Annual Program Review Update

Instructions
The Annual Update is conducted district-wide by each program/discipline and consists of a) analysis of general changes, staffing, resources, facilities, equipment and other needs, as well as b) reporting of curricular changes and outcomes assessment.

The questions on the subsequent pages are intended to assist you in planning for your program or area. Input should be sought from all campuses. It should be submitted or renewed every year by the designated date in anticipation of budget planning for the next fiscal year.

Institutional data used to document program/discipline statistics and trends will be provided by Institutional Research.

Please include pertinent documents such as student learning outcomes assessment reports and data analysis to support any requests for new faculty, facilities, equipment, etc. Retain this information for your discipline’s use,

Submit an electronic copy of your Annual Update Document and supporting data to the Program Review Committee. Also submit a copy of these documents to your Division Chair, Director, or Campus Lead Faculty.
Annual Program Review Update
*Be sure to include information from all three campuses.

Program/Discipline: Mathematics
Submitted by (names): Bruce Wagner, Kevin Yokoyama
Contact Information (phone and email): Bruce-Wagner@Redwoods.edu
Date: 9/22/2008

1. Program/Discipline Changes
Has there been any change in the status of your program or area since your last Annual Update? (Have you shifted departments? Have new degrees or certificates been created by your program? Have activities in other programs impacted your area or program? For example, a new nursing program could cause greater demand for life-science courses.)

Note: curricular changes should be addressed under 12 (Curriculum).

☐ No (go to next question)
☒ Yes Describe the changes below:

One of the most important changes in the status of the mathematics program is that Humboldt State University is interested in having the math department take over their remedial math program. Next semester, we plan to teach three sections of Elementary Algebra on the HSU campus on a trial basis. If these classes are successful, we would then add additional Elementary and Intermediate Algebra courses in the fall of 2009. This would result in an average of 11 new sections each semester. Dr. Marsee indicated that he wanted to increase the number of FTES by 1000 over the next two years. This is one of the easiest ways to help make this happen. However, if we were to pick up all of these courses, we would need to hire at least two new fulltime faculty to cover the additional load, since we do not have an adequate number of associate faculty to cover the additional courses.

2. Program/Discipline Trends
Refer to the data provided (data link is located at http://inside.redwoods.edu/Assessment/ProgRev/TrendData.asp) and describe the trends in enrollment, retention, success rates, and student demographics. If applicable, describe how changes in these areas are impacting your discipline and describe efforts within your area to address these impacts.

<table>
<thead>
<tr>
<th></th>
<th>FTES</th>
<th>Change from 2006</th>
<th>Change from 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 08</td>
<td>303.51</td>
<td>+76.6 (33.8%)</td>
<td>+47.67 (16.8%)</td>
</tr>
<tr>
<td>Fall 07</td>
<td>255.84</td>
<td>+28.93 (12.7%)</td>
<td></td>
</tr>
<tr>
<td>Fall 06</td>
<td>226.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Along with the rest of the college, the department suffered an enrollment drop in 2006, when there was a reported 226.91 FTES in the math program in the fall of 2006. The table above shows the number of FTES in the math program from fall 2006 to fall 2008.
The enrollment increased to 255.84 FTES in the fall of 2007 (an increase of 12.7%), and 303.51 in the fall of 2008 (an increase of 33.8%). We anticipate a continued increase in enrollment, especially if we take over the remedial math program at Humboldt State University. In order to make this happen, we anticipate the need to hire additional full-time faculty and associate faculty to pick up this additional load.

Course success rates in the department have steadily dropped from 68% in the fall of 2004-05 to 54% in the fall of 2007-2008 (see table below). This time frame corresponds to the retirement of three full-time faculty: Michele Olsen, Sandy Vrem, and Sandra Taylor, whose positions were not replaced (although the department hired one full-time instructor this fall). Losing so many qualified full-time faculty and replacing them with part-time faculty may be part of the cause.

One of the major changes that has affected the math program is that the college lost both the full-time Physics instructor and the full-time Engineering instructor two years ago. The Physics instructor resigned his position to take a job at another school, and the Engineering instructor resigned his position because the District terminated the Engineering program. These positions were not refilled last year and most of the courses taught by the two instructors were cancelled. The loss of these two positions and the cancellation of the classes they normally taught have had a very negative impact on our program. Many of our best students who enroll in our upper level courses (calculus, linear algebra, and differential equations), also take the Physics 4 series (calculus based physics) and the Engineering courses. Because these courses were not offered last year, many of these students transferred to other schools. The college is planning to hire a full-time tenure track physics instructor for the spring semester of 2009. Hopefully, this will help alleviate some of the problems listed here.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-C or Credit</td>
<td>D or No Credit</td>
<td>Total</td>
<td>A-C or Credit</td>
<td>D or No Credit</td>
<td>Total</td>
<td>A-C or Credit</td>
</tr>
<tr>
<td>MATH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MATH-5</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>13</td>
<td>11</td>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>MATH-10</td>
<td>62</td>
<td>71</td>
<td>133</td>
<td>13</td>
<td>37</td>
<td>70</td>
<td>132</td>
</tr>
<tr>
<td>MATH-15</td>
<td>73%</td>
<td>27%</td>
<td>100%</td>
<td>73%</td>
<td>27%</td>
<td>100%</td>
<td>73%</td>
</tr>
<tr>
<td>MATH-60</td>
<td>28%</td>
<td>72%</td>
<td>100%</td>
<td>28%</td>
<td>72%</td>
<td>100%</td>
<td>28%</td>
</tr>
<tr>
<td>MATH-65</td>
<td>14%</td>
<td>86%</td>
<td>100%</td>
<td>14%</td>
<td>86%</td>
<td>100%</td>
<td>14%</td>
</tr>
<tr>
<td>MATH-70</td>
<td>90%</td>
<td>10%</td>
<td>100%</td>
<td>90%</td>
<td>10%</td>
<td>100%</td>
<td>90%</td>
</tr>
<tr>
<td>Total</td>
<td>4,714</td>
<td>5,202</td>
<td>9,916</td>
<td>5,297</td>
<td>5,202</td>
<td>10,599</td>
<td>5,297</td>
</tr>
</tbody>
</table>

