.

10. Dean Karpus introduced Parmesh Ramanathan, Graduate School Associate Dean, to present a request to extend Graduate Faculty Status to Professor Emeritus Ronald Troxel and former Assistant Professor Alice Mandel from the Hebrew Bible Graduate Option in the Department of Classical and Near Eastern Studies (CANES).

Motion: Moved and seconded to approve a request to extend Graduate Faculty Status to Professor Emeritus Ronald Troxel and former Assistant Professor Alice Mandel from the Hebrew Bible Graduate Option in CANES.

11. Dean Karpus introduced Greg DeCroix from the Grainger Center for Supply Chain Management who presented a request to restructure the curriculum and re-open the quiescent MS-Business: Supply Chain Management, Department of Operations and Information Management, School of Business. The program was suspended 13 years ago. Market demand for these skills have caused the School of Business to update the curriculum to meet the industry demand.

Motion: Moved and seconded to approve a request to restructure the curriculum and re-open the quiescent MS-Business: Supply Chain Management, Department of Operations and Information Management, School of Business.

Adjournment:

Meeting adjourned by Dean William Karpus
Program Change Request

Approval Path

1. 12/17/18 5:44 pm
   Barry D Vanveen (bvanveen): Approved for ELEC C EGR Dept. Approver

2. 12/19/18 3:36 pm
   Megan L Schreiber (mlpaulson): Approved for EGR College Admin Reviewer

3. 12/19/18 5:53 pm
   James P Blanchard (jpblanch): Approved for EGR College Approver

4. 01/02/19 2:38 pm
   Melissa Rose Schultz (mrschultz3): Rollback to ELEC C EGR Dept. Approver for APIR Admin

5. 01/03/19 10:48 am
   Melissa Rose Schultz (mrschultz3): Approved for ELEC C EGR Dept. Approver

6. 01/03/19 3:06 pm
   Megan L Schreiber (mlpaulson): Approved for EGR College Admin Reviewer

7. 01/04/19 8:58 am
   James P Blanchard (jpblanch): Approved for EGR College Approver

8. 01/04/19 8:59 am
   Nicole Wiessinger (wiessinger): Approved for APIR Admin

New Program Proposal

Date Submitted: 12/17/18 5:34 pm

Viewing: : Research

Parent Plan: MAJ: Electrical Engineering MS

Last edit: 01/04/19 9:51 am
Changes proposed by: kfawaz

Name of the school or college academic planner who you consulted with on this proposal.

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parmesh Ramanathan - RGE</td>
</tr>
</tbody>
</table>

Proposal Abstract/Summary:

This will be a pooled tuition program for a Master of Science in Electrical Engineering. The purpose of the named option is to provide a Master of Science program that is research-based either through a thesis or a project. This option replaces the traditional degree obtained by graduate students in ECE completing the Research or Project track. Each student is required to have a research adviser and is required to participate in some form of independent research as part of the program. The purpose of the program is to prepare students for the PhD program or for research jobs in industry and the national labs.
Basic Information

Type of Program:
Named Option

Parent Program:
MAJ: Electrical Engineering MS

Parent Audience:
Graduate or professional

Parent Home Department:
ELEC C EGR

Parent School/College:
College of Engineering

The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program?

No

Parent is in the Graduate School:
Yes

SIS Code:

SIS Description:

Transcript Title:
Research

Named Options:
POWER: Power Engineering
SPML: Signal Process & Machine Learn
382MSPROF: Professional
Sub Plan 1035: No Title Found

Does the parent program offer this as an additional major as well?
No

Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Hagness, Susan C</td>
<td><a href="mailto:schagness@wisc.edu">schagness@wisc.edu</a></td>
</tr>
</tbody>
</table>
List the departments that have a vested interest in this proposal.

Are all program reviews in the home academic unit up to date?
Yes

Are all assessment plans in the home academic unit up to date?
Yes

Are all assessment reports in the home academic unit up to date?
Yes

Mode of Delivery:
Face-to-Face (majority face-to-face courses)

Will this program be part of a consortial or collaborative arrangement with another college or university?
No

Will instruction take place at a location geographically separate from UW-Madison?
No

Parent has outside accreditation:
No

Graduates of parent program seek licensure or certification after graduation.
No

First term of student enrollment:
Fall 2019 (1202)

When will the application for the first term of enrollment open?
Fall 2019 (1202)

Which terms will you allow new students to enroll? What are the application deadlines for each term selected?

<table>
<thead>
<tr>
<th>Start Term</th>
<th>Application Deadline MM/DD</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>12/15</td>
</tr>
</tbody>
</table>

Year of three year check-in to GFEC (3 years after first student enrollment):

2023
Year of first program review (5 years after first student enrollment):

2025

If this proposal is approved, describe the implementation plan and timeline.

This is the existing traditional research MS moved under a named option, therefore there is little to implement. However, to avoid confusion, the application for this option will not be implemented while an application for the same term is active for the traditional plan.

**Rationale and Justifications**

How does the named option relate to the major and to other named options in the major, if relevant?

Currently, the ECE department offers four Master of Science Programs in Electrical Engineering: the research-focused traditional MS, Signal Processing and Machine Learning (SPML), Professional, and Power Engineering Online. The SPML and Professional are course-only and non-pooled named options. They intend to serve students who are interested in professional development. On the other hand, this proposal aims to replace our current traditional and research-focused MS program with a research named option. Because the degree requires research, students choose a research adviser and typically finish in no less than 3 semesters (typically 2 years). This degree serves students who are focused on obtaining a research-based job or continue for the Ph.D. When implemented, all of our MS programs will be offered as named options: research, professional, SPML, and power online.

Why is the program being proposed? What is its purpose?

The purpose of the named option is to provide a Master of Science – Electrical Engineering program that is research-based. EE and CMPE undergraduates must take a wide breadth of classes. This option allows these students to focus at an advanced level on a particular area of Electrical Engineering and carry out independent research under the supervision of a faculty adviser in order to prepare themselves for further study in a PhD program or for research-related positions. The named option contributes significantly to the mission of the Department of Electrical and Computer Engineering by enhancing the reputation of the Department and the College nationally and internationally. The addition of the named option Research clarifies the role of this option relative to other named option alternatives available to students.

Do current students need or want the program? Provide evidence.

Approximately 50% of the students enrolled in our traditional masters program would fall into this category of a Research Named Option.

What is the market, workforce, and industry need for this program? Provide evidence.
There has been considerable demand each year for the research-based MS, this named option would take-up that demand.

What gap in the program array is it intended to fill?

This named option will provide differentiation for the traditional research-based master’s degree by providing a subplan label "Research".

**Faculty and Staff Resources**

List the core program faculty and staff with title and departmental affiliation(s) who are primarily involved and will participate in the delivery and oversight.

<table>
<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanveen, Barry D</td>
<td>Electrical and Computer Engr (ELEC C EGR)</td>
<td>Professor</td>
</tr>
</tbody>
</table>

What resources are available to support faculty, staff, labs, equipment, etc. ?

The current advising structure is adequate for this program – we are not anticipating adding students in a major way.

Program advisor(s) with title and departmental affiliation(s).

<table>
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<td>Electrical and Computer Engr (ELEC C EGR)</td>
<td>Professor</td>
</tr>
</tbody>
</table>

Describe how student services and advising will be supported.

Existing student services and advising will be utilized through the traditional pooled 101 funding.

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.
Yes

**Resources, Budget, and Finance**

Is this a revenue program?
No

What is the tuition structure for this program?

Standard resident/MN/nonresident graduate tuition

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the resources.
There will be no change relative to how the program is funded now.

Are new Library resources needed to support this program?

No

Describe plans for funding students including but not limited to funding sources and how funding decisions are made.

Students are typically funded through either teaching assistantships or research-funded research assistantships.

**Curriculum and Requirements**

Parent Plan Admissions/How To Get In Requirements

Guide Admissions/How to Get In tab

Describe plans for recruiting students to this program.

n/a

Projected Annual Enrollment:

Maximum enrollment that can be supported with existing instructional and student services resources:

Those who are not familiar with using the html editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

Parent Requirements

Guide Requirements tab

Total credits required:

30

Parent Plan Graduate Policies

Guide Graduate Policies tab
Discuss expected progress to degree and time to degree. For undergraduate programs discuss considerations for supporting students to complete the degree in four academic years.

### Program Learning Outcomes and Assessment

Parent Program Learning Outcomes

- Demonstrate a strong understanding of mathematical, scientific, and engineering principles in the field.
- Demonstrate an ability to formulate, analyze, and solve advanced engineering problems.
- Demonstrate creative, independent problem solving skills.
- Apply the latest scientific and technological advancements, advanced techniques, and modern engineering tools to these problems.
- Recognize and apply principles of ethical and professional conduct.

Summarize the assessment plan.

Method for assessing learning (at least one direct method required): Each student is assessed by their adviser based on their thesis or project report.

Timetable for assessment activity (at least one activity each year; all goals reviewed in a 3-year cycle): All learning goals will be evaluated annually.

### Commitments

- All required courses are approved through the school/college level.
  - Yes
- Courses are offered on a regular basis to allow timely completion.
  - Yes
- Courses have enrollment capacity.
  - Yes
- Students may complete only 1 named option within a plan code.
  - Yes
- The program faculty/staff will ensure the program website, Advance Your Career materials if applicable, and other presentations are consistent with the Guide information for this program.
  - Yes
Credential will not be awarded retroactively to students who completed all of the requirements before the credential was approved.

| Yes |

**Supporting Information**

List name and department of those who are in support of this proposal.

If those supporting the proposal provided a letter or email of support upload here. A letter is NOT required. Upload any other explanatory information about support from other UW-Madison units.

Additional Information:

**Approvals**

*Department Approval - This proposal has been approved by the faculty at the department/academic unit level. The program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.*

Enter any notes about approval here:

Changing the name of the traditional MS to a "Research" named option was approved at the March 14, 2018 ECE Faculty Meeting. The ECE Graduate Curriculum Committee approved the form language above in December 3, 2018.

Entered by:
Barry Van Veen
Date entered:
12/17/2018

*School/College Approval - This proposal has been approved at the school/college level and it is submitted with the Dean’s support. The Dean and program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.*

Enter any notes about approval here:

At the Dec 19 meeting of the College of Engineering APC, the group unanimously recommended approval of the Electrical Engineering MS program name change to ECE MS: Research.

Entered by and date:
James Blanchard
Date entered:
12/19/2018

*GFEC Approval - This proposal has been approved by the Graduate Faculty Executive Committee and the Dean of the Graduate School.*
UAPC Approval - This proposal has been approved by the University Academic Planning Council and the Provost.

