Specific activities performed by STLF

1) Professional development
   • Attended reading group (Mar 29, Apr 5)
   • Attended the Math Teaching Seminar (Mar 15, 29)
   • Attended the seminar by Dhavide Aruliah, “Just-in-Time Teaching of Numerical Methods” (Mar 20)

2) Math SEI general meetings/activities
   • Met with Sarah and Math-SEI group to review current projects and discuss future plans (Mar 16)
   • Met with Costanza to review current projects and discuss future plans (Mar 28)
   • Met with Math-SEI group to review current projects and discuss future plans (Mar 21, 28, Apr 4)
   • Met with Jim carolan to review current projects and discuss future plans (Apr 4)

3) Course-specific meetings/activities
   MATH 210 – Introduction to Mathematical Computing
   • The second midterm was done on Mar 16 in a computer lab. Students at first found that the switch from Maple to MATLAB was abrupt and the time covering the basics of MATLAB was not enough. However, the midterm turned out to be simple for students. The average was 78%. After the midterm, we noticed that students were much more familiar with MATLAB when doing class activities.
   • I continued developing some in-class activities for MATLAB. Towards the end of the term, the instructor spent more time on lecturing and left less time for activities. Hence we did not ask students to submit their work.
   • An end-of-term survey was given during the last week of classes.
     o Students were asked to complete the survey online approximately 10 minutes before class ended. Out of about 30 students, only 18 submitted their responses. When the survey was done online, it was more difficult for us to identify those who left the classroom without completing the survey.
     o Some highlights
       ▪ Why are you taking this course instead of CPSC 210
         • 6 said CPSC is too hard
         • 4 hates programming/CPSC courses
         • 4 prefer learning more math/computing in math
         • 2 said because of scheduling
         • 1 took CPSC 111 and cannot take CPSC 210
       ▪ When are you planning to graduate?
         • 2012: 2 students
         • 2013: 10 students
2014: 5 students
2015: 1 student
12/18 students are graduating this year or next year.

Why are you taking this course this year?
• 3 said they did not have prerequisites before this term.
• 4 said they could not register this course in previous years
• 10 said they could take this course before but just choose to take it this term.
• This course is not a prerequisite of any other math course. It makes sense that the majority of the class wants to wait until they need to take it for graduation, as found in the previous question.

Have you taken CPSC 110 or 111?
• Yes: 15 students
• No: 3 students
• It appears that most of the students have taken CPSC 110. However, they were in general unfamiliar with basics of programming, especially conditional statements and loops. Unfortunately, I did not ask them when they took CPSC 110.

How useful do you think are Maple and MATLAB to your future studies/career?
• Useful: 9
• Useless: 3

Do you think the use of computers should be incorporated in math courses in general?
• Yes: 11
• No: 4
• Students have suggest courses like Math 215, 221 and 307 should have computer components.
• Some comments from students:
  - This course should be taken earlier than other courses requiring computer components.
  - Numerical methods and modelling need to be emphasized more in math.
  - After learning the basics one should be taught how to solve problems using computers
• More detailed results will be provided in the future.

The instructor and I will discuss about the revision of the learning goals after the course is completed. We will also draft course-level learning goals that can be referenced when the next instructor decide the curriculum of the course.

MATH 110 – Differential Calculus

Remedial assignments and diagnostic test
• The last remedial assignment was given during Week 11. The participation rate remained at around 45% after the reading break.
• The post-diagnostic was given during the last week of classes. The result will be used to measure the gain in basic skills after the course and the effectiveness of the remedial assignments. Based on the evaluation we will decide how these remedial assignments should be continued next year.
• Detailed results will be provided in the next report.
• Attitudinal and Study habit survey
  o The survey was given as part of an assignment during Week 12. Students will receive a bonus mark upon completion. Only Section 001 and 003 participated in the survey. The response rate is approximately 70%.
  o This survey consists of all questions in the attitude and perception survey, some questions on study habits, and a few demographic questions. The study habit questions were used to compare with the results found from last year.
  o Detailed results will be provided in the next report.

Mathematics Attitudes and Perceptions Survey (MAPS)
• The attitude survey was given during Week 12 to Math 101, 104, 110, 121, 200, 221 and 227. There was no incentive for completion. The response rate is approximately 25%. The data will be analyzed with Warren and will be shown in the End-of-Year event.
• Ten students from Math 110 were invited to interview for the survey validation. Three of them responded and participated. The interpretations of most statements were consistent, except a few that might be unclear or might have different meaning to students. Warren and I will discuss about these questionable statements and may consider rewording or discarding them.

Series Diagnostic Test
• A diagnostic test for Math 200 is prepared. This first draft consists of three questions on series, one on simple differentiation, one on linear approximation, and one on regions defined by a set of inequalities. We have asked the instructor for permission and are waiting for her response.

Current project status (material prepared by either STLF or other members of the MATH SEI)

MATH 110:
Learning Goals: 3rd draft of learning goals is complete.
Assessments: MAPS and Study Habit survey was given during Week 12. Post-diagnostic was given during Week 13.
New Methods/Materials: New problem-solving based workshops, remedial work on basic skills

MATH 210:
Learning Goals: Complete, will revise after the course is over.
Assessments: End-of-term survey was given during Week 13.
New Methods/Materials: The MATLAB module is new. Redevelopment of course materials on Maple is complete.

MATH 305:
Learning Goals: Complete
Assessments: Final exam done.
New Methods/Materials: None at this point

Plan for immediate future work

MATH 110:
1. Analyse the responses from the attitude and study habit survey.
2. Analyze the results from the post-diagnostic and the effectiveness of remedial assignments.
MATH 210:
   1. Analyze the responses from the end-of-term survey.
   2. Revise the learning goals with the instructor. Propose the objective of the course.

MATH 305:
   1. Process the end-of-term surveys.

Series Diagnostic Test:
   1. Wait for the instructor’s permission on running the series diagnostic test. Revise the test if necessary.