### 3. Labor Market Review (for occupational programs)

Occupational programs must review their labor market data. Links to various reports and information, as well as instructions on how to create program-specific reports, can be found at [http://inside.redwoods.edu/Assessment/ProgRev/LaborMarketResources.asp](http://inside.redwoods.edu/Assessment/ProgRev/LaborMarketResources.asp).
Institutional Research (IR) is available to help with surveys and reviews. All survey data (whether collected by your program or the institution) should be sent to IR to be kept on record.
  a. Meets a documented labor market demand,
  b. Does not represent duplication of other training programs (in the region), and
  c. Is of demonstrated effectiveness as measured by the employment and completion success of its students.

4. Budget Resources
List your area’s budget for the following categories in the table below. Restricted funds have a sponsor/grantor/donor (federal, state, local government, etc). The funds are restricted by the sponsor/grantor/donor. Everything else is unrestricted.

<table>
<thead>
<tr>
<th>Category</th>
<th>Unrestricted Funds</th>
<th>Restricted Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply and printing budget</td>
<td>1700</td>
<td></td>
</tr>
<tr>
<td>Equipment replacement</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>and repair budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Development</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Work-study funding</td>
<td>2933</td>
<td></td>
</tr>
<tr>
<td>Additional Budget Items</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Is the funding for these areas adequate? ☐ Yes ☒ No
If not, describe the impact of unaddressed needs on your discipline or program.

(1) The printing and supplies budget is woefully inadequate. Expenses on 2007-8 in these categories totaled approximately $5,800 ($2,100 for supplies, $3,700 for printing). In addition, while software purchases are common in our discipline, our budget for computer supplies is too low to meet our software purchase needs. The department recommends that the printing and supplies budget be increased to $6,500.

(2) The work-study budget is also inadequate. To fully fund the Math Lab with one student tutor at all hours of operation would require $10,500. Ideally, many of these student tutors would have federal work-study award, which would reduce the department’s expenses in this category. However, the number of student tutors with federal work-study varies each year. Last year, all of our tutors had federal work-study, while this year only one does (with another currently waiting for an award). The department recommends that the work-study budget be increased to $5,000.

5. Learning Resource Center Resources
Is the level of resources provided by the Academic Support Center and Library (Learning Resource Center) adequate? ☐ Yes ☒ No
If not, explain.

The LRC does a tremendous amount with very little, and we particularly appreciate their willingness to work with us when we have special requests (such as tracking and loaning...
out Calculus textbooks). We feel there is room for improvement regarding hours, equipment, and some ASC procedures. Please consider the following:

(1) The ASC needs to hire more math tutors. We have several hundred students enrolling in the Math Lab, and many of them need more help than we can currently provide.
(2) The library should stay open until 9:30pm to align with the bus schedules. Currently, students must wait for the bus for 1/2 hour in cold and rainy weather after the library closes.
(3) The computer cubicles are cramped, with very little space for books and notebooks. These need to be replaced.
(4) The computers in the library are very old and slow. These need to be replaced.
(5) There should be a quiet area created for taking online exams (as there currently is for paper exams).
(6) The use of student staff for handling makeup and online exams in the ASC is a problem, because the staff have access to exams for courses in which they are also enrolled. A better system for handing testing should be developed to avoid this problem.
(7) For paper exams, the current drop-off and pick-up/courier system is inadequate. It would be better to offer other options for dropping off tests (such as special sealed envelopes that can be delivered by any person, including students) and to develop a system wherein faculty could email tests along with the ASC testing form. Or perhaps a daily courier system could be set up in central locations (such as Division Offices), similar to Printing Services.
(8) The library should be open weekends. Many of our students work all week and need to do research on weekends or have quiet and safe places to study. Also, the students who live in the dorms need quiet study areas on weekends.

6. **Student Services Resources**

Complete the following grid concerning Student Services Areas.

<table>
<thead>
<tr>
<th>Student Services Area</th>
<th>Does the area satisfy the needs of your discipline?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is a connection to this discipline/program and YES the student services area does satisfy the needs of the discipline.</td>
</tr>
<tr>
<td>Admissions and Records</td>
<td>□</td>
</tr>
<tr>
<td>Counseling</td>
<td>□</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>□</td>
</tr>
<tr>
<td>Career Services</td>
<td>□</td>
</tr>
<tr>
<td>Disabled Student</td>
<td>□</td>
</tr>
<tr>
<td>Programs and Services (DSPS)</td>
<td>□</td>
</tr>
</tbody>
</table>
If a lack of support was indicated in the table above, describe your program/discipline need.…

Admissions and Records -- It would help the department if there were an automatic update from Admissions and Records to the Math Lab Track-It system (for Math 120L, 308L, 376L, 372L, 52). Student records are uploaded into Track-It at the beginning of the semester, but students continue to register for the Math Lab. At the time of registering at Admissions and Records, it would help us if the student's enrollment could be uploaded into Track-It automatically.

