Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH Minor

MATH 185 Calculus I
MATH 186 Calculus II
MATH 187 Calculus Computer Lab
MATH 227 Discrete Mathematics
Choose three courses from:
MATH 286, 325, 334, 351, 361, 377, 381, 432, 477

Proposed

MATH Minor

MATH 185 Calculus I
MATH 186 Calculus II
MATH 187 Calculus Computer Lab
MATH 227 Discrete Mathematics
Choose three courses from:
MATH 286, 325, 334, 351, 361, 377, 381, 432, 463, 477

Rationale:
Last year the department added a new course MATH 463 Partial Differential Equations. The MATH minor requires students to choose three courses from a selection of courses (MATH 286, 325, 334, 351, 361, 377, 381, 432, 477).

We are requesting that MATH 463 be added to this list. The prerequisite course (MATH 361) is on the list.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 109 Precalculus I (3-0-3), fall, spring. Properties, graphs, and applications of linear functions, quadratic functions, logarithmic functions, exponential functions. Prerequisite: meet one of the following - MATH SAT score of 500; MATH ACT score of 20; MATW 019; or COMPASS placement into MATH 109. May be taken only by students whose majors require precalculus mathematics or higher (animal science, biology, chemistry, computer science, environmental science, mathematics, physics, or engineering majors). A student may not receive credit for this course after receiving credit for MATH 124, 131, 185 or 186.

Proposed

MATH 109 Precalculus I (3-0-3), fall, spring. Properties, graphs, and applications of linear functions, quadratic functions, logarithmic functions, exponential functions. Prerequisite: meet one of the following - MATH SAT score of 500; MATH ACT score of 20; MATW 019; or COMPASS placement into MATH 109. May be taken only by students whose majors require precalculus mathematics or higher (animal science, biology, chemistry, computer science, environmental science, mathematics, physics, engineering majors, pre-occupational therapy, or pre-physical therapy). A student may not receive credit for this course after receiving credit for MATH 124, 131, 185 or 186.

Rationale:

The pre-physical therapy and pre-occupational therapy tracks require students to enroll in MATH 124 or MATH 185. For many of these students, they have to begin in MATH 109. MATH 109 is currently restricted to "students whose majors require precalculus mathematics or higher (animal science, biology, chemistry, computer science, environmental science, mathematics, physics, or engineering majors)."

We request the pre-physical therapy and pre-occupational therapy (KNPT, KNOT, EXPT, and EXOT) majors be added to this list.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 123 Introduction to Probability and Statistics (3-0-3), fall, spring. Introductory survey of probability including discrete probability and common probability models. Includes techniques for describing, exploring and comparing data and basic estimation procedures. Prerequisite: meet one of the following - MATH SAT score of 500; MATH ACT score of 20; MATW 019; or COMPASS placement into MATH 123. Will satisfy University Requirements mathematics requirement.

Proposed

MATH 123 Elementary Statistics (3-0-3), fall, spring. Collection, presentation, analysis and interpretation of data, and probability. Analysis includes descriptive statistics, confidence intervals, hypothesis testing, correlation and regression. Prerequisite: meet one of the following - MATH SAT score of 500; MATH ACT score of 20; MATW 019; or COMPASS placement into MATH 123. Will satisfy University Requirements mathematics requirement.

Rationale:

We are requesting to retitle MATH 123 to be Elementary Statistics and to change the course description.

These changes do not change the content in the course. We are requesting the course title change to have our course title more aligned with other universities. And we are requesting the course description change to provide a more detailed list of major topics covered in the course.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 237 Fundamentals of Number and Arithmetic (3-0-3), fall, spring. Study and investigation of concepts related to numbers, number systems, and their properties; representations of operations; development of computational algorithms; patterns, relations, functions and algebraic reasoning as specified by national and state standards for teaching EC–6 mathematics. Prerequisite: MATH 120, 123. MATW 020/120, or higher. For IDSC and MATM majors only.

Proposed

MATH 237 Number and Operations (3-0-3), fall, spring. Study and investigation of concepts related to numbers, number systems, and their properties; representations of operations; development of computational algorithms; and algebraic reasoning as specified by national and state standards for teaching EC–6 mathematics. Prerequisite: MATH 120, 123, MATW 020/120, or higher. For IDSC majors only.

