MichiganTech

— Course Add Proposal —
PLEASE COMPLETE THIS FORM IN RED

A guide for completing this form is located at www.admin.mtu.edu/em/faculty/courses/proposal_guide.php

1) Course Information

Is this a **half-semester course proposal?** ☐ Yes ☒ No

NOTE: All half-semester courses must follow rules set in Faculty Senate Proposal 4-00. See Senate website for details:
http://www.sas.lt.mtu.edu/usenate/propose/03/10-03.htm

Course Prefix/Number *(i.e. MEEM 2110):* MA4790

Course Title *(abbreviated; used on transcript - Up to 30 characters including spaces)*

PREDICTIVE MODELING

Alternative Title for Catalog *(Up to 100 characters including spaces)*

2) Credits

Number of credits assigned to this course 3

OR

Range of credits if variable ☐ to ☐ *(Number of credits to be taken in a given semester)*

3) Schedule

Contact Hours per Week *(Lec & Rec: 1 credit =1 contact hour; Lab: 1 credit =1-3 contact hours. I.e. A 3-credit course may be 2 contact hours of lecture or recitation and up to 3 contact hours of lab OR 1 contact hour of lecture or recitation and up to 6 contact hours of lab)*

☐ Lecture ☒ Recitation ☐ Lab

OR

Research Course? ☐ Yes ☐ No

OR

Special Topics Course? ☐ Yes ☐ No

4) Additional Credits

May students receive **additional credits** by taking and passing this course <u>more than once</u>?

☒ No

☐ Yes, for a maximum of _____ credits. *(Must be a multiple of the course credits, i.e. Research or Special Topics)*

☐ Yes, for an unlimited number of credits. *(i.e. Music, Varsity sports, etc.)*

5) Pass/Fail

Will this course be offered as a pass/fail option ONLY? *(grade of S or E)* ☐ Yes ☒ No

6) Cross Listed/Equivalent Course

Cross Listed: Is there an identical course offered in a different subject or at a different level? ☐ Yes ☒ No

If Yes, what is the other subject and course number? _____

Equivalent Course: Does this course replace a dropped course with no change in course content for degree requirements, prerequisites, and repeating purposes? ☐ Yes ☒ No

If Yes, what is the subject and course number of the dropped course? _____

7) Corequisites and Prerequisites

Corequisites are courses that are **REQUIRED** to be taken at the **SAME TIME** as this course (courses MUST be offered during the same term):

```
Required corequisite course(s):
_____
_____
```

Prerequisites are courses that are **REQUIRED** to be taken **PRIOR** to enrollment in this course. Select appropriate box and use parentheses where needed (refer to the guidebook for examples):

```
          Required prerequisite course(s):
                1. MA3740
☐ And or ☒ Or  2. MA4710
☐ And or ☒ Or  3. MA4720
☐ And or ☒ Or  4. MA4780
☐ And or ☐ Or  5. _____
☐ And or ☐ Or  6. _____
```

A concurrent prerequisite is a defined prerequisite course (from list above) that **MAY** be taken **EITHER** simultaneously in the same semester **OR** in a prior semester. Indicate below applicable courses.

```
Concurrent prerequisite course(s):
_____
_____
_____
```

8) Catalog Course Description

The traditional catalog style description for this course, **up to 40 words**. If course is proposed as a half-semester course, please include that information in the description so students will see it in the printed catalog. **Please refer to the guidebook for examples and suggestions on developing a course description.**

Application, construction, and evaluation of statistical models used for prediction and classification. Topics include data visualization and exploratory methods, the normal theory regression model, logistic and Poisson regression, linear and quadratic discriminant analysis, and classification with logit models.

9) Registration Restrictions

* If permission is <u>always</u> **required** for registration purposes (a student cannot enter the course without department or instructor signature), please select the appropriate permission.

Do not select unless EVERY STUDENT must get "SIGNED INTO" the class.

☐ Department **OR** ☐ Instructor

* Students who register for this course may be restricted by their **College/School OR their Major.** Please indicate if any college or major restrictions should be applied to this course. If there are no restrictions please indicate in the check box provided.

☐ No College/School Restrictions   ☐ No Major Restrictions

Colleges/Schools who MAY NOT enroll (EXCLUDE)
-OR-
Colleges/Schools who MAY enroll (INCLUDE)

Majors that MAY NOT enroll (EXCLUDE)
-OR-
Majors that MAY enroll (INCLUDE)

-- Restrictions continued on next page --

- A restriction may also be placed on **Class Standing** (Freshman, Sophomore, Junior, Senior, Graduate). Please indicate if any class restrictions should be applied to this course. If there are no restrictions please indicate in the check box provided.