Reviewer Comments
Melissa Rose Schultz (mrschultz3) (01/02/19 2:38 pm): Rollback: Hi Megan- Can you review the requirements and connect courses so they are tied to the course draw? This should be ready to publish in Guide. Can you work with a graduate editor if appropriate?
Program Change Request

Approval Path

1. 12/10/18 1:10 pm
   Timothy J Riddiough (tjriddiough): Approved for RE&ULE Dept. Approver
2. 12/11/18 1:52 pm
   Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer
3. 12/11/18 1:54 pm
   Sharon M Kahn (smkahn): Approved for BUS School Approver
4. 01/02/19 11:39 am
   Nicole Wiessinger (wiessinger): Rollback to Initiator
5. 01/03/19 3:40 pm
   Sharon M Kahn (smkahn): Approved for RE&ULE Dept. Approver
6. 01/03/19 3:42 pm
   Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer
7. 01/03/19 3:45 pm
   Sharon M Kahn (smkahn): Approved for BUS School Approver
8. 01/03/19 4:43 pm
   Nicole Wiessinger (wiessinger): Approved for APIR Admin

New Program Proposal

Date Submitted: 01/03/19 3:18 pm

Viewing: **Real Estate**

Parent Plan: [MAJ: Bus: RealEst & UrbLandEcon MSB](#)

Last edit: 01/03/19 3:38 pm

Changes proposed by: smccabe

Name of the school or college academic planner who you consulted with on this proposal.

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharon Kahn - BUS</td>
</tr>
</tbody>
</table>

Proposal Abstract/Summary:

Maintaining a strong academic legacy in the Wisconsin School of Business, the Real Estate and Urban Land Economics Department has been a leader in real estate education at both the graduate and undergraduate levels for decades and was ranked the Best Public Undergraduate University Real Estate Program in 2019 by the U.S. News and World Report, and ranked second best among all universities.

In 2005 the MS-Business: Real Estate and Urban Land Economics, which was offered for
decades in the Wisconsin Business School, was folded into the restructured MBA Program. Currently, graduate business education is seeing a shift where the Millennial and Generation Z populations desire focused and concentrated graduate degree offerings. The proposed MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate will offer a one-year intensive curriculum with an emphasis on commercial real estate skills and conceptual knowledge, discussed in detail later in this proposal, as opposed to the broader leadership-based MBA with a specialization in Real Estate. Given the strong legacy of real estate scholarship and teaching at the University of Wisconsin and solid reputation of the undergraduate real estate program, we recommend re-activating the MS-Business: Real Estate and Urban Land Economics in the form of a 30 credit, one-year Named Option that can be completed in an academic year provided students have a passing familiarity with the study of business.

**Basic Information**

Type of Program: Named Option
Parent Program: MAJ: Bus: RealEst & UrbLandEcon MSB
Parent Audience: Graduate or professional
Parent Home Department: Real Estate & Urban Land Econ (RE&ULE)
Parent School/College: School of Business

The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program?

No

Parent is in the Graduate School: Yes

SIS Code:

SIS Description:

Transcript Title: Real Estate

Named Options:
Does the parent program offer this as an additional major as well?  
No

Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Riddiough, Timothy J</td>
<td><a href="mailto:tjriddiough@wisc.edu">tjriddiough@wisc.edu</a></td>
<td>608/262-35</td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Eppli, Mark</td>
<td><a href="mailto:eppli2@wisc.edu">eppli2@wisc.edu</a></td>
<td></td>
</tr>
<tr>
<td>Primary Dean's Office Contact</td>
<td>Kahn, Sharon M</td>
<td><a href="mailto:smkahn@wisc.edu">smkahn@wisc.edu</a></td>
<td>608/265-35</td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Ghent, Andra</td>
<td><a href="mailto:ghent@wisc.edu">ghent@wisc.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

List the departments that have a vested interest in this proposal.

Are all program reviews in the home academic unit up to date?  
Yes

Are all assessment plans in the home academic unit up to date?  
Yes

Are all assessment reports in the home academic unit up to date?  
Yes

Mode of Delivery:
Face-to-Face (majority face-to-face courses)

Will this program be part of a consortial or collaborative arrangement with another college or university?  
No

Will instruction take place at a location geographically separate from UW-Madison?  
No

Parent has outside accreditation:  
Yes

Parent Guide Accreditation tab

Graduates of parent program seek licensure or certification after graduation.  
No

First term of student enrollment:  
Fall 2019 (1202)
When will the application for the first term of enrollment open?

Spring 2019 (1194)

Which terms will you allow new students to enroll? What are the application deadlines for each term selected?

<table>
<thead>
<tr>
<th>Start Term</th>
<th>Application Deadline MM/DD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>05/01</td>
</tr>
</tbody>
</table>

Year of three year check-in to GFEC (3 years after first student enrollment):

2023

Year of first program review (5 years after first student enrollment):

2025

If this proposal is approved, describe the implementation plan and timeline.

Targeted recruiting and marketing will take place immediately upon MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program approval with existing undergraduate students in the Wisconsin School of Business, Economics Department, School of Human Ecology, College of Engineering, and other units on campus. The approximately 5,000 annual graduates of Business programs in the UW system will also be targeted. Additionally, two faculty members in the Real Estate and Urban Land Economics Department take annual trips to 5-7 of the best universities in China and Asia and will market the proposed MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program. Admissions will be coordinated by the Wisconsin School of Business Graduate Program Office (currently known as the MBA Program Office). Applications will be due by May 1st. The intention is to admit at least 10 students for enrollment for Fall 2019.

The MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program will undergo a one-year developmental and a three-year fundamental review. In the three-year fundamental review, a go/no-go decision on the financial viability of the program will be made.

**Rationale and Justifications**

How does the named option relate to the major and to other named options in the major, if relevant?

The proposed MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate is a 30 credit graduate program where all credits are taken at UW-Madison. It is open to both domestic and international students, with a focus on domestic students that meet or exceed the eligibility requirements below.
The MS-Business: Real Estate and Urban Land Economics, Named Option: Global Real Estate program (GREM) is intended for non-U.S. graduate students and requires applicants to have completed a minimum of 14 graduate credits from a top international business school prior to enrolling the GREM program. The MS-Business: Real Estate and Urban Land Economics, Named Option: Global Real Estate entails a minimum of 15 credit taken in the Wisconsin School of Business. The MS-Business: Real Estate and Urban Land Economics, Named Option: Global Real Estate students are solicited from a small set of global universities where the Real Estate and Urban Land Economics Department has an existing relationship.

**Why is the program being proposed? What is its purpose?**

This one year MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program is being proposed to address a market need and fill the menu of undergraduate and graduate real estate degree offerings in the Wisconsin School of Business. Students have more options than ever to receive higher education in a manner that is convenient to them and their lifestyle. Having a one year MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program complements our existing two year Business: Real Estate and Urban Land Economics, MBA program and our undergraduate program. The MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate affords students a narrowly focused and rigorous one-year masters degree that fills a void between our undergraduate and two-year, management-focused MBA degree programs.

**Do current students need or want the program? Provide evidence.**

Cindy Bush of the Business School’s Deans Office is currently undertaking a survey of UW – Madison student interest in MS programs to directly address student interest. This data will be reported as received. That said, in a Spring 2017 analysis of the competitive field for MS programs in real estate, the average student enrollment was 34 in MS programs at five other highly ranked universities (University of Florida, MIT, Clemson, University of Southern California, and Ohio State University). The UW-Madison Real Estate program is ranked higher than all five listed program and we believe has a much stronger academic legacy than the competitive field.

The growing student demand for the BBA program anecdotally reveals very strong interest in the academic pursuit of real estate. BBA majors have more than doubled over the last ten years from 194 in 2008-09 to 449 in 2018-2019. After a step back in enrollment after the Great Recession to 134 majors in 2011-2012, commercial real estate BBA enrollment has maintained a strong and stable annual growth to current record level enrollment.

It is not expected that the MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program will impact enrollment in related programs. The current Business: Real Estate and Urban Land Economics, MBA is offered by the Real Estate and Urban Land Economics Department and James A. Graaskamp Center for Real Estate within the School of Business. Students pursuing the Business: Real Estate and Urban Land Economics, MBA are
required to have completed significant work experience, and the degree emphasizes a managerial curriculum. In contrast, the MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate curriculum is focused and concentrated on quantitative and analytical skills required to make informed real estate decisions, will not require work experience, and is expected to enroll talented undergraduate students in a “four plus one” program where the MS is a direct enhancement of the undergraduate experience.

What is the market, workforce, and industry need for this program? Provide evidence.

Current (May 2018) employment statistics for graduating BBAs majoring in real estate had an average salary of $64,490, which compares favorably against other Business School majors whose average salaries range from $52,250 to $69,688 (see the BBA salary database). The 2018 Business: Real Estate and Urban Land Economics, MBA class maintained an average salary of $89,000 (median of $90,000 and range of $70,000 to $105,000).

The BBA Employment Outcomes provides detailed information regarding the job titles our real estate BBAs take upon graduation. Most common are Financial Analyst, Analyst, and Real Estate Analyst. Many of these roles are related to investment, lending, valuation and development.

Nationally, Bureau of Labor Statistics (BLS) compiles data for several analyst occupations that are likely placement opportunities for our MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate graduates. The BLS indicates a projected employment increase of 11% between 2016 and 2026 and a median salary of $84,300 in 2017 for analysts. Other RE BBAs enter the real estate appraisal industry and the BLS indicates a projected employment increase of 14 percent between 2016 and 2026 and a median salary of $54,010 for 2017. Still other RE BBAs enter the commercial real estate lending industry and could be “loan officers” and the BLS indicates a projected employment increase of 11 percent between 2016 and 2026 and a median salary of $64,060 for 2017.

In summary, the demand for rigorously-trained real estate analysts and valuation experts is strong across a number of metrics.

What gap in the program array is it intended to fill?

Provide a reduced term (one year) graduate degree program to complement the two year Business: Real Estate and Urban Land Economics, MBA with a one year concentrated, rigorous MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate that builds on the strength of our undergraduate program.

**Faculty and Staff Resources**

List the core program faculty and staff with title and departmental affiliation(s) who are primarily involved and will participate in the delivery and oversight.
What resources are available to support faculty, staff, labs, equipment, etc.?

The Real Estate and Urban Land Economics Department of the Wisconsin School of Business is the governing body for the proposed MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program and as such presides over the program and makes financial support decisions. The James A. Graaskamp Center has dedicated space for students, faculty, and staff to meet and share best practices. Additionally, the Center funds data sets, travel, and computer hardware and software to support program scholarship, teaching, and administration.

Program advisor(s) with title and departmental affiliation(s).

<table>
<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCabe, Sharon</td>
<td>Real Estate &amp; Urban Land Econ (RE&amp;ULE)</td>
<td>Faculty Associate</td>
</tr>
</tbody>
</table>

Describe how student services and advising will be supported.

To advise students, we anticipate continuing the shared model between the James A. Graaskamp Center and the MBA Program Office. The Program Office will have primary responsibility for advising on academic and career matters that are applicable across all School of Business M.S. programs, such as rules on course enrollment eligibility and resume best practices, among others. James A. Graaskamp Center staff will have primary responsibility for advising on academic and career matters that relate specifically to the MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate program, such as suitability of elective courses to a degree in real estate and skills particularly important to the real estate-specific job market.

Programmatic services, including connections to web and Guide information and the Registrar’s Office will be the responsibility of School of Business Academic Affairs, in alignment with the work they currently perform related to existing Business School programs.