Counseling -- Support from Counseling is woefully inadequate due to lack of sufficient numbers of full-time counselors. Students take the Assessment Test, are given an indication what Math course they are allowed to take as a result, but most students need help from Counseling if they were placed inappropriately (which happens quite often), and they also need help in deciding on other courses appropriate for their level, and in designing their educational plans accordingly.

Financial Aid -- In many cases, students have not received financial aid money before the semester starts. The students then are not able to purchase textbooks and materials at the start of the term, which is a huge drawback. It might be the fault of the student, but once a student has qualified for financial aid, an 'advance' system would help bridge the time gap. Book vouchers in the past (do not know current situation) have required students to purchase all the books they need at one time. This causes problems if just one of the students required books is late at the bookstore.

Career Services -- Last year, there was a presentation for MSE students given by HSU people (Rhonda Geldin, Asst. Dir. or Admissions and Lisa Perry, Natural Resources and Sciences Outreach Coordinator). Although the primary reason was to inform CR students about opportunities for them as well as requirements for transferring to HSU, they also were given a lot of career information. This was extremely valuable for many students. The CR Career Center, if more adequately staffed, might also be able to offer these sorts of presentations to our MSE students (as well as to students in other areas at CR).
DSPS -- At CR, the people in DSPS do a tremendous job for our DSPS students! However there still is a lack of adequate tutoring support for DSPS students in MSE courses, including both tutoring in content, and workshops or advising sessions on topics such as study skills, test-taking, test anxiety, math anxiety. There is a need for the part-time tutors in the L.I.G.H.T. Center to be full-time. Also students who want diagnostic testing to find out what type of learning disabilities they have (and whether they have any), usually have to wait a long time (sometimes months). Additional staffing is needed for diagnostic testing. Some services the DSPS office indicates that a student needs are provided by DSPS, but others are not and often need to be. For example, notetakers are not provided by DSPS -- students in the class are solicited to provide notes, but there is no quality control and no guarantee of attendance at each class. On the other hand, interpreters for hearing-impaired students are provided by DSPS and are in attendance at every class meeting.

Student Conduct -- Rodney Kaloostian was not replaced after he retired, leaving a gaping hole in support for faculty when issues of student conduct arise.

7. Faculty Resource Needs
Complete the Faculty Employment Grids below (data link is provided at http://inside.redwoods.edu/Assessment/ProgRev/FacultyLoadDistribution.asp).

**Faculty Load Distribution in the Program**

<table>
<thead>
<tr>
<th>Discipline Name (e.g., Math, English, Accounting)</th>
<th>Total Teaching Load for fall 2007 term</th>
<th>% of Total Teaching Load by Full-Time Faculty</th>
<th>% of Total Teaching Load Taught by Part-Time Faculty</th>
<th>% Change from fall 2006</th>
<th>% Change from fall 2005</th>
<th>Explanations and Additional Information (e.g., retirement, reassignment, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>394.04</td>
<td>57.3%</td>
<td>42.7%</td>
<td>-7</td>
<td>-5.9</td>
<td>retirements</td>
</tr>
</tbody>
</table>

**Faculty Load Distribution in the Program**

<table>
<thead>
<tr>
<th>Discipline Name (e.g., Math, English, Accounting)</th>
<th>Total Teaching Load for spring 2008 term</th>
<th>% of Total Teaching Load by Full-Time Faculty</th>
<th>% of Total Teaching Load Taught by Part-Time Faculty</th>
<th>% Change from spring 2007</th>
<th>% Change from spring 2006</th>
<th>Explanations and Additional Information (e.g., retirement, reassignment, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>387.19</td>
<td>49.8%</td>
<td>50.2%</td>
<td>-7.9</td>
<td>-11.1</td>
<td>retirements</td>
</tr>
</tbody>
</table>
a. Describe the status of any approved, but unfilled full-time positions. There are currently no unfilled full-time positions.

b. If you are requesting a Full-Time Faculty position develop an attachment to this report that addresses the following criteria (as listed in AR 305.03)
   • The ratio of full-time to associate faculty
   • Current availability of associate faculty
   • Relation to program review recommendations
   • Effect on diversity of the faculty
   • Effect on academic offerings and ability to serve students and the community
   • Effect on the vitality and future direction of a program and/or the college
   • Effect on student learning

See Fulltime math request at end of document.

c. If your Associate Faculty needs are not being met, describe your efforts to recruit Associate faculty and/or describe barriers or limitations that prevent retaining or recruiting Associate Faculty

The Math Program needs to hire more full-time faculty because we continue to have difficulty finding enough associate faculty to teach all of our courses. This semester we have several associate faculty who are teaching an overload. We filled one additional full-time tenure track position this year, but the Math Department is still down two full-time faculty positions due to several retirements: Michele Olsen retired after the fall semester of 2006, Sandy Vrem retired after the spring semester of 2007, and Sandra Taylor retired after the fall semester of 2007. As a result, we have had a 20% decrease in the number of full-time faculty who teach math courses at the Eureka campus. We routinely place ads for associate faculty in the local papers, but HSU pays more and provides medical benefits to part-time faculty.

On the Del Norte campus more than half of the mathematics teaching load continues to be taught by two associate faculty. The long-serving associate faculty have consistently taught between 12 and 13.5 TLUs each semester. There is not a large pool of associate faculty applicants and the college continues to be restricted to offering courses that are
dependent upon the instructor’s schedule. Additional associate faculty on the Del Norte campus would allow additional math courses offered in the afternoon or as evening courses. Position advertisements have been placed and there have been at least three applications received in the last year.

