

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

Course number & title: Enter the number and title of the course at the top of the page. Contact the Registrar's Office to confirm that the desired course number is available.

Date submitted: The date that the form will be submitted to the UGC.

Effective date: The semester the new course is in effect, if approved.

Contact information: Provide the contact information of the Chair or UPD of the department or program housing the course. If the course is not housed in a department or program, then provide the same information for the head of the appropriate academic unit. (See UGC Procedures) If another faculty member should also be contacted for questions about the request and be notified about UGC actions on the request, include that person's contact information on the second line.

Course number: For cross-listed courses, provide all the numbers for the new course.

Transcript title: Limited to 30 characters, including spaces.

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.*

Here fill in what previous course(s) a student should have taken to succeed in the course. These recommendations will NOT be enforced by the registration system. Please explain your choices in the "rationale" (discussed below).

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: To determine the appropriate number of credits to assign to a course please refer to the [UMBC Credit Hour Policy](#) which articulates the standards for assignment and application of credit hours to all courses and programs of study at UMBC regardless of degree level, teaching and learning formats, and mode of instruction.

Maximum total credits: 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): Please review the [grading methods document](#) (this link can be found on the UGC forms page) before selecting a grading option. Please do not select all three grading options by default.

Proposed catalog description: Provide the exact wording of the course description as it will appear in the next undergraduate catalog. Course proposals should be a) no longer than 75 words, b) stated in declarative sentences in language accessible to students, and c) avoid reference to specific details that may not always pertain (e.g., dates, events, etc.). Course descriptions should not repeat information about prerequisites (which are always listed alongside the course 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.

Cross-listed courses: Requests to create cross-listed courses must be accompanied by letters of support via email from all involved department chairs. Proposals for new courses or the addition of a cross-listing to an existing course must include as a part of the rationale the specific reason why cross-listing is appropriate. Email from all involved department chairs is also required when cross-listing is removed and when a cross-listed course is discontinued. Please note that Special Topics courses cannot be cross-listed.

Course Outline: Provide a syllabus with main topics and a weekly assignment schedule which includes complete citations for readings with page numbers as appropriate. Explain how students' knowledge and skills will be assessed.

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: Math 300 Introduction to Mathematical Reasoning

Date Submitted: 11/11/2020

Proposed Effective Date: Fall 2021

	Name	Email	Phone	Dept
Dept Chair or UPD	Brad Peercy	bpeercy@umbc.edu	X5-4236	Math/Stat
Other Contact				

COURSE INFORMATION:

Course Number(s)	Math 300
Formal Title	Introduction to Mathematical Reasoning
Transcript Title (≤30c)	Intro to Math Reasoning
Recommended Course Preparation	
Prerequisite NOTE: Unless otherwise indicated, a prerequisite is assumed to be passed with a "D" or better.	Math 221 with a "C" or better
# of Credits Must adhere to the UMBC Credit Hour Policy	4
Repeatable for additional credit?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Max. Total Credits	4 <small>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.</small>
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 develops fundamentals of mathematical logic and proof writing. Topics will include propositional logic, quantifiers, contradiction and contrapositive, induction, sets, relations, integers, functions, images and pre-images, bijections and inverse functions. Topics related to other proof-based courses may be covered. LaTeX, a typesetting program for mathematical writing may be introduced. In addition to writing proofs, students will learn to assess the soundness of proofs written by others. (67 words)

RATIONALE FOR NEW COURSE:

- Why is there a need for this course at this time?
Math 300 provides a necessary bridge between 200 level courses and our core analysis course Math 301. While success going directly into Math 301 is certainly possible, many students may be served by a strong foundation in proof provided by this course.
- How often is the course likely to be taught?
Mostly likely every semester, but this will depend on department discussions about program placement.
- How does this course fit into your department's curriculum?
This course will strengthen student understanding between the prereq 200 level course, Math 221, and Math 301.
- What primary student population will the course serve?
The primary student population will be Math majors, Math minors, and Stat math-track majors though other disciplines may find it useful.
- Why is the course offered at the level (ie. 100, 200, 300, or 400 level) chosen?
The 300 level is chosen because it is appropriate for upper level credit (> 200 level) but is still foundational to 400 level course work.
- Explain the appropriateness of the recommended course preparation(s) and prerequisite(s).
We are not using recommended course preparation designation but Math 221 acts as an initial introduction to a sequence of theory, which primes students for Math 300. Content knowledge from Math 151 which precedes Math 221 is used.
- Explain the reasoning behind the P/F or regular grading method.
Since this course will count for the Math/Stat majors and minors, regular grading is indicated.
- Provide a justification for the repeatability of the course.
This course need not be repeatable as it will have the same core information each time.

ATTACH COURSE SYLLABUS (mandatory):