Communication with the Business School Dean’s Office will be the responsibility of the James A. Graaskamp Center’s Academic Director in consultation with the Center’s Academic Planning Committee.

Professional development opportunities will be primarily provided through Applied Learning events.

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.
Resources, Budget, and Finance

Is this a revenue program?
No

What is the tuition structure for this program?
Profession-specific tuition, Regent-approved

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the resources.

The MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate needs limited new funding for marketing, financial aid and applied learning. Our Department Chair is talking with the Dean's office to clarify revenue sources.

Are new Library resources needed to support this program?
No

Describe plans for funding students including but not limited to funding sources and how funding decisions are made.

We do not plan to provide financial aid for any incoming MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate students EXCEPT for diversity students. These students could be women from all races/ethnicity or under-represented minorities (African-Americans, Hispanic/Latino, Native American). We have no dedicated funding sources at this time. We hope to provide funding through the additional revenues brought in from the new MS degree program. Funding decisions for these students would be based on merit (GPA, GMAT, etc).

Curriculum and Requirements

Describe plans for recruiting students to this program.

Initially, we will recruit and market to the 2,100 Economics and School of Human Ecology majors on campus. We also have two faculty members who will be traveling to Asia and will recruit students from 5-7 of the top universities in China. Finally, we will recruit from the 5,000 students who graduate with business degrees from the UW system campuses.
We will place targeted ads in professional real estate publications such as ULI and NAIOP to attract students to the UW from the United States and internationally. We will also leverage our large, strong, and dedicated real estate alumni network in promoting this new MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate.

Projected Annual Enrollment:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>10</td>
</tr>
<tr>
<td>Year 2</td>
<td>20</td>
</tr>
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<td>Year 3</td>
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<tr>
<td>Year 4</td>
<td>35</td>
</tr>
<tr>
<td>Year 5</td>
<td>35</td>
</tr>
</tbody>
</table>

Maximum enrollment that can be supported with existing instructional and student services resources:

20

Those who are not familiar with using the HTML editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

MSRE Cost and Revenue Projections - Lumen.xlsx

Parent Requirements

Guide Requirements tab

Total credits required:

30

Parent Plan Graduate Policies

Guide Graduate Policies tab

Discuss expected progress to degree and time to degree. For undergraduate programs discuss considerations for supporting students to complete the degree in four academic years.

Program requirements include 30 credits, 17 required credits and 13 elective credits. For student who enrolled in courses with highly similar content as an undergraduate student, those courses can be replaced with other 600 level courses or higher. All students must complete 30
Credits of graduate coursework. As such, students are expected to matriculate in the Fall term, and graduate in the Spring term.

**Program Learning Outcomes and Assessment**

Parent Program Learning Outcomes
Gather, process, and analyze market, linkage, and macroeconomic data for the purpose of forecasting real estate trends and making prudent decisions.
Source capital to execute on growth and development opportunities, prepare for and risk manage the crises and contingencies that pervade real estate ventures, and improve efficiencies in the operation of revenue generating properties
Recognize, measure, and create value in real estate with the strict respect of all ethical and legal norms and with a full awareness of the responsibility to the communities, investors and users they aspire to serve as real estate professionals.
Successfully communicate the merits of beneficial real estate projects to its various stakeholders.
Develop a deeper network with local, regional and international professionals to gather market data, perspectives, investment ideas and employment leads.

Summarize the assessment plan.

The overarching learning goals to be assessed are noted in the learning outcomes mapped in the attached “MS-Business-RealEstateandUrbanLandEconomics-LearningOutcomesandAssessments.xlsx” spreadsheet” and more broadly in this document.

Learning begins with a required undergraduate degree; followed by a series of required fundamental business courses to prepare students for entry to the MS-Business: Real Estate and Urban Land Economics, Named Option: Real Estate degree; followed by a first semester of core, required real estate courses; and enhanced with electives that round out the degree offering.

Learning outcomes will be assessed and reviewed by the Department Chair. Learning outcome deficiencies and best practices will be shared by the Department Chair as part of continuous process improvement. The program will also be reviewed on a three-year cycle for financial viability at the School level with the decision to continue or sunset the program.
The learning outcomes will be directly assessed annually from the required real estate course using cases, projects, and exams as evidence of successful achievement of learning outcomes. A primary measure of indirect program success in program employment placement rates and starting compensation levels.

**Commitments**

All required courses are approved through the school/college level.

Yes
Courses are offered on a regular basis to allow timely completion.

Yes

Courses have enrollment capacity.

Yes

Students may complete only 1 named option within a plan code.

Yes

The program faculty/staff will ensure the program website, Advance Your Career materials if applicable, and other presentations are consistent with the Guide information for this program.

Yes

Credential will not be awarded retroactively to students who completed all of the requirements before the credential was approved.

Yes

**Supporting Information**

List name and department of those who are in support of this proposal.

If those supporting the proposal provided a letter or email of support upload here. A letter is NOT required. Upload any other explanatory information about support from other UW-Madison units.

MS-Business-RealEstateandUrbanLandEconomics-LearningOutcomesandAssessments.xlsx

Additional Information:

**Approvals**

*Department Approval - This proposal has been approved by the faculty at the department/academic unit level. The program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.*

Enter any notes about approval here:

Approved Dept of Real Estate per Prof Tim Riddiough - 12.10.2018

Entered by:
Sharon Kahn for Tim Riddiough
Date entered:
12/10/2018
School/College Approval - This proposal has been approved at the school/college level and it is submitted with the Dean’s support. The Dean and program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:
Approved - WSB Master's Curriculum Committee - 10.25.2018
Approved WSB APC - 11.15.2018
Approved WSB Faculty - 12.10.2018

Entered by and date:
Sharon Kahn
Date entered:
12/11/2018

GFEC Approval - This proposal has been approved by the Graduate Faculty Executive Committee and the Dean of the Graduate School.

Enter any notes about the approval here:

Entered by:
Date entered:

UAPC Approval - This proposal has been approved by the University Academic Planning Council and the Provost.

Enter any notes about approval here:

Entered by:
Date entered:

For Administrative Use

Reviewer Comments
Sharon M Kahn (smkahn) (12/10/18 2:22 pm): Approved - WSB Master's Curriculum Committee - 10.25.2018 Approved WSB APC - 11.15.2018 Approved Dept of Real Estate per Prof Tim Riddiough - 12.10.2018
Nicole Wiessinger (wiessinger) (01/02/19 11:39 am): Rollback: Rolling back for revisions discussed in email with Sharon Kahn 1/2/19.

Key: 1021
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<td>Salaries plus Fringes</td>
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<td>RE 640</td>
<td>Students will be able to source and access relevant data and be able to analyze it to</td>
<td>Students will be able to identify and assess commercial and residential real estate</td>
<td>Students will hone their ability to make real estate decisions in business-world settings</td>
<td>Students will be able to communicate their ideas and investment recommendations to individuals to all functional areas of an organization.</td>
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<td>support real estate decision making.</td>
<td>investment opportunities and the risks associated with those opportunities.</td>
<td>through significant exposure to and mentoring by leading real estate professionals.</td>
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<td>RE 640 (or 712)</td>
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<td>Fall/Spring</td>
<td>RE 761</td>
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</table>

**Required and common electives**

- Students will gather, process, and analyze market, linkage, and macroeconomic data for the purpose of forecasting real estate trends and making prudent decisions.
- Students will understand how to optimally source capital to execute on growth and development opportunities, prepare for and manage the crises and contingencies that pervade real estate ventures, and improve efficiencies in the operation of revenue generating properties.
- Students will be able to recognize, measure, and create value in real estate in the strict respect of all ethical and legal norms and with full awareness of their responsibility to the communities, investors and users they aspire to serve as real estate professionals.
- Students will be able to successfully communicate the merits of beneficial real estate projects to its various stakeholders.
- Students will develop a deeper network with local, regional and international professionals to gather market data, perspectives, investment ideas and employment leads.
Program Change Request

Approval Path

1. 11/27/18 9:31 am
   James G Morris (jgmorris): Approved for O I M Dept. Approver

2. 11/27/18 9:39 am
   Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

3. 11/27/18 9:56 am
   Sharon M Kahn (smkahn): Approved for BUS School Approver

4. 12/03/18 2:19 pm
   Nicole Wiessinger (wiessinger): Rollback to BUS School Approver for APIR Admin

5. 12/03/18 2:29 pm
   Sharon M Kahn (smkahn): Approved for BUS School Approver

6. 01/02/19 11:38 am
   Nicole Wiessinger (wiessinger): Rollback to Initiator

7. 01/02/19 6:17 pm
   James G Morris (jgmorris): Approved for O I M Dept. Approver

8. 01/03/19 2:01 pm
   Sharon M Kahn (smkahn): Rollback to Initiator

9. 01/03/19 4:57 pm
   James G Morris (jgmorris): Approved for O I M Dept. Approver

10. 01/04/19 7:29 am
    Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

11. 01/04/19 7:30 am
    Sharon M Kahn (smkahn): Approved for BUS School Approver

12. 01/04/19 8:53 am
    Nicole Wiessinger (wiessinger): Approved for APIR Admin

History

1. Sep 20, 2018 by clmig-kalatalo

Date Submitted: 01/03/19 4:50 pm

Viewing: MSB 848BUS : Business: Operations and Technology Management

Sub Plans: Sub Plan Key 1032,

Last approved: 09/20/18 1:02 pm

Last edit: 01/03/19 4:50 pm

Changes proposed by: kjbranch

Catalog Pages Using this Program

Business: Operations and Technology Management, M.S.
Name of the school or college academic planner who you consulted with on this proposal.

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharon Kahn - BUS</td>
</tr>
</tbody>
</table>

Proposal Abstract/Summary:

Need to revise parent program to support proposal for MS-Business: Operations and Technology Management, Named Option: Business Analytics. The areas adjusted include learning outcomes, admissions and curriculum requirements.

If approved, what term should the proposed change be effective?

Fall 2019 (1202)

Select yes if this proposal is only to add, remove, or rearrange curricular requirements, and will change less than 50% of the curriculum.

No

**Basic Information**

Program State:
Active

Type of Program:
Degree/Major

Who is the audience?
Graduate or professional

Home Department:
O I M

School/College:
School of Business

The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program?

No

Is this in the Graduate School?
Yes

Award:
Master of Science

SIS Code:
MSB 848BUS

SIS Description:
Bus: Oper & Tech Mgmt MSB

Transcript Title:
Business: Operations and Technology Management

Named Options:
Parent Plan 1032: No Title Found

Will this be offered as an additional major as well? 
No

Is this a non-admitting master's degree? 
No

Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Morris, James G</td>
<td><a href="mailto:jgmorris@wisc.edu">jgmorris@wisc.edu</a></td>
<td>608/262-1284</td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Tong, Jordan</td>
<td><a href="mailto:jtong9@wisc.edu">jtong9@wisc.edu</a></td>
<td>608/265-8220</td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Branch, Kristin</td>
<td><a href="mailto:kjbranch@wisc.edu">kjbranch@wisc.edu</a></td>
<td>608/262-9116</td>
</tr>
<tr>
<td>Primary Dean's Office Contact</td>
<td>Kahn, Sharon M</td>
<td><a href="mailto:smkahn@wisc.edu">smkahn@wisc.edu</a></td>
<td>608/265-3579</td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Bauer, Daniel</td>
<td><a href="mailto:dbauer5@wisc.edu">dbauer5@wisc.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

List the departments that have a vested interest in this proposal.