On the Mendocino campus, there is 1 full-time faculty. This is enough to keep the bare minimum going—meaning offerings of Math 376 Prealgebra, Math 380 Elementary Algebra, and Math 120 Intermediate Algebra every semester; and then alternating Math 15 Statistics and Math 30 College Algebra as the fourth course in a semester. However, this puts the one full-time faculty member in overload every year; and it also limits the ability to broaden offerings at the Mendocino campus. For example, some students do not place into Math 376 Prealgebra, but Mendocino has not been able to offer a lower course, i.e., Math 372 Arithmetic. We are forced to do one of two things: enroll them in Math 376 Prealgebra anyway; or tell them to find some way to improve their math skills outside of CR and then come back. Neither option is good. We taught Math 25 Trigonometry once, when we had one associate faculty member at Mendocino, but now we cannot. Additionally, we are unable to offer the Math Lab for student support without associate faculty to cover the hours. With the possibility of the full-time member teaching occasional courses online, there is definitely room for an associate faculty member to teach one course per semester in addition to offering the Math Lab.

On the Eureka campus, the department has sometimes had to cancel sections that would normally fill because we were unable to recruit a qualified instructor. The Math Department is concerned about the future availability of associate faculty in our discipline because many of our associate faculty are currently seeking permanent employment outside of the area, or they choose to work at Humboldt State University because HSU offers health benefits and higher pay to part-time faculty.

8. Staff Resources

Complete the Classified Staff Employment Grid below (please list full- and part-time staff). This does not include faculty, managers, or administration positions. If a staff position is shared with other areas/disciplines, estimate the fraction of their workload dedicated to your area.

<table>
<thead>
<tr>
<th>Assignment (e.g., Math, English)</th>
<th>Full-time (classified) staff (give number)</th>
<th>Part-time staff (give number)</th>
<th>Gains over Prior Year</th>
<th>Losses over Prior Year (give reason: retirement, reassignment, health, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSE (50% in Math)</td>
<td>1 (50% in Math)</td>
<td>1 (50% in Math)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Do you need more full-time or part-time classified staff? □ yes □ no
If yes, explain why.

The department needs a permanent Math Lab coordinator to set up the lab, handle recordkeeping and grades, hire, train, and supervise student tutors, and set up
assignments. This position was approved last year, but we were unable to fill the position despite two searches. We recommend that the position description be upgraded to correspond better with the position requirements, since applicants with the desired qualifications found better full-time positions elsewhere instead.

9. Facilities, and Classroom Technology
Are teaching facilities adequate for achieving the educational outcomes of this discipline/program? ☒ Yes ☐ No

If No was checked, complete and attach Facility Form (facilities.form) for each instructional space that does not meet the needs of this discipline/program.


10. Equipment
Is the available equipment (other than classroom specific equipment described in the facilities section) adequate to achieve the educational outcomes of your program/discipline? ☐ Yes ☒ No

If No was checked, complete the following grid for each piece of equipment being requested for this area/discipline:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Approximate Price</th>
<th>Number of students using equipment each semester</th>
<th>Describe how the equipment allows achievement of program/discipline educational outcomes</th>
</tr>
</thead>
</table>

Equipment Repair
Is the equipment used for your discipline/program in need of repair, which is outside your current budget allotment? This does not include classroom specific equipment repair described in the facilities section. ☒ Yes ☐ No

If Yes was checked, provide the following information to justify a budget allotment request:

<table>
<thead>
<tr>
<th>Equipment requiring repair</th>
<th>Repair Cost / Annual maintenance cost</th>
<th>Number of students using equipment each semester</th>
<th>Describe how the equipment allows achievement of program/discipline educational outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 faculty computers</td>
<td>2 computers replaced each year cost: $3,400 per year</td>
<td>0</td>
<td>Faculty need to use computers to help fulfill their teaching obligations.</td>
</tr>
</tbody>
</table>
11. Learning Outcomes Assessment Update.

List all expected program-level outcomes, whether you have completed the assessment loop (use of results) or not. For each outcome, identify the means of assessment and the criteria for success. Summarize the data that have been collected in the ‘Assessment Results’ column. If no data have been collected and analyzed for a particular outcome, use the ‘Assessment Results’ column to clarify when these data will be collected and analyzed. In the fourth column, indicate how the assessment results are being used to improve the program.

<table>
<thead>
<tr>
<th>Program Outcomes (Not all disciplines have program-level outcomes)</th>
<th>Means of Assessment and Performance Criteria</th>
<th>Assessment Results Summary</th>
<th>Use of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List all course-level student learning outcomes for which some assessment activity (assessment, analysis, or use of results) has taken place since the most recent program review, and complete the table below as appropriate

