Dear Prof. Gorsch and Members of the UEPC,

Attached you will find a proposal for two “new” courses in the Department of Mathematics and Computer Science (DOMACS) which we would like to start offering in the Fall 2015 semester. We would like to title these courses MATH 05 & MATH 06 *Mathematics Concepts for Elementary School Teachers I* and *II*. These 2 courses would replace our current MATH 1 and 101 courses.

MATH 1 and 101 were developed over 25 years ago for students in the School of Liberal Arts as a general education course and the courses have not changed much over the 25 years. Eventually, in the mid 1990’s the two courses were restricted to only Liberal & Civic Studies (L&CS) program students, and later to only those L&CS students who were in the Education track or the *Teachers for Tomorrow* five-year blended program.

At the request of the faculty in the Justice, Community, and Leadership program (formerly L&CS) we have redesigned the two courses to align with the California State Standards for K-6 mathematics as well as those of the *National Council of Teachers of Mathematics* and the *Mathematical Association of America*. The mathematics content and reasoning developed in MATH 5 and 6 will better prepare our future elementary teachers at Saint Mary's College of California to become good mathematics educators.

The reason we propose to change the numbers of these two teacher preparation courses is twofold: (1) our MATH 2 is remedial in nature and we would like the numeration of the two new courses to reflect that they are beyond remedial level, and (2) the content of MATH 5 & 6 is lower division mathematics so we do not want either course to be labeled upper division.

I have requested a library review which should be forthcoming, the Department of Mathematics and Computer Science has discussed and approved the new courses, the dean of the School of Science, Prof. Roy Wensley, has circulated the proposal among all the departments.
in the school, and the Justice, Community, and Leadership program has discussed and approved of the new courses.

Please place these courses on the agenda of the UEPC as soon as you can fit them in.

Thank you.

Prof. Kathy Porter
Department of Mathematics and Computer Science
Saint Mary’s College of California
A Proposal for a Sequence of Two New Mathematics Courses

1. School of Science-Department of Mathematics and Computer Science

   The numbers of the courses will be Math 5 *Mathematics Concepts for Elementary School Teachers I* and Math 6 *Mathematics Concepts for Elementary School Teachers II*.

2. **Justification for the courses:** These courses would replace the two courses Math 1 *Fundamental Mathematics Concepts I* and Math 101 *Fundamental Mathematics Concepts II* which are now only taken by students in the Justice, Community, & Leadership Program (formerly the Liberal & Civic Studies Program) who are on the *Education* track or *Teachers for Tomorrow* program. Math 1 and Math 101 were developed over 25 years ago for all liberal arts students. In the mid 1990’s the course was restricted to just the L&CS students and a new course Math 10 *The Art and Practice of Mathematics* was developed for other Liberal Arts majors.

   Much in the mathematics education content area has changed over the 25 years and our Math 1 and 101 courses have not changed with it. As California has passed through many reforms, including recently adopting the Common Core, the expectations of future elementary school are now very different. The Math 5 and 6 courses are designed to bring our mathematics training of future elementary students in line with those of the *National Council of Teachers of Mathematics*, the *Mathematical Association of America*, and California’s standards in preparing future teachers.

   (a) **Objectives of the course**

      See attached syllabi.

   (b) **How the objectives relate to department, school, and college goals.**

      Both courses build on previous knowledge and address proper communication of mathematics, problem solving, and the process of thinking logically. All of these are objective’s that the department has for future elementary teachers as these pre-service teachers will play a crucial role in developing mathematical acuity in the future world habitants.

      The second course, Math 6, will (hopefully) satisfy the requirements for the Core requirement of *Mathematical Understanding*.

   (c) **How will students be evaluated? Pass/fail allowed?**

      Students will be evaluated by homework, quizzes and exams (see syllabi). The course will not be offered as a pass/fail class.
3. **The student population** for Math 5 and 6 are the students in the Justice, Community, and Leadership (JCL) Program who are in their *Education* track or *Teachers for Tomorrow* program. We expect that we will offer Math 5 in the fall and Math 6 in the spring.

4. **Relationship to present college curriculum:** The replacing of Math 1 and 101 with these new courses has no impact on any departments in the School of Science as their majors will not take Math 5 & 6. This updating of the mathematics courses was requested by the JCL program and the Department of Mathematics and Computer Science agree that it is time for the improvements. Since none of the mathematical content is upper division level both new courses are lower division.

5. **Implementation costs:** There are no extra costs associated with this change in courses.

6. **Library Resources:** Library Review needs to be done.

7. **Course credit and grading options:** Math 5 and 6 will be lecture/discussion with some days focused on student group work and/or student communication of mathematical concepts. The courses will each be a full 1 credit course that meets 3 days per week with the students spending another 6-9 hours per week outside the class time on the mathematics.

8. **Prerequisites:** The prerequisites for Math 5 will be 2 years of high school algebra and one year of geometry, or equivalent, and placement into the course. The prerequisites of Math 6 will be Math 5 and the passing of the mathematics portion of the CBEST (*California Basic Educational Skills Test*) which tests basic elementary, middle, and high school mathematics.

9. **Course Catalog Description**

**005 Mathematics Concepts for the Elementary School Teacher I**

This course is the first in a two-course sequence designed for the mathematical preparation of the future elementary school teacher. The content addressed in this course covers three of the five California Mathematics Standards; these standards are *(i)* Number and Quantity, *(ii)* Algebra and Functions, and *(iii)* Modeling and Problem Solving. Emphasis will be placed on connecting the mathematical content with the *Standards of Mathematical Practice* from the *California Common Core State Standards of Mathematics*. This course is only for education track and Teacher for Tomorrow program students in the Justice, Community, and Leadership program. **Prerequisites:** One year each of high school algebra I, II and geometry or equivalent, and placement into the course. *Does not satisfy the Area B mathematics requirement of the pre-2012 general education requirements.* Offered every fall.

**006 Mathematics Concepts for the Elementary School Teacher II**

This course is the second course in the two-course sequence designed for the mathematical preparation of the future elementary school teacher. The content addressed in this course covers two of the five California Mathematics Standards; these standards are *(i)* Geometry and *(ii)* Probability and Statistics.. Emphasis will be placed on connecting the content...
with the *Standards of Mathematical Practice* from the *California Common Core State Standards of Mathematics* and mathematical reasoning. This course is only for education track and Teacher for Tomorrow program students in the Justice, Community, and Leadership program. 

**Prerequisites:** Math 005 and the passing of the mathematics portion of the CBEST (*California Basic Educational Skills Test*). *This course satisfies the Mathematical Understanding requirement of the Core Curriculum. Offered every spring...*