Are all program reviews in the home academic unit up to date? 
Yes

Are all assessment plans in the home academic unit up to date? 
Yes

Are all assessment reports in the home academic unit up to date? 
Yes

Mode of Delivery:
Face-to-Face (majority face-to-face courses)
Will this program be part of a consortial or collaborative arrangement with another college or university?
No

Will instruction take place at a location geographically separate from UW-Madison?
No

Will this program have outside accreditation?
Yes No

Guide Accreditation tab

Will graduates of this program seek licensure or certification after graduation?
No

Year of three year check-in to GFEC (3 years after first student enrollment):
2022

Year of first program review (5 years after first student enrollment):
2024

If this proposal is approved, describe the implementation plan and timeline.

This is to support a proposal for MS-Business: Operations and Technology Management, Named Option: Business Analytics. We hope to launch this new named option immediately and start enrolling students in the fall semester 2019. The implementation plan is already being thought through and is ready to implement pending approval.

Rationale and Justifications

What is the rationale for this change?

We are proposing a new MS-Business: Operations and Technology Management, Named Option: Business Analytics.

What evidence do you have that these changes will have the desired impact?

The market place for a masters in business analytics is broad - both from prospective students and from the hiring partners in industry. Many other Universities have their masters in business analytics in a specific operations or information management department. So we know this to a viable home for the degree from a prospective student's perspective.

Faculty and Staff Resources

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.
Yes

Select the Graduate Research Scholars Community for this program.

Business Graduate Research Scholars

Resources, Budget, and Finance

Is this a revenue program?

No

What is the tuition structure for this program?

Profession-specific tuition, Regent-approved

Given considerations associated with the proposed change, describe the academic unit's fiscal capacity to support the instructional and curricular requirements, academic and career advising, student support services, technology needs, and relevant assessment of student learning and program review requirements. Is there sufficient capacity in the curricular and academic support services to meet the additional workload? For research graduate programs, include information on how the program will be administered and how student funding will be handled. For undergraduate programs, include information on academic advising, career advising, student support services.

This will be a 101 degree program. It will leverage existing infrastructure, at enrollments of 20 or fewer, however we believe this program will grow to 50-100 students quickly and that tuition revenue allocation will fund the additional resources.

The faculty co-directors and the staff director will be the primary responsible members of the MS-Business: Operations and Technology Management, Named Option: Business Analytics. This team will lead curriculum development and academic guidance - course planning. This team will also be responsible for the student professional development and partner on employer relations.

The Masters in Business Administration Program Office (MBA PO) will work closely to support the MS-Business: Operations and Technology Management, Named Option: Business Analytics students. The MBA PO team will lead admissions, recruitment, admissions operations, financial aid and merit aid processing, academic guidance - policies and procedures, student services - general, career and leadership development, employer relations, data reporting and rankings management.

Programmatic services, including connections to web and Guide information and the Registrar’s Office will be the responsibility of School of Business Academic Affairs, in alignment with the work they currently perform related to existing Business programs.

Communication with the Business School Dean’s Office will be the responsibility of the Director
Professional development opportunities will be primarily provided through Applied Learning events.

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the resources needed.

The dean is fully supportive of this initiative and is committed to providing the resources needed.

**Curriculum and Requirements**

If you are proposing a change to the curriculum, what percentage of the curriculum is changing?

No change

Guide Admissions/How to Get In tab

Those who are not familiar with using the html editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

Guide Requirements tab

Total credits required:

30

Guide Graduate Policies tab

**Program Learning Outcomes and Assessment**

List the program learning outcomes.

<table>
<thead>
<tr>
<th>Outcomes – enter one learning outcome per box. Use the green + to create additional boxes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>1 2</td>
</tr>
</tbody>
</table>
improvement of organizational and system performance from both financial and nonfinancial perspectives.

2 3 Leverage expertise in data management software (e.g., SQL) & statistical programming (e.g., R, Python) to go from data to decisions. Effectively lead and manage organizational and technological change that supports and improves business processes and creates value for customers.

3 4 Deliver insights and recommendations for organizations using cutting-edge descriptive, predictive, and prescriptive analytics techniques. Develop enduring networks and relationships with industry partners.

4 Manage analytics projects, communicate professionally, and influence data-based changes within an organization.

Summarize the assessment plan.

The first semester of the MS-Business: Operations and Technology Management, Named Option: Business Analytics teaches students methodological foundations of business analytics, including descriptive (data acquisition, data visualization, e.g.), predictive (statistical programming, machine learning, e.g.), and prescriptive (optimization, spreadsheet modeling, e.g.) analytic techniques. The second semester leverages this foundation in an array of elective classes focused on the application of business analytics across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.) as well as in real world consulting experiences.

The MS-Business: Operations and Technology Management assessment plan reflects this separation by assessing the methodological skills linked to learning objectives 2 and 3 at the end of the first semester in the context of core classes focused on predictive (GEN BUS 656 – Machine Learning for Business Analytics) and prescriptive (GEN BUS 730 Prescriptive Modeling & Optimization for Business Analytics) techniques. The skills with regards to business analytics applications and associated learning outcomes 1 and 4 are assessed in the Analytics Consulting Practicum (Gen Bus 770) and the Current Topics class that draws on the experiences in the diverse set of applications classes.

Approved Assessment Plan:
MS-Business Operations and Technology Management - Learning Outcomes Assessment Plan.xlsx

Related Programs
Commitments

Courses in the curriculum are numbered 300 or higher.

Yes
The program faculty/staff will ensure the program website, Advance Your Career materials if applicable, and other presentations are consistent with the Guide information for this program.

Yes

**Supporting Information**

List name and department of those who are in support of this proposal.

If those supporting the proposal provided a letter or email of support upload here. A letter is NOT required. Upload any other explanatory information about support from other UW-Madison units.

Additional Information:

### Approvals

**Department Approval** - This proposal has been approved by the faculty at the department/academic unit level. The program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Entered by:

Date entered:

**School/College Approval** - This proposal has been approved at the school/college level and it is submitted with the Dean’s support. The Dean and program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Approved WSB Master’s Curriculum Committee - 11.5.2018
Approved WSB APC - 11.15.2018
Approved WSB Faculty - 11.26.2018

Entered by and date:
Sharon Kahn
Date entered:
11.27.2018

**GFEC Approval** - This proposal has been approved by the Graduate Faculty Executive Committee and the Dean of the Graduate School.
UAPC Approval - This proposal has been approved by the University Academic Planning Council and the Provost.

Reviewer Comments

Nicole Wiessinger (wiessinger) (12/03/18 2:19 pm): Rollback: Rolling back for additional edits per email with Sharon K.

Sharon M Kahn (smkahn) (12/03/18 2:28 pm): updated accreditation information - smk - 12/3/2018

Maureen A N Bischof (mabischof) (12/10/18 4:36 pm): Learning Outcomes and assessment plan updates are complete.

Nicole Wiessinger (wiessinger) (01/02/19 11:38 am): Rollback: Rolling back for revisions discussed in email with Sharon Kahn 1/2/19.

Sharon M Kahn (smkahn) (01/03/19 2:01 pm): Rollback: additional edits needed
<table>
<thead>
<tr>
<th>Learning Opportunity</th>
<th>Assessment Method</th>
<th>Term</th>
<th>Assessment Method</th>
<th>Term</th>
<th>Assessment Method</th>
<th>Term</th>
<th>Assessment Method</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB 705 - Statistics &amp; Programming for Business Analytics</td>
<td>Projects/Cases/Simulation</td>
<td>Fall</td>
<td>Project</td>
<td>Summer/Fall</td>
<td>Cases</td>
<td>Fall</td>
<td>Cases</td>
<td>Fall</td>
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<tr>
<td>GB 720 - Data Visualization for Business Analytics</td>
<td>Cases</td>
<td>Fall</td>
<td>Cases</td>
<td>Fall</td>
<td>Exam</td>
<td>Fall</td>
<td>Assignments</td>
<td>Fall</td>
</tr>
<tr>
<td>GB 730 - Prescriptive Modeling &amp; Optimization for Business Analytics</td>
<td>Research paper/project</td>
<td>Spring</td>
<td>Project</td>
<td>Fall</td>
<td></td>
<td></td>
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<tr>
<td>GB 760 - Data Technology for Business Analytics</td>
<td>Project</td>
<td>Fall</td>
<td></td>
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<tr>
<td>GB 770 - Analytics Consulting Practicum</td>
<td>Analytics Project</td>
<td>Spring</td>
<td>Analytics Project</td>
<td>Spring</td>
<td>Analytics Project</td>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GB 840 - Current Topics in Business Analytics</td>
<td>Reflection Paper</td>
<td>Spring</td>
<td>Project</td>
<td>Fall</td>
<td>Project</td>
<td>Fall</td>
<td>Reflection Paper</td>
<td>Spring</td>
</tr>
</tbody>
</table>

Learning Goal 1: Apply business analytic tools and methods across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.).

Learning Goal 2: Leverage expertise in data management software (e.g., SQL) & statistical programming (e.g., R, Python) to go from data to decisions.

Learning Goal 3: Deliver insights and recommendations for organizations using cutting-edge descriptive, predictive, and prescriptive analytics techniques.

Learning Goal 4: Manage analytics projects, communicate professionally, and influence data-based changes within an organization.
Program Change Request

Approval Path

1. 11/27/18 10:22 am
   James G Morris (jgmorris): Approved for O I M Dept. Approver

2. 11/27/18 10:27 am
   Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

3. 11/27/18 10:29 am
   Sharon M Kahn (smkahn): Approved for BUS School Approver

4. 11/29/18 4:23 pm
   Michelle Young (meyoung): Rollback to BUS School Approver for APIR Admin

5. 11/30/18 8:35 am
   Sharon M Kahn (smkahn): Rollback to Initiator

6. 11/30/18 2:46 pm
   Sharon M Kahn (smkahn): Approved for O I M Dept. Approver

7. 11/30/18 2:47 pm
   Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

8. 11/30/18 2:52 pm
   Sharon M Kahn (smkahn): Approved for BUS School Approver

9. 11/30/18 5:00 pm
   Nicole Wiessinger (wiessinger): Rollback to BUS School Approver for APIR Admin

10. 12/03/18 9:15 am
    Sharon M Kahn (smkahn): Rollback to Initiator

11. 12/07/18 2:21 pm
    Sharon M Kahn (smkahn): Approved for O I M Dept. Approver

12. 12/27/18 11:05 am
    Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

13. 12/27/18 11:07 am
    Sharon M Kahn (smkahn): Approved for BUS School Approver

14. 01/02/19 11:38 am
    Nicole Wiessinger (wiessinger): Rollback to Initiator

15. 01/02/19 6:16 pm
    James G Morris (jgmorris): Approved for O I M Dept. Approver

16. 01/03/19 2:01 pm
    Sharon M Kahn (smkahn): Rollback to Initiator

17. 01/03/19 4:56 pm
    James G Morris (jgmorris): Approved for O I M Dept. Approver

18. 01/04/19 7:29 am
    Sharon M Kahn (smkahn): Approved for BUS School Admin Reviewer

19. 01/04/19 7:30 am
    Sharon M Kahn (smkahn): Approved for BUS School Approver
New Program Proposal

Date Submitted: 01/03/19 4:48 pm

Viewing: Business Analytics
Parent Plan: MAJ: Bus: Oper & Tech Mgmt MSB

Last edit: 01/03/19 4:48 pm
Changes proposed by: kjbranch

Name of the school or college academic planner who you consulted with on this proposal.

