Specific activities performed by STLF

1) Professional development
   • Attended reading group (Oct 26, Nov 2, 9)
   • Discussed in math reading group on “Examining the Interactions between Mathematical Content and Pedagogical Form” (Oct 31)
   • Presented in the Lunch Series in Teaching and Learning with Warren on “Study Skills” (Sept 22, Oct 4)
   • Attended the Teaching Seminar on “How do they prepare to teach” (Oct 18, Nov 1)

2) Math SEI general meetings/activities
   • Met with Sarah and Math-SEI group to review current projects and discuss future plans (Oct 17)
   • Met with Math-SEI group to review current projects and discuss future plans (Oct 26, Nov 2)
   • Met with undergraduate committee (Oct 21)
   • Met with Jim Carolan to review current projects and discuss future plans (Oct 21)

3) Course-specific meetings/activities
   MATH 210 – Introduction to Mathematical Computing
   • Course-level and topic-level learning goals are completed.
   • I am currently working on course materials on Maple.
   • Assignments and tests will be done on computers. We are setting up a Vista course account for homework submission.
   • There will be a diagnostic test on series in the beginning of the terms. This will be part of the tracking of series skills.

   MATH 305 – Applied Complex Analysis
   • Midterm 1:
     o The test consists of 4 multiple-part questions
     o Results:

       |            | Overall | ENPH   | MATH   | Other |
       |------------|---------|--------|--------|-------|
       | # students | 62      | 42     | 11     | 9     |
       | Average (/50) | 33.5 ± 0.7 | 34.2 ± 0.9 | 30.3 ± 1.7 | 34.4 ± 2.1 |

   - Math students did worst in the midterm. However, these math students have lower grades on their previous courses than the rest of the class.

   - Students’ previous grades
     o Students’ average final grade of their previous lower-division courses

       |            | Overall | ENPH   | MATH   | Other |
       |------------|---------|--------|--------|-------|
       | 2011 # students | 59      | 43     | 11     | 5     |
       | Average LD FG | 77.1 ± 1.5 | 80.3 ± 1.5 | 64.9 ± 3.0 | 76.2 ± 6.2 |
       | 2010 # students | 57      | 43     | 6      | 8     |
In both years, math students registered in Math 305 have significantly lower grades on their previous lower-division courses. This explains why math students are not doing as well as other students.

- Average final grades of previous lower-division courses for math students registered in Math 300 and 305

<table>
<thead>
<tr>
<th></th>
<th>M305 2011</th>
<th>M305 2010</th>
<th>M300 2010W T1</th>
<th>M300 2010W T2</th>
</tr>
</thead>
<tbody>
<tr>
<td># math students</td>
<td>11</td>
<td>6</td>
<td>24</td>
<td>39</td>
</tr>
<tr>
<td>Average LD FG</td>
<td>64.9 ± 3.0</td>
<td>59.1 ± 6.7</td>
<td>77.5 ± 2.9</td>
<td>74.1 ± 1.9</td>
</tr>
</tbody>
</table>

- The majority of math students chose Math 300 instead of Math 305. Those who chose Math 305 are the weaker ones.

- Midterm 2 is on Nov 16.
- End-of-term survey: need to ask students about whether they have previous exposures to series or not, and if so, where they learned series.

**MATH 110 – Differential Calculus**

- Midterm 1:
  - The test consists of 7 multiple-part questions and 1 bonus question.
  - Results:

<table>
<thead>
<tr>
<th></th>
<th>Section 001</th>
<th>Section 002</th>
<th>Section 003</th>
</tr>
</thead>
<tbody>
<tr>
<td># students</td>
<td>123</td>
<td>68</td>
<td>76</td>
</tr>
<tr>
<td>Average (/40)</td>
<td>25.6 ± 0.7</td>
<td>24.6 ± 0.8</td>
<td>23.2 ± 0.8</td>
</tr>
</tbody>
</table>

- Results for those who wrote both the diagnostic test and the midterm:

<table>
<thead>
<tr>
<th></th>
<th>Section 001</th>
<th>Section 002</th>
<th>Section 003</th>
</tr>
</thead>
<tbody>
<tr>
<td># students</td>
<td>114</td>
<td>65</td>
<td>76</td>
</tr>
<tr>
<td>MT 1 (/40)</td>
<td>26.1 ± 0.6</td>
<td>24.8 ± 0.8</td>
<td>23.2 ± 0.8</td>
</tr>
<tr>
<td>Diagnostic (/16)</td>
<td>6.82 ± 0.30</td>
<td>7.77 ± 0.39</td>
<td>7.09 ± 0.40</td>
</tr>
<tr>
<td>Correlation $r$</td>
<td>0.46</td>
<td>0.43</td>
<td>0.51</td>
</tr>
</tbody>
</table>

- Section 001 has the highest midterm average and the lowest diagnostic test average
- It is worth noting that the midterm is finalized by the instructor of Section 001.

- Remedial assignments
  - I am responsible for the creation of the weekly remedial assignments on MathXL.
  - Remedial assignments consists of two parts:
    - Part A: algebra (for those who failed the algebra part of the diagnostic)
    - Part B: graphs and applications (for those who failed the remaining part of the diagnostic)
  - Students in general spent approximately 20 to 30 minutes on each part.
  - % of students who are assigned the remedial work actually did the work (got a non-zero mark)

<table>
<thead>
<tr>
<th></th>
<th>1st asmt</th>
<th>2nd asmt</th>
<th>3rd asmt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part A (132 students)</td>
<td>91%</td>
<td>83%</td>
<td>62%</td>
</tr>
<tr>
<td>Part B (103 students)</td>
<td>91%</td>
<td>78%</td>
<td>70%</td>
</tr>
</tbody>
</table>

- Participation rate is dropping. We will see how this continues.

- Workshops
I am responsible for the observations in the workshops. Each week I will report my feedbacks to the instructor during our regular meeting and to the TAs in weekly TA sessions.

MATH 184 – Differential Calculus with Applications to Commerce and Social Sciences
- Costanza, Warren, Katya and I were involved in running oral assessments during workshops (Nov 1-3)

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: Diagnostic test and attitudinal survey given.
New Methods/Materials: New workshops… Problem-solving based.

MATH 210:
Learning Goals: In progress.
Assessments: Not started
New Methods/Materials: The MATLAB module is new.

MATH 305:
Learning Goals: 1st draft is used.
Assessments: Diagnostic assignment done.
New Methods/Materials: None at this point

Plan for immediate future work

MATH 110:
1. Continue with the creation of remedial assignments.
2. Continue with workshop observations and gather feedback from students.

MATH 210:
1. Work on course materials (Maple).
2. Create diagnostic test on series.

MATH 305:
1. Record the grades and gather some information from Midterm 2.
2. Create an end-of-term survey.