<table>
<thead>
<tr>
<th>Student Learning Outcomes (course-level)</th>
<th>Means of Assessment and Performance Criteria</th>
<th>Assessment Results Summary</th>
<th>Use of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 120: Course learning outcomes #1, 2, 4, 6, and 7.</td>
<td>All students took a 15 question pretest on the first day of spring 08 classes. The same questions were embedded in all finals administered in Math 120.</td>
<td>Results are shown below.</td>
<td>Math 120 faculty are holding ongoing discussions of data during fall semester 2008.</td>
</tr>
<tr>
<td>Math 120: Course learning outcome #1.</td>
<td>A survey of the textbook and Optimath system was administered at the end of fall07 and spring 08</td>
<td>Fall 2007 results were discussed and a summary report written, which is available on department website. Spring 2008 data are currently being</td>
<td>Items from the summary report were shared with Math 120 instructors prior to the first meeting of spring 2008 classes, in order to make them aware of difficulties</td>
</tr>
<tr>
<td>Course</td>
<td>Learning Outcomes</td>
<td>Analysis</td>
<td>Student Feedback</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Math 120: Course</td>
<td>Learning outcome #3</td>
<td>Results are shown below.</td>
<td>Math 120 faculty are holding ongoing discussions of data during fall semester 2008.</td>
</tr>
<tr>
<td></td>
<td>All students in Math 120 were required to take a common three-question quiz designed to assess specific graphing calculator skills.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 45: Course</td>
<td>Learning outcomes 1, 2, 3, 5, 7</td>
<td>All projects except one demonstrated good to excellent performance in relation to these course learning outcomes.</td>
<td>The project instructions, timeline, and grading rubric will be used in the future, with continued refinement and improvement as results dictate.</td>
</tr>
<tr>
<td></td>
<td>Instructions for student projects included specific requirements related to the course learning outcomes. A timeline was created for these projects, detailing deadlines for submission of subtasks throughout the semester. A uniform grading</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A uniform grading rubric, incorporating course learning outcomes, was also created for the projects.

| Math 55: Course learning outcomes 1, 2, 3, 5, 6 | Instructions for student projects included specific requirements related to the course learning outcomes. A timeline was created for these projects, detailing deadlines for submission of subtasks throughout the semester. A uniform grading rubric, incorporating course learning outcomes, was also created for the projects. | All projects demonstrated good to excellent performance in relation to these course learning outcomes. | The project instructions, timeline, and grading rubric will be used in the future, with continued refinement and improvement as results dictate. |
| Math 4: Course learning outcomes 1, 2, 4 | Instructions for student projects included specific requirements related to the course learning | All projects demonstrated good to excellent performance in relation to these course learning outcomes. | The project instructions, timeline, and grading rubric will be used in the future, with continued refinement and improvement as results dictate. |
outcomes. A timeline was created for these projects, detailing deadlines for submission of subtasks throughout the semester. A uniform grading rubric, incorporating course learning outcomes, was also created for the projects.

Results of pretest and embedded questions on the common final, Spring 2008:

<table>
<thead>
<tr>
<th>Question</th>
<th>Pretest</th>
<th>Common Final</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45.3</td>
<td>70.4</td>
<td>solve linear equation</td>
</tr>
<tr>
<td>2</td>
<td>30.1</td>
<td>78.5</td>
<td>solve linear inequality</td>
</tr>
<tr>
<td>3</td>
<td>80.1</td>
<td>98.9</td>
<td>function evaluation (linear)</td>
</tr>
<tr>
<td>4</td>
<td>28.9</td>
<td>73.1</td>
<td>find equation of line through two points</td>
</tr>
<tr>
<td>5</td>
<td>50.0</td>
<td>92.5</td>
<td>factor a quadratic</td>
</tr>
<tr>
<td>6</td>
<td>26.9</td>
<td>78.5</td>
<td>quadratic formula</td>
</tr>
<tr>
<td>7</td>
<td>19.0</td>
<td>76.3</td>
<td>domain of a square root function</td>
</tr>
<tr>
<td>8</td>
<td>19.0</td>
<td>39.2</td>
<td>compound inequality (OR)</td>
</tr>
<tr>
<td>9</td>
<td>21.9</td>
<td>40.9</td>
<td>solve an inequality from the given graph</td>
</tr>
<tr>
<td>10</td>
<td>55.0</td>
<td>83.3</td>
<td>find the zeros of a polynomial from the given graph</td>
</tr>
<tr>
<td>11</td>
<td>12.9</td>
<td>58.1</td>
<td>transformation of a graph (horizontal shift)</td>
</tr>
<tr>
<td>12</td>
<td>21.1</td>
<td>45.2</td>
<td>solve absolute value inequality</td>
</tr>
<tr>
<td>13</td>
<td>25.7</td>
<td>67.7</td>
<td>find vertical asymptotes</td>
</tr>
<tr>
<td>14</td>
<td>4.4</td>
<td>38.7</td>
<td>identify graph of the inverse function</td>
</tr>
<tr>
<td>15</td>
<td>13.5</td>
<td>33.3</td>
<td>population growth - find doubling time</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>342</td>
<td>186</td>
<td></td>
</tr>
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</table>

Results of graphing calculator quiz:

<table>
<thead>
<tr>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.05</td>
<td>3.13</td>
<td>1.31</td>
<td>7.55</td>
</tr>
<tr>
<td>4.0</td>
<td>4.0</td>
<td>2.0</td>
<td>10.0</td>
</tr>
<tr>
<td>76.2</td>
<td>79.7</td>
<td>65.6</td>
<td>75.5</td>
</tr>
</tbody>
</table>
Discuss the extent to which part-time faculty (if applicable) have been involved in the dialogue about assessing student learning outcomes:

Associate faculty were fully included in discussion of student learning outcomes and assessment in Math 120. They were included in meetings when we designed outcomes, they helped in crafting the pre- and post-test questions, they helped design the graphing calculator questions, they assisted in collecting survey questions from students on the textbook and Optimath system, and they are fully involved in the analysis of results and suggestion for future improvement.

12. Curriculum Update

Identify curricular revisions and innovations undertaken

a. In the last year.

Last year, Math 50A (Calculus I) and Math 50B (Calculus II) were taught at 5:30 PM on MWF to allow members of our community who work during the day to enroll in these classes. They were also televised distance learning classes broadcast from the Eureka campus to the other campuses. Our plan is to teach our upper level courses during the evenings on a three-year rotating basis, so that once every three years people who work during the day will be able to complete the sequence of upper level math courses. This year we are offering Math 50C (Calculus III) and Math 55 (Differential Equations) in the same manner.