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharon Kahn - BUS</td>
</tr>
</tbody>
</table>

Proposal Abstract/Summary:

Data availability continues to rise, and companies recognize that it must be used as a competitive resource – resulting in dramatic increases in the number of career opportunities in business analytics.

The MS-Business: Operations and Technology Management, Named Option: Business Analytics will prepare students to seize these opportunities in a business-school environment, focused on delivering value to organizations. We would like to start educating students in this degree starting in the fall of 2019 as this is a competitive space with many schools already offering masters in business analytics and prospective student demand quite high. The team feels it is essential to launch an offering in fall 2019.

Students will learn how to harness the power of analytical tools to uncover insights and provide actionable recommendations in any business setting.

In this program, students will:

- Build a strong methodological foundation:
  - Programming tools including R and Python
  - Data management, including SQL
  - Data visualization (Tableau)
  - Machine learning
  - Prescriptive modeling

- Learn how to use these tools to generate insights from data in various specialty classes including:
• Work in teams on consulting projects with real corporate partners and learn how to manage a project from identification to implementation

The program is 30 credits, offered in-person, and is a full-time, with two semesters of coursework.

Basic Information

Type of Program: Named Option
Parent Program: MAJ: Bus: Oper & Tech Mgmt MSB
Parent Audience: Graduate or professional
Parent Home Department: O I M
Parent School/College: School of Business

The program will be governed by the home department/academic unit as specified. Will an additional coordinating or oversight committee be established for the program?

No

Parent is in the Graduate School: Yes
SIS Code:
SIS Description:
Transcript Title: Business Analytics
Named Options: Sub Plan 1032: No Title Found

Does the parent program offer this as an additional major as well?
Roles by Responsibility: List one person for each role in the drop down list. Use the green + to create additional boxes.

<table>
<thead>
<tr>
<th>Role Type</th>
<th>Name (Last, First)</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair</td>
<td>Morris, James G</td>
<td><a href="mailto:jgmorris@wisc.edu">jgmorris@wisc.edu</a></td>
<td>608/262-1284</td>
</tr>
<tr>
<td>Primary Contact</td>
<td>Branch, Kristin</td>
<td><a href="mailto:kjbranch@wisc.edu">kjbranch@wisc.edu</a></td>
<td>608/262-9116  Director</td>
</tr>
<tr>
<td>Primary Dean's Office Contact</td>
<td>Kahn, Sharon M</td>
<td><a href="mailto:smkahn@wisc.edu">smkahn@wisc.edu</a></td>
<td>608/265-3579  Director of Academic Affairs</td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Bauer, Daniel</td>
<td><a href="mailto:dbauer5@wisc.edu">dbauer5@wisc.edu</a></td>
<td>608/265-8220  Associate Professor, Faculty Director</td>
</tr>
<tr>
<td>Faculty Director</td>
<td>Tong, Jordan</td>
<td><a href="mailto:jtong9@wisc.edu">jtong9@wisc.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

List the departments that have a vested interest in this proposal.

- Computer Sciences (COMP SCI)
- Statistics (STATISTICS)
- Information School (I SCHOOL)
- Engineering Professional Devlp (EGR P D)
- College of Letters & Science (L&S)

Are all program reviews in the home academic unit up to date? Yes

Are all assessment plans in the home academic unit up to date? Yes

Are all assessment reports in the home academic unit up to date? Yes

Mode of Delivery:
Face-to-Face (majority face-to-face courses)

Will this program be part of a consortial or collaborative arrangement with another college or university? No

Will instruction take place at a location geographically separate from UW-Madison? No

Parent has outside accreditation: No
Yes
Parent Guide Accreditation tab
Graduates of parent program seek licensure or certification after graduation.
No

First term of student enrollment:
Fall 2019 (1202)

When will the application for the first term of enrollment open?
Spring 2019 (1194)

Which terms will you allow new students to enroll? What are the application deadlines for each term selected?

<table>
<thead>
<tr>
<th>Start Term</th>
<th>Application Deadline MM/DD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>06/01</td>
</tr>
<tr>
<td>Summer</td>
<td>05/01</td>
</tr>
</tbody>
</table>

Year of three year check-in to GFEC (3 years after first student enrollment):
2023

Year of first program review (5 years after first student enrollment):
2025

If this proposal is approved, describe the implementation plan and timeline.

The leadership team, Daniel Bauer, Kristin Branch and Jordan Tong will be responsible for teaching and administration of the program initially. Implementation planning will be extensive throughout spring semester 2019 with the goal of having the formalized approved plans by May before the summer break. However, additional work to prepare student services like orientation, mentoring and advising will continue over the summer months. All working towards welcoming students in fall semester 2019.

In parallel with this proposal, we are proposing a new MS-Business Analytics degree program. Once this new program is approved and running, we intend to return the MS-Business: Operations and Technology Management, Named Option: Business Analytics to quiescent status. We are optimistic that this will happen such that we enroll our first class in the new MS-Business Analytics in summer 2020 or 2021 and, therefore, we think it is likely this MS-Business: Operations and Technology Management, Named Option: Business Analytics named option will not require a 3 year review.
We see it as imperative that we have a Business Analytics offering available for students in Fall 2019. By reviving the MS-Business: Operations and Technology Management with a named option in Business Analytics, we hope to achieve this goal.

**Rationale and Justifications**

How does the named option relate to the major and to other named options in the major, if relevant?

Business analytics encompass a wide number of domains. However, Operations and Technology Management do as well. Much of the data that is driving the industry and academic explosion of business analytics is coming from technology and our focus will be business management and implementation of the analytical work.

There are no other named options for this major and there will not be admissions into this major other than this Named Option.

Why is the program being proposed? What is its purpose?

On 10/3/2018, the University of Wisconsin—Madison announced its intention to expand its computing efforts with a new synergistic project across Computer Sciences, Statistics, and the iSchool to “bring computing and key related disciplines closer together to encourage collaboration and expand teaching and research activities.” “It is crucial that UW stay at the forefront of research and education in computing, information and data science,” said Chancellor Blank. With this MS-Business: Operations and Technology Management, Named Option: Business Analytics, the School of Business can complement, contribute to, and leverage this broader UW-Madison initiative. For instance, we envision students from these other programs will take advantage of the business applications classes in various industries offered under the umbrella of the MS-Business: Operations and Technology Management, Named Option: Business Analytics. And vice-versa our own students will have the possibility of deepening and broadening their modeling and computational skills by accessing classes in these programs.

The MS-Business: Operations and Technology Management, Named Option: Business Analytics provides an expedient 5th year on campus to extend their degrees earned for many of our undergraduate students. Students studying business may want to expand their knowledge in business analytics and tap corresponding career opportunities. Students majoring in statistics, economics, computer science, and many other quantitative non-business fields may find this MS-Business: Operations and Technology Management, Named Option: Business Analytics a way to link their undergraduate studies to business in order to expand their career possibilities. Additionally, students from other institutions across the state of Wisconsin, the US, and even the globe will be drawn to UW-Madison’s business application focused MS-Business: Operations and Technology Management, Named Option: Business Analytics.
The MS-Business: Operations and Technology Management, Named Option: Business Analytics is directly aligned with the School of Business Strategic Initiative goal of new and expanded MS programs.

The University of Wisconsin Madison states its goal of building innovative professional master-level degrees and other lifelong learning experiences in its Strategic Plan. We foresee extending the Wisconsin Idea as our curriculum emphasizes applied learning and includes live consulting projects with businesses in Wisconsin and beyond.

Within the School of Business, support for the MS-Business: Operations and Technology Management, Named Option: Business Analytics program has been expressed by the Department of Operations and Information Management, the Department of Marketing, the Department of Risk and Insurance, the School of Business Academic Leadership Council, the full faculty, and WSB Dean Barry Gerhardt.

Do current students need or want the program? Provide evidence.

The School of Business recently conducted a survey taken by 2448 current UW-Madison students to review and indicate interest in the various MS offerings in development consideration. The Business Analytics masters option was the top-ranked interest of the Master programs offered with 73% of students expressing some level of interest. When asked about their interest level in enrolling in a MS program immediately after undergraduate studies (our main target) 40 students in their senior stated extremely or very interested with 81 students in total expressing some level of interest in pursuing a UW-Madison School of Business master offering in Business Analytics immediately upon undergraduate graduation. The interest numbers increase with the junior, sophomore or freshman students. In the survey the most common majors expressing interest in this Business Analytics program include Business BBA students (Finance, Accounting, Marketing, Actuarial Science, Information Systems, and Management – in that order). "No Major BS" and "No Major BA" students are the other two top major groups.

What is the market, workforce, and industry need for this program? Provide evidence.

Many universities currently offer a Business Analytics masters program as noted in this article (https://poetsandquants.com/2016/01/18/business-analytics-masters-at-the-top-100-b-schools/), including some of our direct peers (e.g., University of Minnesota or Purdue). These programs have shown substantial growth over the past years. A Poet & Quants article (https://poetsandquants.com/2016/01/18/specialized-masters-programs-top-100-b-schools/2/) notes that, "Business analytics programs have also become a popular offering, as schools respond to industry’s need to exploit big data, and the subsequent demand for skilled data analysts. Twenty-seven business analytics programs are available among the top 100 schools, and that number is likely to rise quickly.”

The following is a list of career path options from currently open job postings:
A sample of job titles for graduates:
• Business analyst/specialist (Deloitte, McKinsey, etc.)
• Tableau Business Analyst / Tableau Visualization Analyst (Cigna)
• Senior Business Intelligence Analyst (Spectrum Health)
• Business Analytics Manager (3M)
• Statistician – Business Analytics (Lilly)
• Analyst, Marketing & Business Analytics (Macy’s)
• Business Analyst, Digital (ESPN)
• Business Analytics Specialist (Microsoft)
• Business Analyst/Operation Analyst/Data Analytics – Retail (Technology firm in CA)

Starting median salaries for those with a Business Analytics masters is approximately $80,000/year. (https://www.usnews.com/education/best-graduate-schools/top-business-schools/articles/2017-02-06/consider-masters-programs-in-business-analytics).

What gap in the program array is it intended to fill?

Currently, the School of Business has analytical classes in the undergraduate and Full Time MBA programs as well as a Graduates Certificate in Analytics but this new MS-Business: Operations and Technology Management, Named Option: Business Analytics will be more a complete and robust analytics curriculum. We foresee this MS-Business: Operations and Technology Management, Named Option: Business Analytics enhancing all areas of our analytical offering as we anticipate enrollment that will support hiring of additional faculty or lecturers and if there is capacity in the classes, will be open to other MBA or MS students to enroll these classes.