☐ **No Class Restrictions**

> Class of students who MAY NOT enroll
> (EXCLUDE)
>
> _____
>
> -OR-
>
> Class of students who MAY enroll (INCLUDE)
>
> _____

10) Semester(s) Offered

☐ Fall   ☒ Spring   ☐ Summer   *(Check all that apply)*

OR   ☐ On Demand

If offered in a specific semester, will the course be offered only in alternate years?   ☐ Yes   ☐ No

If yes, what will be the starting academic year? *(i.e. 2008-09 or 2009-10)* _____

11) General Education HASS Distribution

To propose this course for inclusion on a **HASS Distribution List** (HASS, HASS Creative Endeavors, or HASS Supplemental) please complete the *New Distribution List Proposal* form in your department's binder.

12) Co-Curricular

To propose this course for inclusion on the **Co-Curricular List** please complete the *New Co-Curricular List Proposal* form in your department's binder.

13) Course Computing Lab and Expendables Fees

DO NOT RECORD FEE INFORMATION HERE. Submit course fee information on the *Course Computing Lab and Expendables Fees for New Courses* form included in your department's binder at the end of the fee section.

14) Degree Programs which this course will affect

List the degrees, minors, and certificates in which this course will be required or used as an elective: ***

> Degree Program(s):
>
> Business Analytics

*** Be sure to adjust the appropriate degree audits in sections 7 and 8 in your department's binder.

15) Course Rationale (Required)

> This course is a necessary component to the proposed concentration in Business Analytics

16) Faculty Contact

Faculty proposing this course (please print): Name _Elizabeth J Reed_

Email _ejreed@mtu.edu_

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IF NOT, PLEASE HIGHLIGHT YOUR ANSWERS SO NOTHING IS MISSED IN PROCESSING.

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> http://www.sas.it.mtu.edu/usenate/propose/03/10-03.htm

Course Prefix/Number *(i.e. MEEM 2110)*: ....

Course Title *(abbreviated; used on transcript - Up to 30 characters including spaces)*

DATA   MINING

Alternative Title for Catalog *(Up to 100 characters including spaces)*

2) Credits

Number of credits assigned to this course _____

OR

Range of credits if **variable**   ☐   to   ☐   *(Number of credits to be taken in a given semester)*

3) Schedule

Contact Hours per Week *(Lec & Rec: 1 credit =1 contact hour; Lab: 1 credit =1-3 contact hours. i.e. A 3-credit course may be 2 contact hours of lecture or recitation and up to 3 contact hours of lab OR 1 contact hour of lecture or recitation and up to 6 contact hours of lab)*

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---

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---

7) Corequisites and Prerequisites

Corequisites are courses that are **REQUIRED to be taken at the SAME TIME** as this course (courses MUST be offered during the same term):

> Required corequisite course(s):
>
> _____
>
> _____

Prerequisites are courses that are **REQUIRED to be taken PRIOR** to enrollment in this course.
Select appropriate box and use parentheses where needed (refer to the guidebook for examples):

> Required prerequisite course(s):
>
>   1 MIS 3100 _____
>
> ☐ And or ☑ Or 2 CS 4421 _____
>
> ☑ And or ☐ Or 3 MA 2330 _____
>
> ☑ And or ☐ Or 4 MA 2710 _____
>
> ☐ And or ☑ Or 5 MA 3710 _____
>
> ☑ And or ☐ Or 6 MA 3740 and...or... _____

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> Concurrent prerequisite course(s):
>
> _____
>
> _____
>
> _____

8) Catalog Course Description

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Data mining focuses on extracting knowledge from large data sources. The course covers data mining concepts, methodology (measurement, evaluation, visualization, etc.), algorithms (classification/regression, clustering, association rules, etc.), and applications (web mining, recommender systems, bioinformatics, etc.).

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☐ Department **OR** ☑ Instructor

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> Class of students who MAY NOT enroll
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>
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>
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> Class of students who MAY enroll (INCLUDE)
>
> _____

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☐ Fall   ☑ Spring   ☐ Summer   *(Check all that apply)*

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14) Degree Programs which this course will affect

List the degrees, minors, and certificates in which this course will be required or used as an elective: ***

Degree Program(s):
Computer Science
Computer Systems Science
Software Engineering
Mathematical Sciences - Business Analytics

*** Be sure to adjust the appropriate degree audits in sections 7 and 8 in your department's binder.

15) Course Rationale (Required)

With current and future trends illustrating the growing collection and analysis of huge quantities of data, a data mining course is highly relevant to current research and software challenges. Data mining or knowledge discovery is an interdisciplinary field that builds on topics from databases, statistics, operations research, machine learning, and visualization. This course aims to help ensure MTU students are prepared for the challenges of working with today's data sets whether continuing on with further educational research pursuits or in employment opportunities."

16) Faculty Contact

Faculty proposing this course (please print): Name Laura Brown

Email lebrown@mtu.edu

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