We also started offering Math 120 (Intermediate Algebra) and Math 15 (Statistics) as online courses. We anticipate that this will allow more students to fulfill their GE requirement for the AA or AS degree, or GE transfer level math requirement because they will be able to fit these classes into their own schedules.

As a supplement to the online Math 120 and Math 15 courses, a large set of instructional videos were created by math faculty. The videos are posted on the Internet and are accessible by students from any computer with an Internet connection. This is a great way to provide additional instruction to students in online classes, answer questions that may not be covered in class due to limited time constraints, provide extra examples, exam reviews, and more. It also allows students to ask for and receive help without having to come to campus. The videos have proved to be very popular with students in both online and regular classes. At the Mendocino Campus, Aeron Ives recently received a Foundation Grant to purchase tablets and screen recording software for Del Norte and Mendocino, to match a similar setup that the Math Department has in Eureka. He is currently using this technology to create videos for Math 30 and additional videos for Math 120.

Starting in the fall of 2005, we began revising our course outlines, including the descriptions of student learning outcomes for each course. One of the first course outlines we revised was Math 106 (Elementary Algebra, now renumbered as Math 380). We took an entire year to revise the outline for this course. This included meeting on two weekend retreats during the year so that all faculty could be involved in the revision process. The
course outline was finished in the spring of 2006, and was approved by the Curriculum Committee in May 2006. One of the student learning outcomes we developed for this course requires students to use graphs and the graphing calculator to explore mathematical concepts and to verify their work. We quickly realized that many of the students who enroll in this course were not able to afford the $100 cost of the TI-83 graphing calculator (in addition to the $130 cost of the textbook). Also, many of the students had difficulty learning how to use this calculator. This course was also taught by many associate faculty who did not have a lot of experience in using this calculator as an instructional tool. Because of the high cost of the calculator in addition to the cost of the textbooks, we realized that many students were not buying a calculator. Because of this, these students were not able to work on the modeling problems which required the use of the graphing calculator. As a result, they were not able to master one of the major student learning outcomes for the course.

To address this issue, the department has augmented its TI Calculator rental program. We now have a set of 100 TI graphing calculators that we rent to students at a cost of $25/semester. To help students and associate faculty learn how to use the graphing calculator, Kevin Yokoyama created an online TI Calculator tutorial site. Students and instructors can log on to this site to get step-by-step instructions on how to use the TI graphing calculator to accomplish several important tasks ranging from basic calculator usage to finding least squares regression equations to model different sets of data. The link for this site is: http://online.redwoods.edu/INSTRUCT/KIYOKOYA/TIHelp/index.htm

This site was activated last year, and it has received a tremendous amount of use (including several hits during the summer session of 2008). This site has been accessed over 1,400 times since it was placed online.
The other course we revised was Math 120 (Intermediate Algebra). This course also requires the extensive use of technology, and students who enroll in this course are required to use a TI graphing calculator. As a result of several department meetings, we identified that many students were also having difficulty learning how to use the graphing calculator, and that many students did not purchase the calculator because the cost of the calculator was nearly as much as the textbook. To address these concerns, several members of our department formed the Intermediate Algebra Textbook Committee, led by David Arnold and Bruce Wagner, and they wrote an Intermediate Algebra textbook. Work on the text started during the 2005-2006 academic year. The committee met throughout the year, including several meetings at the Eureka Downtown campus on Saturday mornings. The first edition of this text was finalized during the summer of 2006, and used during the fall semester of 2006. The entire text was converted into several different formats and placed onto a master CD. The department made several hundred copies of the textbook-on-CD, which were given to students enrolled in every Math 120 course taught at the College.

The textbook continues to be revised on an ongoing basis. The Third Edition of the text was first used last year. We continue to provide the textbook free-of-charge to our Math 120 students. We are also in the process of doing a comprehensive assessment of the student learning outcomes for this course.

The Math Department is very concerned about the exorbitant cost of textbooks for our students. Therefore, the department has taken a number of steps to reduce this cost in some of its courses:

- With the support of block grant funds, the department purchased several copies of an older edition of the Calculus textbook. These books are loaned to the Calculus students each semester.
- The department arranged for a custom paper edition of the Math 380 textbook. While still expensive, it’s much cheaper than the complete textbook would be.
- As detailed above, the department continues to provide the Math 120 textbook free-of-charge online and via CD. Printed copies are also available for only $28.
- The department is allowing students to use an older edition of a College Algebra and Trigonometry book in Math 30 and Math 25. The book can be purchased online for as little as $5.

The department has continued to improve and extend Optimath, an online testing system developed by faculty from our department. Among the many enhancements were the proctoring capabilities (which allow the system to be used in online and hybrid courses), and a new formula previewer to help students enter correct formulas. Extensive testbanks of questions have been created in the past year for Math 380, Math 376, Math 101, and Math 50A, in addition to previous testbanks for Math 120, Math 30, and Math 25.

In spring 2008, at the Mendocino campus we created Math Tutoring bookmarks, which we have been distributing to all of our students. These bookmarks contain the full schedule of ASC math tutoring, making the hours available at each student's fingertips.
b. Plans for the coming year.

The department will continue to offer online versions of Math 120, Math 25, and Math 15, and interactive TV sections of Math 50A, Math 50C, Math 55, Math 25, and Math 15. Math 50C (in the fall semester) and Math 55 will be offered in the evening.