The MS-Business: Operations and Technology Management, Named Option: Business Analytics curriculum areas overlap with other programs offered on campus, particularly the Master of Science in Statistics with a named option in Data Science (MS-DS), the Certificate in Data Analytics for Decision Making offered UW-Madison’s Information School, and related programs pushed forward under the school-wide initiative on computing. We view these similarities as synergistic rather than providing competition. In particular, we are serving a different student population: The MS-DS requires background in linear algebra, advanced calculus, probability, and programming, whereas we simply require one semester of calculus. Thus, the prototypical student will be less technically equipped, but possibly more veering towards managerial positions and liaison roles in analytics (and, indeed, our survey results indicated that the largest population of interested students are BBA graduates). And while most credits in the MS-DS are spent deepening students’ skills in statistical modeling, the MS-Business: Operations and Technology Management, Named Option: Business Analytics curriculum takes a balanced approach between descriptive, predictive, and prescriptive analytics with an emphasis on business applications. Hence, the MS-Business: Operations and Technology Management, Named Option: Business Analytics prepares students to tap the broad opportunities in business analytics and translating business questions to data scientists and their results back to the business manager rather than educating specialized data scientists.
Within the UW system, thus far there is no face-to-face Business Analytics degree in place. There are a few UW schools offering concentrations/emphases/certificates in Analytics within their MBA degrees (UW-Milwaukee, UW-Parkside, UW-Whitewater), but the level of depth as well as the prospective student populations are different. Also, there is a system-wide UW Master of Science in Data Science offered by six UW campuses and extensions, but delivery is online only and the focus is on methods rather than business applications.

https://datasciencedegree.wisconsin.edu/data-science-program/data-science-masters/

**Faculty and Staff Resources**

List the core program faculty and staff with title and departmental affiliation(s) who are primarily involved and will participate in the delivery and oversight.

<table>
<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauer, Daniel</td>
<td>Risk and Insurance (ACT SCI RM)</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Branch, Kristin</td>
<td>Marketing (MARKETING)</td>
<td>Faculty Associate</td>
</tr>
<tr>
<td>Tong, Jordan</td>
<td>Operations &amp; Information Mgmt (O I M)</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Siemsen, Enno</td>
<td>School of Business (BUSINESS)</td>
<td>Associate Dean</td>
</tr>
</tbody>
</table>

What resources are available to support faculty, staff, labs, equipment, etc.?

We will be able to use all current School of Business resources - classrooms, library, analytics lab, etc. to fully execute the MS-Business: Operations and Technology Management, Named Option: Business Analytics.

Program advisor(s) with title and departmental affiliation(s).

<table>
<thead>
<tr>
<th>Name (Last, First)</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arora, Neeraj</td>
<td>Marketing (MARKETING)</td>
<td>Professor</td>
</tr>
<tr>
<td>Rosenberg, Marjorie A</td>
<td>Risk and Insurance (ACT SCI RM)</td>
<td>Professor</td>
</tr>
<tr>
<td>Liu, Qing</td>
<td>Marketing (MARKETING)</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Sydnor, Justin R</td>
<td>Risk and Insurance (ACT SCI RM)</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Morris, James G</td>
<td>Operations &amp; Information Mgmt (O I M)</td>
<td>Professor</td>
</tr>
</tbody>
</table>

Describe how student services and advising will be supported.

The faculty co-directors and the staff director will be the primary responsible members of MS-Business: Operations and Technology Management, Named Option: Business Analytics. This team will lead curriculum development and academic guidance - course planning. This team will also be responsible for the student professional development and partner on employer relations.
The Masters in Business Administration Program Office (MBA PO) will work closely to support the MS-Business: Operations and Technology Management, Named Option: Business Analytics students. The MBA PO team will lead admissions, recruitment, admissions operations, financial aid and merit aid processing, academic guidance - policies and procedures, student services - general, career and leadership development, employer relations, data reporting and rankings management.

Programmatic services, including connections to web and Guide information and the Registrar’s Office will be the responsibility of WSB Academic Affairs, in alignment with the work they currently perform related to existing WSB programs.

Communication with the WSB Dean’s Office will be the responsibility of the Director of Business Analytics or the Business Analytics Faculty Director(s).

Professional development opportunities will be primarily provided through Applied Learning events.

Confirm that the program advisor(s) or coordinator(s) have been consulted and reviewed this proposal.

Yes

**Resources, Budget, and Finance**

Is this a revenue program?

No

What is the tuition structure for this program?

Profession-specific tuition, Regent-approved

Does the program or change require substantial new resources other than those just described? Describe the needs. Confirm that the dean is committed to providing the resources.

This will be a 101 degree program. It will leverage existing infrastructure, at enrollments of 20 or fewer, however we believe this program will grow to 50-100 students quickly and that tuition revenue allocation will fund the additional resources.

Are new Library resources needed to support this program?

No

Describe plans for funding students including but not limited to funding sources and how funding decisions are made.

The majority of students will not receive financial assistance. However, some funds will be allocated to support candidates -- specifically to increase the likelihood of attracting candidates that increase diversity in the program and on campus. Additional funds will be available to
attract candidates away from competitor programs. All funds will be generated through program tuition dollars from other, previous students, or donor contributions.

**Curriculum and Requirements**

Parent Plan Admissions/How To Get In Requirements

Guide Admissions/How to Get In tab

Describe plans for recruiting students to this program.

We intend to publish a website to be a resource for all prospective students and current students.
We intend to have a full marketing plan including advertising, social media and events to recruit students from across the UW-Madison campus as well as nationally and internationally.

It should be noted that we intend to have a maximum capacity for year one of 20 students as that is the maximum enrollment that can be supported with existing resources. However, in future years we anticipate growing demand and the resources to accommodate.

Projected Annual Enrollment:

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>15</td>
</tr>
<tr>
<td>Year 2</td>
<td>40</td>
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<tr>
<td>Year 3</td>
<td>50</td>
</tr>
<tr>
<td>Year 4</td>
<td>75</td>
</tr>
<tr>
<td>Year 5</td>
<td>100</td>
</tr>
</tbody>
</table>

Maximum enrollment that can be supported with existing instructional and student services resources:

20

Those who are not familiar with using the html editor fields may upload a document with information about the curriculum for use by those who will format and edit the content that will appear in the Guide.

Parent Requirements

Guide Requirements tab
Total credits required:

30

Parent Plan Graduate Policies

Guide Graduate Policies tab

Discuss expected progress to degree and time to degree. For undergraduate programs discuss considerations for supporting students to complete the degree in four academic years.

Students will graduate from the MS-Business: Operations and Technology Management, Named Option: Business Analytics in one academic year.

**Program Learning Outcomes and Assessment**

Parent Program Learning Outcomes

Apply business analytic tools and methods across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.)

Leverage expertise in data management software (e.g., SQL) & statistical programming (e.g., R, Python) to go from data to decisions

Deliver insights and recommendations for organizations using cutting-edge descriptive, predictive, and prescriptive analytics techniques

Manage analytics projects, communicate professionally, and influence data-based changes within an organization

Summarize the assessment plan.

The first semester of the MS-Business: Operations and Technology Management, Named Option: Business Analytics teaches students methodological foundations of business analytics, including descriptive (data acquisition, data visualization, e.g.), predictive (statistical programming, machine learning, e.g.), and prescriptive (optimization, spreadsheet modeling, e.g.) analytic techniques. The second semester leverages this foundation in an array of elective classes focused on the application of business analytics across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.) as well as in real world consulting experiences.

The assessment plan reflects this separation by assessing the methodological skills linked to learning objectives 2 and 3 at the end of the first semester in the context of core classes focused on predictive (GEN BUS 656 – Machine Learning for Business Analytics) and prescriptive (GEN BUS 730 Prescriptive Modeling & Optimization for Business Analytics) techniques. The skills with regards to business analytics applications and associated learning outcomes 1 and 4 are assessed in the Analytics Consulting Practicum (Gen Bus 770) and the Current Topics class that draws on the experiences in the diverse set of applications classes. Learning Outcomes 1
and 4 will be reported to the University in Year 1. Learning Outcome 2 in Year 2 and Learning Outcome 3 in Year 3.

**Commitments**

All required courses are approved through the school/college level.

Yes

Courses are offered on a regular basis to allow timely completion.

Yes

Courses have enrollment capacity.

Yes

Students may complete only 1 named option within a plan code.

Yes

The program faculty/staff will ensure the program website, Advance Your Career materials if applicable, and other presentations are consistent with the Guide information for this program.

Yes

Credential will not be awarded retroactively to students who completed all of the requirements before the credential was approved.

Yes

**Supporting Information**

List name and department of those who are in support of this proposal.

If those supporting the proposal provided a letter or email of support upload here. A letter is NOT required. Upload any other explanatory information about support from other UW-Madison units.

- [iSchoolSupport_MSBDA.pdf](mailto:iSchoolSupport_MSBDA.pdf)
- [EPD Letter of Support for MSBA (Business School).pdf](mailto:EPD Letter of Support for MSBA (Business School).pdf)
- [BusinessAnalyticsMS_Dec2018 - Comp Sci.pdf](mailto:BusinessAnalyticsMS_Dec2018 - Comp Sci.pdf)
- [MS-OTM named option Letter from Economics.pdf](mailto:MS-OTM named option Letter from Economics.pdf)
- [Business Analytics OverviewPPT.pdf](mailto:Business Analytics OverviewPPT.pdf)

**Approvals**
Department Approval - This proposal has been approved by the faculty at the department/academic unit level. The program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Entered by:
Date entered:

School/College Approval - This proposal has been approved at the school/college level and it is submitted with the Dean’s support. The Dean and program faculty confirm that the unit has the capacity and resources (financial, physical, instructional, and administrative) to meet the responsibilities associated with offering the program, including offering the necessary courses, advising students, maintaining accurate information about the program in the Guide and elsewhere, conducting student learning assessment and program review, and otherwise attend to all responsibilities related to offering this program.

Enter any notes about approval here:

Approved WSB Master's Curriculum Committee - 11.5.2018
Approved WSB APC - 11.15.2018
Approved WSB Faculty - 11.26.2018

Entered by and date:
Sharon Kahn
Date entered:
11.27.2018

GFEC Approval - This proposal has been approved by the Graduate Faculty Executive Committee and the Dean of the Graduate School.

Enter any notes about the approval here:

Entered by:
Date entered:

UAPC Approval - This proposal has been approved by the University Academic Planning Council and the Provost.

Enter any notes about approval here:

Entered by:
Date entered:
### For Administrative Use

**Reviewer Comments**

**Kristin Branch (kjbranch) (11/27/18 9:54 am):** Letter of support was received from the Information School on 11/26/2018. Not sure how to add the letter since the work flow has started.

