

UMBC UGC Instructions for New Course Request Form (revised 4/2016)

Course number & title:

Date submitted:.

Effective date:.

Contact information:

Course number:.

Transcript title:

Recommended Course Preparation: *Please note that all 300 and 400 level courses should have either recommended course preparation(s) or prerequisite(s) and that 100 or 200 level courses may have them.*

Prerequisite: *Please note that all 300 and 400 level courses should have either recommended course preparation(s) or prerequisite(s)* Here fill in course(s) students need to have taken before they enroll in this course. These prerequisites will be enforced through the registration system. Please explain your choices in the "rationale" (discussed below).

NOTE: Please use the words "AND" and "OR", along with parentheses as appropriate, in the lists of prerequisites and recommended preparation so that the requirements specified will be interpreted unambiguously.

NOTE: Unless otherwise indicated, a prerequisite is assumed to be passed with a "D" or better.

of credits:

Maximum total credits

Grading method(s): Regular Grading Option(A, B, C, D, F)

Proposed catalog description:

Rationale: Please explain the following:

- a) Why is there a need for this course at this time?
- b) How often is the course likely to be taught?
- c) How does this course fit into your department's curriculum?
- d) What primary student population will the course serve?
- e) Why is the course offered at the level (ie. 100, 200, 300, or 400 level) chosen?
- f) Explain the appropriateness of the recommended course preparation(s) and prerequisite(s).
- g) Explain the reasoning behind the P/F or regular grading method.
- h) Provide a justification for the repeatability of the course. N/A

Cross-listed courses:

Course Outline:

Note: the UGC form is a Microsoft Word form. You should be able to enter most of the information by tabbing through the fields. The document is protected. In the rare case that you need to unprotect the document, use the password 'ugcform'. Beware that you will lose all the data entered in the form's fields if you unlock and lock the document.

UMBC UGC New Course Request: IS 296, Foundations of Data Science

Date Submitted: 2/14/2020

Proposed Effective Date: Spring 2021

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COURSE INFORMATION:

Course Number(s)	IS296
Formal Title	Foundations of Data Science
Transcript Title (≤30c)	Foundations of Data Science
Recommended Course Preparation	
Prerequisite NOTE: Unless otherwise indicated, a prerequisite is assumed to be passed with a "D" or better.	
# of Credits Must adhere to the UMBC Credit Hour Policy	3
Repeatable for additional credit?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Max. Total Credits	3 This should be equal to the number of credits for courses that cannot be repeated for credit. For courses that may be repeated for credit, enter the maximum total number of credits a student can receive from this course. E.g., enter 6 credits for a 3 credit course that may be taken a second time for credit, but not for a third time. Please note that this does NOT refer to how many times a class may be retaken for a higher grade.
Grading Method(s)	<input checked="" type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail

PROPOSED CATALOG DESCRIPTION (Approximately 75 words in length. Please use full sentences.):

This course offers an introduction to data analytics incorporating a synthesis of inferential and computational thinking, through manipulation of real data, anchoring students' understanding of both the principles and practice of data science. The course teaches critical concepts and skills in computer programming and statistical inference, along with hands-on analysis of real-world datasets, including economic data, document collections, geographical data, and social networks. It also delves into social issues surrounding data analysis such as privacy.

RATIONALE FOR NEW COURSE:

a) Why is there a need for this course at this time?

This course provides introductory data science skills, which is an current, in-demand skill set, for all majors in the university. Specifically, it is a skill for our IS and BTA students and helps with workforce development initiatives. It will also be attractive to our BTA majors and serve as a highlight to attract enrollments. We also plan to build on this course in the future to create follow on sequences.

b) How often is the course likely to be taught?

The course will be offered once a year.

c) How does this course fit into your department's curriculum?

In the BTA curriculum, currently, IS125 is a required course that covers basics of programming. We will be allowing BTA majors to optionally take this course, IS296 instead of IS125, so it would relieve the pressure we get on IS125. Both IS and BTA students can take this course as an elective, since our electives are always over capacity.

- d) What primary student population will the course serve?
The primary population it will serve is undergraduate students.
- e) Why is the course offered at the level (ie. 100, 200, 300, or 400 level) chosen?
The course is offered at the 200 level because the course teaches foundational concepts of Data Science and can be taken by any major. However, it does have some advanced concepts so it is at a 200 level.
- f) Explain the appropriateness of the recommended course preparation(s) and prerequisite(s).
The course is meant to be a low barrier to entry course to support workforce needs in data science. Therefore, no prerequisites are suggested. This will support Workforce development initiatives across campus (including CS+X).
- g) Explain the reasoning behind the P/F or regular grading method.
The course will include well defined activities which will have corresponding grading criteria. The student will also complete two projects and multiple graded tasks building skills in data science. Therefore, this will be a regular graded course.
- h) Provide a justification for the repeatability of the course.
N/A

ATTACH COURSE SYLLABUS (mandatory):