The department will also offer evening hybrid sections of Math 25 and Math 30, and will also offer an evening hybrid section of Math 380 for the first time.

A working group is being formed this fall to plan the writing of a Math 30 textbook, with a proposed completion date of summer 2010. This textbook would be offered free-of-charge to our students via CD and online, similar to the current Math 120 textbook.

Complete the grid below. The course outline status report can be located at:
http://www.redwoods.edu/District/IR/Reports/Curriculum/Curriculum_Course_Outlines.htm

<table>
<thead>
<tr>
<th>Course</th>
<th>Year Course Outline Last Updated</th>
<th>Year Next Update Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 101</td>
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<td>2012</td>
</tr>
<tr>
<td>Math 120</td>
<td>2007</td>
<td>2012</td>
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<td>2013</td>
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<tr>
<td>Math 15</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 25</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 30</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 372</td>
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<td>2012</td>
</tr>
<tr>
<td>Math 372L</td>
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<td>2013</td>
</tr>
<tr>
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</tr>
<tr>
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<td>2008</td>
<td>2013</td>
</tr>
<tr>
<td>Math 45</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 5</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 50A</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 50B</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 50C</td>
<td>2007</td>
<td>2012</td>
</tr>
<tr>
<td>Math 52</td>
<td>2008</td>
<td>2013</td>
</tr>
<tr>
<td>Math 55</td>
<td>2007</td>
<td>2012</td>
</tr>
</tbody>
</table>

If the proposed course outlines updates from last year’s annual update (or comprehensive review) were not completed, please explain why. All updates were completed.

13. Communication
Are the current lines of administrative, faculty, and staff communication adequate to meet the needs of this discipline/program? Describe representative example of effective or ineffective communication.

No, not in all areas. The following details describe some of the problems:

1. The work request system for facilities and technical work is broken. Work requests are often left uncompleted for years, and there is currently a huge backlog. Clearly more staff are needed to keep up with the facilities and technical work. In addition, there needs to be a faster method (online) for making requests and tracking their progress, with estimated dates given for their completion. Also, staff departments need to realize that most requests from academic departments need to be taken care of very quickly, as otherwise instruction will be severely impacted.

2. While most of the facilities and technical staff are very helpful, and will try hard to meet the diverse needs of different departments, there are a few in the technical staff that are more hindrance than support. These staff members seem to have their own rules and procedures that don’t agree with those of the rest of the staff, and these rules prevent faculty from being able to create the instructional materials that they need for their students. Rules and procedures should be clear and consistent, and should be flexible enough to allow faculty to maximize their expertise. Support should be provided for those who need it, but barriers should not be created to stifle creativity and productivity.

3. There is no clear chain of authority, and no clear communication procedures between the branch campuses and the academic divisions. This sometimes results in conflicts, in particular with associate faculty issues and scheduling.

4. In addition, there is no clear scheduling process for the instructional sites and for distance education. For example, scheduling at the Eureka Downtown site and in the Eureka distance education classroom seems to be mostly based on the order of requests, not on an evaluation of which courses are most needed at particular times.

5. There needs to be a better system of room allocation and reservation.

6. There needs to be a better method of communicating changes in scheduling between the academic divisions, Admissions and Records, the branch campuses and instructional sites, and distance education.


List any action plans submitted since your last annual update. Describe the status of the plans. If they were approved, describe how they have improved your area.

15. Goals and Plans

If you have recently undergone a comprehensive review, attach your Quality Improvement Plan (QIP) if applicable.

☐ QIP Attached

If you do not have a QIP, refer to the goals and plans from your previous annual update. For each goal and/or plan, comment on the current status. List any new goals and plans your area has for the coming year, and indicate how they are aligned with the goals/objectsives in CR’s Strategic Plan. (CR’s strategic plan is located on the web at http://inside.redwoods.edu/StrategicPlanning стратегического плана.)
Goals/plans from last year are shown in italicized text. Comments and new goals or plans are shown in bold text.

Bruce Wagner and David Arnold are going to address assessment of student projects in Math 45 (Linear Algebra) and Math 55 (Differential Equations). We intend to have a report completed by May 15, 2008, and it will address three components:

- A timeline for student submission, in which we will break down subtasks for the students throughout the semester and due dates.
- A rubric for grading student projects
- A method of grading student projects collaboratively. David Arnold and Bruce Wagner will explore the idea of grading student projects in these test classes collaboratively, even though only one of them will be actually teaching the course.

The timeline and rubric were created for Math 45, Math 55, and also Math 4. See item #11 for more details. Because of time constraints, collaborative grading was not done.

The Intermediate Algebra Textbook Committee, as well as interested faculty (tenured and associate), will meet during the semester to address assessment of a number of items in our Math 120 (Intermediate Algebra) course.

- A calculator skills examination to be administered to all students in Math 120. This will address student learning outcome #3 in our course outline, specifically: "Students should be able to use graphs and the graphing calculator to explore mathematical concepts and to verify their work."
- A survey of the Intermediate Algebra Textbook. Data from this survey will be studied by the Intermediate Algebra Textbook committee and influence rewrites for future semesters.
- A discussion of including common questions which will be included in all final examinations for Math 120 students. Data from these questions will be gathered and studied to determine whether students are achieving particular student learning outcomes. More than likely, the committee will try to focus on a few of our student learning outcomes and try to create questions that will assess those particular outcomes.

These assessments were completed as planned. See item #11 for a more details.

