**Project Description**

Title of Proposal: Calculus Preparation, Retention, and Completion Study

Principal Investigator: Martha Nega

**Introduction:**

Based on the assessment data gathered by the MCSE discipline Calculus committee, the pass rate in Calculus I is lower than the goal set by the department. Some of the problems include students who don’t recall prerequisite material as well as an in-depth understanding of concepts which later in the course contributes to the retention and completion rate of the course. The course being such an important foundation for STEM majors and the understanding of the concepts critical to the further success of the students down the line, the discipline is engaged in various efforts to address the issue. The committee has outline several recommendations based on their report that includes additional measures the faculty can take to prepare students. The proposed project addresses some of the problems presented by creating a means for students to review prerequisite material, supplemental instruction for students to spend additional time on course material, creating a structured environment where student will be encouraged to collaborate and to facilitate through understanding of course topics that have been identified by the course committee weak areas based on their assessment results.

**Activity plan:**

Calculus Preparation: the ALEKS software will be used to assess student’s preparation of pre-calculus material as well as to remediate identified gap. Principal investigator (PI) will identify and select prerequisite topics, prepare the course for students to use and disseminate the learning tool for students to use. Students who are enrolled in Math 2431 – 121 will be asked to complete a diagnostic test on the software will evaluated their preparation level and assign them course work based on need.

Calculus Retention and Completion: The activities will emphasize instruction and engagement. PI will schedule a weekly supplemental instruction sessions on Clarkston campus to invite student who are enrolled in sections which is a total of students. The time will be used to directly tackle the areas/topics identified by Calculus committee as needing additional time, instruction and practice. The PI will encourage collaboration using group work activities and student instruction.

Project participants: Students enrolled in Calculus I on Clarkston campus will be invited and encouraged to participate. This is at total of six sections of the course approximately 120 students. Information will be made available to Calculus instructors to encourage their student to attend the session.

Proposed dates are Tuesday/Thursday at 10am weekly throughout the semester approximately 10 sessions.

**Evaluation Plan:**

To measure the effectiveness of the activities, the PI will compare the pass rate of the students who attend the sessions to those of the student who did not. Students will be asked for their permission to share their course grade with the PI. In addition, Calculus I pass rates and retention college-wide will be compared to that of Clarkston campus rates.

Student will be asked to fill out survey at the end of the semester to assess the effectiveness of the supplemental instruction sessions as well as the impact of the Calculus preparatory topics.