**Michelle Young (meyoung) (11/29/18 4:23 pm):** Rollback: See email from Jocelyn Milner.

**Sharon M Kahn (smkahn) (11/30/18 8:35 am):** Rollback: Rolling back to allow for edits per JLM email.

**Nicole Wiessinger (wiessinger) (11/30/18 5:00 pm):** Rollback: Rolling back for additional edits.

**Sharon M Kahn (smkahn) (12/03/18 9:15 am):** Rollback: Rollback for additional edits.

**Gurindar S Sohi (gssohi) (12/07/18 2:38 pm):** See attached letter of support from me. Guri Sohi, CS Department chair.

**Kyung-Sun Kim (kyungsunkim) (12/07/18 3:00 pm):** No objection.

**Elaine M Klein (emklein) (12/11/18 9:43 am):** L&S received on Dec 7 a request for comment on the Named Option proposal with deadline Dec 12. I communicated with lead dean to note that we will be unable to provide comment in that time frame, as we need to (1) understand the perspectives of L&S units that were also invited to comment on the NOI to create a new degree program, (2) understand the distinctions and overlap between the proposed Named Option and the proposed new degree program, and (3) determine the potential impact on L&S programs. Though we are unable to accommodate the extremely short timeline in which our response was invited, we will likely be able to provide comment by December 21, which should be sufficient for consideration at the January GFEC meeting (if indeed that meeting is scheduled).

**Kimberly A Grocholski (kgrocholski) (12/12/18 3:21 pm):** The Department of Economics sent a memo to Ella Mae Matsumura.

**Sharon M Kahn (smkahn) (12/19/18 3:11 pm):** Attached letter from Econ.

**Elaine M Klein (emklein) (12/27/18 10:54 am):** The College of Letters & Science was invited to comment on the proposal to create a named option in “Business Analytics,” to be offered under the MS-Operations and Tech Management program in the Wisconsin School of Business. Several L&S departments were also invited to comment and these units are not opposed to moving forward with this program. The Department of Economics in particular enumerates a limited amount of curricular overlap, since topics discussed in the program appear in a number of graduate-level courses in Economics. However, we note that the proposed program calls upon courses housed entirely within the WSOB and the Business and Economics Department offerings are distinguished from each other by the degree of required technical training. We also note that L&S monitors the extent to which students enrolled in non-pooled tuition programs pursue courses outside their own programs, and, while this program is proposed as a pooled revenue program, we nevertheless expect that if students enrolled in this program were to call upon L&S resources in a significant way, we would seek an agreement between the WSOB and Letters & Science to address that. With these considerations in mind, Dean Scholz supports the creation of the named option in “Business Analytics” under the MS-OTM. Unfortunately, due to the timing of this request, the L&S APC has not been able to discuss this request, as is our usual practice. We will report this action at the next meeting, which is likely to
occur early in the Spring 2019 term. At that point, support can come from the College (as opposed to Dean Scholz). Submitted on behalf of Dean Scholz by Elaine M. Klein, Associate Dean for Academic Planning, L&S

Maureen A N Bischof (mabischof) (12/27/18 11:12 am): Parent program learning outcomes and assessment plan are up-to-date.

Nicole Wiessinger (wiessinger) (01/02/19 11:38 am): Rollback: Rolling back for revisions discussed in email with Sharon Kahn 1/2/19.

Sharon M Kahn (smkahn) (01/03/19 2:01 pm): Rollback: additional edits needed

Key: 1032
December 3, 2018

Ella Mae Matsumura  
Senior Associate Dean of Academic Programs  
Robert and Monica Beyer Professor of Accounting

As Chair of the Computer Sciences (CS) Department, I write to express enthusiastic support for the proposed Master of Science: Business Analytics degree. The intention of this degree, as you explained in our meeting, is to provide managers with both the management training as well as exposure to basic technological skills so that they are better able to manage and make decisions in an environment where technology is increasingly pervasive. It is great to see UW-Madison work towards creating such a degree.

Since there are currently no CS courses involved, there is no additional demand placed on the CS department at this time. That said, the CS department is planning to develop courses, especially as part of a proposed data science major, that may be of relevance as core (technology-related) courses in the proposed Business Analytics degree.

While at this time the CS department does not have the staffing for more closer interactions with the Wisconsin School of Business for this, or other curricula that require technological training, I expect that will change in the future. At that time, closer interactions may not only be warranted but also prudent, especially given the rapid change in technology and its impact on organizational structures and operations. I ask that the Wisconsin School of Business periodically evaluate the Business Analytics degree and assess potential pedagogical interactions with the computing entities on campus.

Sincerely,

Gurindar S. Sohi  
Department Chair
Vilas Research Professor
November 27, 2018

Ella Mae Matsumura  
Senior Associate Dean of Academic Programs  
Robert and Monica Beyer Professor in Accounting  
Wisconsin School of Business  
4345 Grainger Hall  
975 University Avenue  
Madison, WI 53706

Dear Professor Matsumura,

The Information School (iSchool) is pleased to support the Notice of Intent (NOI) for the new Master of Science in Business Analytics, currently under development by the Wisconsin School of Business (WSB). We believe that the new MS program will give WSB graduate students structured means to gain analytics expertise, and help them develop a credential to make them more competitive in job seeking. There is high demand for applied analytics professionals, and it is important that the UW-Madison campus offers multiple pathways for students to gain expertise in this area.

Sincerely,

Kyung-Sun Kim  
Interim Director and Professor
Ella Mae Matsumura
Senior Associate Dean of Academic Programs
Robert and Monica Beyer Professor in Accounting
Wisconsin School of Business
4345 Grainger Hall
975 University Avenue
Madison, WI 53706

December 17, 2018

Dear Professor Matsumura,

I received your email on December 7, 2018, requesting a response regarding the proposal to create a new MS-Operations and Tech Management, named option Business Analytics (MS-OTM, named option Business Analytics) in the Wisconsin School of Business. Given the short timeframe provided for our department to send a response, the faculty in the Department of Economics conducted a high level review of the proposal. The focus of the review was to generally assess for curricular overlap between the Masters of Science in Economics – Graduate Foundations (MS-GF) and the proposed MS-OTM, named option Business Analytics. There is some curricular overlap between the programs, however we recognize that the MS-OTM, named option Business Analytics curriculum is less technical than the Economics MS-GF curriculum.

The Economics MS-GF offers three courses that cover some of the same content that is part of the proposed MS-OTM, named option Business Analytics. The Economics courses are

(a) Data Analytics for Economists
(b) Economics of Machine Learning
(c) Economics of Big Data.

The Economics of Machine Learning was taught fall 2018 semester. The Economics of Machine Learning content is close to the “Machine Learning for Business Analytics” and “Experiments and Causal Methods for Business Insight” courses that are part of the proposed MS-OTM, named option Business Analytics. One example used in the Economics of Machine Learning course is predicting sales/predicting the effect of promotions on a product's demand. Second, causal inference is a prominent topic in econometrics courses (which is a big focus of our MS-GF program) and we touch on the problem of causal inference and how machines learning tools can serve for causal inferences, possibly leveraging data generated by experiments.

The faculty consensus is that the overlap between the program coursework will be mitigated by the difference in technical training. We note that the first learning outcome is “Apply business analytic tools and methods across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.)”. In addition, the proposal explicitly states that the training will be at a very low tech level - more appropriate to training managers of data analytic industry divisions. These aspects of the training minimize the overlap with our data analytic programs. On behalf of the faculty in the Department of Economics, I offer our support for the proposed MS-OTM, named option Business Analytics degree program.

Sincerely,

Ananth Seshadri
Chairman, Department of Economics
Todd E. and Elizabeth H. Warnock Distinguished Chair
Professor Ella Mae Matsumura  
Senior Associate Dean for Academic Programs  
Wisconsin School of Business  
University of Wisconsin – Madison

Dear Ella Mae,

December 11, 2018

On behalf of the Statistics Department, I am writing to indicate no objections to the new Master of Science in Business Analytics currently under development by the Wisconsin School of Business.

The Statistics Department launched in 2015 a Data Science Option in our Master of Science - Statistics program, which has emerged as a leading Data Science graduate program on campus. While there is some overlap in the curriculum between your new Business Analytics program and our Data Science program (e.g. programming tools including R and Python, machine learning), your new program appears to be geared toward students interested in business requiring less math background, whereas our program provides a more comprehensive and rigorous training in Data Science requiring statistical data analysis, computing skills, and domain science knowledge.

We believe that your new program will serve graduate students in Business very well. In addition, we view your new program as a useful addition to the broader Data Science initiatives at UW-Madison and anticipate mutual benefits from coordination and collaboration between our programs.

The comments above also apply to your proposed named option Business Analytics within the Master of Science - Operational and Tech Management program.

We wish you the very best in developing the Business Analytics named option and the new Master of Science in Business Analytics program.

Yours sincerely,

Jun Zhu  
Professor and Chair of Statistics  
University of Wisconsin - Madison
November 27, 2018

Memo To: Ella Mae Matsumura, Senior Associate Dean for Academic Programs

Regarding: Notice of Intent: New Master of Science in Business Analytics

Dear Ella Mae,

I have received your November 18, 2018 letter requesting EPD’s support as part of the process for the Wisconsin School of Business’ pursuit of a new Master of Science in Business Analytics. As you probably know EPD’s master’s degree programs, including our Master of Engineering: Engineering Data Analytics (MEDA), are all delivered online. The target audience for these graduate degrees is practicing professionals that intend to continue their employment while pursuing their advanced degree. I understand the proposed MSBA will be an on-campus residential program targeting students graduating with a BS as an option for a fifth-year masters. As such, these two programs are not competitive as they are focused on different disciplines and audiences. If you feel there are ways we could collaborate into the future to leverage resources or to achieve mutual strengthening of our respective programs, please do not hesitate to reach out to us.

On behalf of the Department of Engineering Professional Development, we support the development of this new Business Analytics MS program. I appreciate you reaching out with the advance notice of intent to develop this new MS program.

Regards,

Douglas T. Reindl

cc. Susan Ottmann – Director, EPD Online Degree Programs
Jake Blanchard – Executive Associate Dean, COE
December 3, 2018

Ella Mae Matsumura  
Senior Associate Dean of Academic Programs  
*Robert and Monica Beyer Professor of Accounting*

As Chair of the Computer Sciences (CS) Department, I write to express enthusiastic support for the proposed Master of Science: Business Analytics degree. The intention of this degree, as you explained in our meeting, is to provide managers with both the management training as well as exposure to basic technological skills so that they are better able to manage and make decisions in an environment where technology is increasingly pervasive. It is great to see UW-Madison work towards creating such a degree.

Since there are currently no CS courses involved, there is no additional demand placed on the CS department at this time. That said, the CS department is planning to develop courses, especially as part of a proposed data science major, that may be of relevance as core (technology-related) courses in the proposed Business Analytics degree.

While at this time the CS department does not have the staffing for more closer interactions with the Wisconsin School of Business for this, or other curricula that require technological training, I expect that will change in the future. At that time, closer interactions may not only be warranted but also prudent, especially given the rapid change in technology and its impact on organizational structures and operations. I ask that the Wisconsin School of Business periodically evaluate the Business Analytics degree and assess potential pedagogical interactions with the computing entities on campus.