Rationale:

We are requesting to retitle MATH 237 to be Number and Operations. This title is from national and state standards for the content that is in the course. We are also requesting that the prerequisite be changed to remove MATM from the list of majors who may enroll in the course. In 2012-13, the MATM major was approved to be discontinued.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 238 Concepts of Mathematics (3-0-3), fall, spring, summer. Study of concepts and principles of geometry and measurement, probability and statistics and their applications as specified by national and state standards for teaching EC-6 mathematics. Prerequisites: Grade of "C" or better in MATH 237. For IDSC majors only.

Proposed

MATH 238 Geometry and Measurement (3-0-3), fall, spring, summer. Study of concepts and principles of geometric structures; attributes of polygons, measurement concepts of 2- and 3-dimensional shapes; fundamentals of measurement; and algebraic reasoning as specified by national and state standards for teaching EC–6 mathematics. Prerequisites: Grade of "C" or better in MATH 237. For IDSC majors only.

Rationale:

We are requesting that the course title for MATH 238 be changed to Geometry and Measurement. This title is from national and state standards for the content that is in the course. We are also requesting that the course description be changed to list the major topics that are in the course. The probability and statistics has not been in the course, and those topics are covered in a prerequisite course (MATH 120, MATH 123, or MATW 020/120).

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 247 Number Concepts of Middle School Mathematics (3-0-3), fall. Number systems, properties, and concepts involving operations, modeling of computational algorithms (integers, fractions, and decimals), number theory, proportionality, algebraic thinking, and mathematical processes (problem solving) as specified by national and state standards for teaching grades 4-8 mathematics. Prerequisites: MATH 237 and one of MATH 124, 131, 238. For MATM majors only.

Proposed

MATH 247 Number Concepts for Grades 7–12 Teachers (3-0-3), fall. Investigation of rational numbers and operations, proportionality in number (ratios, rates, percentages), and related number concepts and operations taught in high school algebra as specified by national and state standards for teaching grades 7–12 mathematics. Prerequisite: MATH 186. For MATT majors only.

Rationale:

In 2012-13, the Mathematics Department submitted changes to the MATT degree plan to align with new state certification requirements. Specifically, the MATT degree plan was changed from high school (grades 8-12) mathematics teacher certification to grades 7-12 mathematics teacher certification. In addition, the department requested that the MATM major be discontinued. These changes were approved.

We are now requesting that the course title be changed to Number Concepts for Grades 7-12 so that the title reflects the grade level of the mathematics for teachers. We also request that the course description be adjusted as well. The presentation of the content has changed significantly, but the content itself has changed only slightly.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 309 Algebraic Concepts for Teachers I (3-0-3), fall. Algebraic concepts associated with development of algebraic habits of mind, linearity, non-linear relationships, and mathematical processes (multiple representations, connections, communication) as specified by national and state standards for teaching grades 4-8 and 8-12 mathematics. Prerequisites: Either MATH 247 and MATH 248 or MATH 185 and MATH 227. For MATM and MATT majors only. Admission to Teacher Education Program required.

Proposed

MATH 309 Algebraic Concepts for Teachers I (3-0-3), fall. An in-depth study of algebraic concepts related to linearity in grades 7-12 mathematics, extending to non-linear relationships taught in high school algebra with an emphasis on mathematical practices and processes as specified by national and state standards for teaching grades 7–12 mathematics. Prerequisites: MATH 185 and MATH 227. For MATT, PHMT, and CSMT majors only. Admission to Teacher Education Program required.

Rationale:

We request that the language in the course description be cleaned up. There is no change in content. In addition, we request that the prerequisites for the MATM major be dropped. In addition, we request that Physics and Mathematics Teaching majors and Computer Science and Mathematics Teaching majors be added to the list of majors who may enroll in the course. This course is a requirement on both degree plans as are the prerequisites for MATH 309.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 311 Geometric Concepts for Teachers I (3-0-3), spring. Euclidean geometry as an axiomatic system, its properties, geometric relationships, results, uses, and applications. Exploration and application of coordinate, transformational and vector geometry. Prerequisites: Either MATH 247 and 248 or MATH 185 and 227. For MATM and MATT majors only. Admission to Teacher Education Program required.

Proposed

MATH 311 Geometric Concepts for Teachers I (3-0-3), spring. Euclidean geometry as an axiomatic system, its properties, geometric relationships, results, uses, and applications. Exploration and application of formal, synthetic, and transformational geometry as specified by national and state standards for teaching grades 7–12 mathematics. Prerequisites: MATH 185 and 227. For MATT, PHMT, and CSMT majors only. Admission to Teacher Education Program required.