Sincerely,

Gurindar S. Sohi  
Department Chair
Vilas Research Professor
Wisconsin School of Business

Business Analytics Masters Initiative

12/2018
Recent surge in MS degree offerings & demand

• Role of professional master degrees increasingly important in Business School portfolio (similar trends in other disciplines)

• Business Analytics is among the fastest growing & most in demand
  • 52 Business Analytics master programs in US (Source: GMAC 2018 report)
    • 64% of programs report increase in applications (Source: GMAC 2018 report)
  • Example: In their second year, Emory University’s business analytics master received more than 750 applications for a single cohort (tuition around 70K, Source: personal communication)

• UW-Madison will be the only system school in Wisconsin offering an in-person business analytics master degree
Competitive Analysis & Unique Positioning

• The team analyzed offerings by other universities to develop UW degree by emphasizing our strength
  • Comparison Group: Minnesota, UT-Austin, Purdue, Indiana, Iowa, Michigan State, & Rutgers

Our business analytics plan has 3 main differentiators:
  1. Well balanced across Descriptive, Predictive, and Prescriptive Analytic Approaches
  2. Masters in <1 year
  3. The breadth and depth in business application options
     • Students will take 3 classes/9 credits and choose from existing classes:
       • Health Analytics, Marketing Analytics, Supply Chain Analytics, Operations Analytics, People Analytics, etc.
Strategic Positioning Highlights

- Taking a balanced approach towards descriptive/predictive/prescriptive analytic methods

### Descriptive, Predictive, Prescriptive Balance

<table>
<thead>
<tr>
<th>Program Name</th>
<th>UW Data Science</th>
<th>UT Austin</th>
<th>Iowa</th>
<th>Rutgers</th>
<th>Indiana (MBA-BusA)</th>
<th>Michigan State</th>
<th>Minnesota</th>
<th>Purdue</th>
<th>WSB (Proposed Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Descriptive</td>
<td>% Predictive</td>
<td>% Predictive</td>
<td>% Predictive</td>
<td>% Predictive</td>
<td>% Predictive</td>
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<td>% Predictive</td>
<td>% Predictive</td>
<td>% Predictive</td>
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</tbody>
</table>

Vertical bar chart showing the proportion of descriptive, predictive, and prescriptive methods for each program.
Strategic Positioning Highlights

- More programming/software than MBA, but on par with peer programs
Strategic Positioning Highlights

- Relatively high proportion of business analytics applications courses to specific functions/industry
Need to launch in 2019

• Time is of the essence
  • Wisconsin is already late in launching this initiative
  • Campus is asking Business to launch new MS degrees
  • Strategic alignment with broader UW push in data science

• New Named Option within Operations & Information Management department
  • OIM degree is a good fit for Business Analytics (STEM)
  • Creating a new Named Option

• Capping enrollment at 20 students for 2019-2020
  • Small cohort allows for establishing curriculum and possible tweaks
  • Essential for marketing & recruitment of steady state enrollment (target 50-100 students)
Discussed across campus

• The Business Analytics team has met with and discussed our plans with several UW departments
  • Engineering
    • Executive Professional Development – email discussion. Letter of Support received
    • Industrial & Systems Engineering – In-person meeting 11/28/18
  • College of Letters & Science
    • Statistics – In-person meeting 11/12/18. Letter of Support received
    • Information School – In-person meeting 11/16/18. Letter of Support received
    • Economics – email discussion. Letter of Support received
    • Computer Science – In-person meeting 11/21/18. Letter of Support received
    • Overall College – On-going email discussion. Statement expected 12/21/18
Business Analytics Learning Outcomes

• Apply business analytic tools and methods across various business functions (marketing, finance, supply chain, etc.) and industries (health care, finance, technology, etc.)

• Leverage expertise in data management software (e.g., SQL) & statistical programming (e.g., R, Python) to go from data to decisions

• Deliver insights and recommendations for organizations using cutting-edge descriptive, predictive, and prescriptive analytics techniques

• Manage analytics projects, communicate professionally, and influence data-based changes within an organization
# Business Analytics Named Option Degree Plan

<table>
<thead>
<tr>
<th>Fall Semester (15 required credits):</th>
<th>Spring Semester (15 required credits):</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEN BUS 705 – Statistics &amp; Programming for BA*</td>
<td>Elective in Business Applications – Marketing Analytics</td>
</tr>
<tr>
<td>GEN BUS 656 – Machine Learning for BA**</td>
<td>Elective in Business Applications – Supply Chain Analytics</td>
</tr>
<tr>
<td>GEN BUS 720 – Data Visualization for BA*</td>
<td>Elective in Business Applications – Health Analytics</td>
</tr>
<tr>
<td>GEN BUS 730 – Prescriptive Modeling &amp; Optimization for BA*</td>
<td>GEN BUS 770 – Analytics Consulting Practicum*</td>
</tr>
<tr>
<td>OTM 752 – Project Management</td>
<td>GEN BUS 840 – Current Topics in Business Analytics*</td>
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<tr>
<td>GEN BUS 740 – Experiments &amp; Causal Methods for Bus. Insights**</td>
<td></td>
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<tr>
<td>GEN BUS 760 – Data Technology for BA*</td>
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</tbody>
</table>

*: New course, approved by Wisconsin School of Business  
**: New course, approval process complete
Please let us know if you have questions or want to discuss the Business Analytics initiative

Leadership Team:

Dani Bauer, R&I
Kristin Branch, Marketing
Jordan Tong, OIM
University of Wisconsin-Madison Digital Education Principles for High-Quality Online Courses and Programs – Draft for Consideration – 01/04/19

UW-Madison has a strong reputation for high-quality residential (face-to-face) education, and we expect to emphasize this approach for the foreseeable future. The university has also been a pioneer in technology-enhanced education since the early days of public radio and TV, and has a long and distinguished record in the development of high-quality post-baccalaureate online programs. We have historically fulfilled the Wisconsin Idea through a multimodal approach to education. Our success results from a longstanding commitment to holding online courses and programs to the same standards as any other UW-Madison offering.

Online education in this document refers to courses and programs which are fully online and can be taken at a distance. This definition provides distinction with blended, flipped and other course pedagogies that may use aspects of online delivery but still rely on residential experiences.

While online education continues to expand at UW-Madison, the current total footprint (especially during the academic year) is small, and we expect online courses to remain a relative minority for the near term. We expect growth to accelerate, but we do not envision the online offerings of the University replacing or predominating over our current residential model. Online courses will complement our existing residential model by expanding access for new students, facilitating enrollment growth where facilities might constrain access, and enhancing flexibility for current students. New online offerings will continue to exemplify our core academic values of rigor, integrity, and excellence.

The following online education principles, updated from the Educational Innovation Distance Principles of 2012, complement existing UW-Madison Academic Policies for courses and programs. They support the Higher Learning Commission accreditation criteria for Teaching and Learning: Quality, Resources, and Support by ensuring that “the institution’s program quality and learning goals are consistent across all modes of delivery.” These principles also commit campus to continuing what is best about residential education and supporting educational innovation, transformative learning, new pedagogies, and new audiences.

**Recommended principles to guide online education:**

UW-Madison will advance excellence in teaching and learning in online education. We will relentlessly seek to provide rich and personalized learning experiences that embody the principles of the Wisconsin Experience.

a. UW-Madison’s online offerings are intended to increase access to a UW-Madison degree for new students, and provide new course-by-course options for residential students to achieve timely and flexible degree progress. We will strive to promote student success by ensuring that all online offerings meet campus accessibility expectations, appropriately preparing students for online learning, and removing barriers related to student access required by online courses and programs.
b. **Online courses and programs will contribute to UW-Madison’s goal of preparing students to thrive in a digitally connected global and ever-changing economy.** Evaluating, synthesizing, and making meaning of vast amounts of data and information, and collaborating, communicating, and working in a digital environment, are critical for participants in the global information economy.

c. **UW-Madison’s focus for online development crosses academic offerings, including the course, certificate, baccalaureate, and post-baccalaureate levels.** Technology can help overcome the barriers between the academy and industries and professions. We are seeking to create academic offerings with the appropriate credentials for the lifelong learner.

d. **UW-Madison will intentionally and strategically select courses and programs to provide online in accord with the objectives expressed in this document and in consultation with academic programs, schools, and colleges.** The university will consider digital education opportunities in the context of the curriculum and desired learning outcomes, and will support instructors in developing, assessing and maintaining high quality online offerings.

e. **With teaching and learning at the center, the design principles for online courses and programs will be evidence-based and student-centered.** Research makes clear that the most important factors in student learning are the skills of the instructor and their structuring of the learning experience, no matter the technology. Program and course design will have clearly identified learning outcomes, student engagement, instructor development, and effective methods of assessment. Our online offerings will incorporate substantive and regular interaction between students and the instructor.

f. **UW-Madison's online courses and programs will preserve academic rigor, integrity, and excellence.** They will use technology to facilitate, broaden, and enhance the intellectual encounters among instructors and students, recognizing the difference between access to, data, knowledge, and experience. School/college and university curriculum committees will directly assess the rigor of such courses or programs, as they do with residential programs.

g. **Online degree programs will use University of Wisconsin-Madison admissions standards.** Admission processes will be appropriate to the online environment. Our goal is to ensure that those enrolling in an online degree have the requisite interest, experience, and qualifications to be successful. We will carefully monitor every program for evidence of student progress and longer-term student success as we do with students learning in residential courses and programs.

h. **The digital learning environment will continue to evolve.** We will be proponents of research and learning as new pedagogy, technologies, and tools emerge.

i. **We will develop online courses in the campus-supported learning management system and use institutionally-adopted tools in compliance with UW-Madison’s web accessibility policy.** We will design them to easily adapt to any term offering or any instructor, and to align with instructional design standards.
The Graduate School Office of Professional Development is committed to graduate student success. We coordinate skill-building programs in a variety of areas and partner with units across campus to offer hundreds of events each year, for example:

- **Beyond the Tenure Track** - a series on career exploration and job search strategy for non-academic employment
- **For Future Faculty** - a series that prepares graduate students for careers as research and teaching faculty
- **National Center for Faculty Development and Diversity** - the university has a membership to this organization that provides advice on writing practice, dealing with stress, navigating department politics, and much more
- **Project Management** - a workshop that enhances leadership, management, collaboration, and teamwork skills
- **Three Minute Thesis** - an international competition that builds skills for communicating science to the public
- **Versatile PhD** - an online resource to help graduate students identify and prepare for non-academic careers

We encourage graduate students to be proactive through use of **Individual Development Plans**. To support graduate students and their mentors, we offer a collection of IDP resources, face-to-face workshops, and the following tools:

- **Imagine PhD** - a career exploration and planning tool for graduate students in the humanities and social sciences
- **MyIDP** - a career-planning resource from the AAAS, tailored to meet the needs of STEM graduate students
- **DiscoverPD** - an online tool, developed for UW–Madison master's and doctoral students, that prompts users to assess their confidence across various competencies. It generates a custom report with recommendations for improvement.

**SKILLS FRAMEWORK linked to LEARNING OPPORTUNITIES**

320+ events in the graduate student professional development calendar, led by expert facilitators and trainers

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