Rationale:

We request that the prerequisites for the discontinued MATM major be dropped. In addition, we request that Physics and Mathematics Teaching majors and Computer Science and Mathematics Teaching majors be added to the list of majors who may enroll in the course. This course is a requirement on both degree plans as are the prerequisites.

The requested change in the course description is to have it match the other math teaching course descriptions. The content in the course is not changing.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 410 Algebraic Concepts for Teachers II (3-0-3), spring. Algebraic concepts linked to geometry, algebraic habits of mind as seen in non-linear relationships (exponential and logarithmic), recursive thinking, applications of sequences and series, mathematical processes (multiple representations, connections, communication) and perspectives (historical and international) as specified by national and state standards for teaching grades 4-8 and 8-12 mathematics. Prerequisite: MATH 309. For MATM and MATT majors only. Admission to Teacher Education Program required.

Proposed

MATH 410 Algebraic Concepts for Teachers II (3-0-3), spring. Algebraic concepts linked to geometry, algebraic habits of mind as seen in non-linear relationships (exponential and logarithmic), recursive thinking, applications of sequences and series with an emphasis on mathematical practices and processes as specified by national and state standards for teaching grades 7–12 mathematics. Prerequisite: MATH 309. For MATT majors only. Admission to Teacher Education Program required.

Rationale:

We request that the language of the course description be cleaned up. There is no change in content. In addition, we request that the prerequisites for the MATM major be dropped and allowing MATM majors to enroll in the course be dropped.

Curriculum Changes

Department of Mathematics

October 14, 2013

Current

MATH 412 Geometric Concepts for Teachers II (3-0-3), fall. Major geometric ideas, their historical development, their connections to grades 6-12, in-depth work with secondary topics of Euclidean geometry, non-Euclidean geometry, conic sections, taxicab geometry, and modeling. Heavy use of dynamic geometry software. Topics are as specified by national and state standards for teaching grades 4-8 and 8-12 mathematics. Prerequisite: MATH 311. For MATM and MATT majors only. Admission to Teacher Education Program required.

Proposed

MATH 412 Geometric Concepts for Teachers II (3-0-3), fall. Major geometric ideas, their historical development, their connections to grades 7–12, in-depth work with secondary topics of Euclidean geometry, non-Euclidean geometry, conic sections, taxicab geometry, and modeling. Heavy use of dynamic geometry software. Topics are as specified by national and state standards for teaching grades 7–12 mathematics. Prerequisite: MATH 311. For MATT majors only. Admission to Teacher Education Program required.

Rationale:

We request that the language of the course description be cleaned up. There is no change in content. In addition, we request that the prerequisites for the MATM major be dropped and allowing MATM majors to enroll in the course be dropped.

Approval Chart for Curriculum Changes

A = Approval I = Information*

Course Number SOCI 385 – Social Theory Degree Plan(s) _____

State the requested change and reason. A memo may be attached if more space is necessary.

Add SOCI 111 - Introduction to Sociology as a prerequisite for SOCI 385 - Social Theory. Social Theory is an advanced, writing intensive, sociology course that requires a basic knowledge of the discipline of sociology.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

					COUNCIL**					
	Change to a Course	**Dept./School**	**College Academic**	**Deans**	**UGEC**	**UUAC**	**GRAD**	**Provost**	**Faculty**	**President**
1.	Title (description unchanged)	A	A	A	I			I	--	I
2.	Description (not affecting content)	A	A	A	I			I	--	I
3.	Content (substantive change)	A	A	A	I			A	--	A
4.	Number of hours (lecture, lab, contact)	A	A	A	A			A	--	A
5.	Course number within the hundred	A	A	I	I			I	--	I
6.	Course number beyond the hundred	A	A	A	A			A	--	A
7.	Prerequisites	A	A	A	I			I	--	I
8.	Course fee(s)	A	--	A	--			A	--	I
9.	From U to G *or* G to U	A	A	A	A			A	--	A
10.	Cross list with another dept: U or G level	A	A	A	A			A	--	A
11.	Department of record	A	A	A	A			A	--	A
12.	Open or close a course	A	A	A	A			A	--	A
13.	New course — See Adams Center for packet. This change includes combining or splitting a course(s).	A	A	A	A			A	--	A

* Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

** In most cases, approval by only one council is necessary.

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.