Michael Butler is going to continue his work on revising the Distance Learning and online versions of Math 15 – Statistics. This will include creating statistics content for the Optimath database. We are also looking at the possibility of recording each of his lectures and transforming them into digital format so that we can make each of his lectures available on the internet in streaming video format.
Michael Butler is teaching Math 15 as an online course this semester. He is recording his lectures and posting them online for his students. This semester, Chris Panza is teaching the Math 15 as a televised course, and we are recording his lectures onto DVDs. We are working with John Anderson to create streaming videos of these lectures, to see if we can place them on our server for students to access.

Kevin Yokoyama will monitor the TI Calculator tutorial website to track how much use it is receiving. He will also develop a survey that will be given to students in Math 106 (Elementary Algebra) that will allow students to evaluate and give feedback on this site. He will also continue to refine the current online activities and develop new activities as the need arises.

This site was activated last year, and it has received a tremendous amount of use. The site has been accessed over 1,400 times since it was placed online. A graph showing the usage over the past 12 months is shown below. Kevin will also have students in his elementary and college algebra courses complete an online survey by the end of the fall semester of 2008 to evaluate the effectiveness of the online TI calculator tutorial site.

![Graph showing usage of the TI Calculator tutorial website by month]

Extensive online test banks of exercises, using the Optimath system, are currently available for Math 120, Math 30, and Math 25. Test banks for Math 106 are now in development and the department will continue to develop online test banks for other courses.

Extensive testbanks of questions were created in the past year for Math 380, Math 376, Math 101, and Math 50A.
The department will seek outside funding sources to continue to upgrade the facilities in the program. Several years ago, the department received the College’s first National Science Foundation grant. This grant, in the amount of $35,898, allowed the department to purchase several computers which were used by students taking Math 45, Math 50C, and Math 55. A description of this grant and the subsequent grant activities can be found at the following link:

http://online.redwoods.edu/INSTRUCT/darnold/NSF/award.htm

The department applied for a HP Technology for Teaching grant in the amount of $55,000 in equipment and cash. If successful, this grant would have given the department a set of 20 HP laptop computers, a laptop computer for the instructor of the class, an LCD projector, and $19,000 in cash to support the work of the Principle Investigator of the grant.

We were notified that this grant was not funded. However, last May, Kevin Yokoyama applied for another grant from the Foundation for California Community Colleges. This grant was funded in the amount of $26,650. Funds from this grant were used to create a Summer Bridge Program (which was run from August 18-20, 2008) for the Academy of the Redwoods, purchase 50 TI-84 graphing calculators, a new computer and a $6,000 stipend to work on a mathematics curriculum alignment project between the math department and the Academy of the Redwoods.

The Summer Bridge program was a great success. Kevin has been invited to give a report on this project at the Foundation for California Community Colleges’ Early College High School Fall conference in Sacramento on October 24-25, 2008.

Last June, Kevin helped the college secure an additional grant of $67,000 from the Foundation for California Community Colleges to help pay for expenses to support the Academy, and we hope to secure an additional $67,000 from the Foundation this year.

We are planning to host several “Pizza and Problems” problem solving sessions to engage and stimulate our upper-level math students. We plan to facilitate student participation in an international mathematics competition, such as the Putnam exam.

Last fall we had five “Pizza and Problems” problem-solving sessions that were very well-attended by many of our mathematics students, and we then continued these sessions last spring for the first time due to popular demand (previously we only had them in fall semesters). Students and faculty presented solutions on the board near the end of each session, and students were also encouraged to formally write their solutions on the department’s wiki site. For a complete summary of problems and solutions, see

http://msenux.redwoods.edu/mathdept/PizzaAndProblems.php
Last December, seven CR students participated in the William Lowell Putnam Mathematical Competition, given across the nation and Canada. One student did exceptionally well, particularly for a community college student, and as a result, received an additional scholarship from Humboldt State University’s Department of Mathematics.

We continue to offer these “Pizza and Problems” sessions this semester, and many students have expressed interest in participating in this December’s Putnam Competition.

Michael Butler and Tami Matsumoto will continue to develop training materials for tutors who work in the Math Lab for Math 152.

The Math Lab is no longer Math 152, but has been split into the following new courses: Math 372L, Math 376L, Math 380L, Math 120L, and Math 52. Last year we were approved to hire a Math Lab Coordinator who, among other duties, would be responsible for tutor training. The search failed and was re-run over the summer, but the second search also failed (see part 8 “Staff Resources” above). In the interim, some training materials have been produced for the Math Lab tutors; these materials include information about tutor expectations, behavior, and how math is different from other subjects.

The department has course resource repositories (using the "Moodle" course management system) for Pre-Algebra and Intermediate Algebra. Faculty will continue to share handouts and lessons via these repositories.

The department has continued to improve course information repositories for both students and instructors. Most department documents are now contained in a large Subversion repository, which enables instructors to find the current version of any document, as well as all previous revisions. The department also has a new web site at http://msenux.redwoods.edu/mathdept which contains frequently-used information for students and faculty.

Tami Matsumoto has an extensive collection of activities, informational handouts, and worksheets, for Math 372. She will create a student booklet which will be available to students and faculty in the bookstore.

Tami Matsumoto has continued to add to this collection for students in Math 372 Arithmetic. She has shared many with faculty teaching other courses. The student booklet is still in progress.

Our faculty will continue to build relationships between CR and the educational community through various projects and participation with educational groups and at many events. By working with local teachers, we will develop relationships that help to smooth transitions for students coming to CR. This will benefit the college by enhancing CR’s visibility – we are “CR Ambassadors” in addition to being “Math
Ambassadors.” The K-12 teachers may not have degrees in mathematics, yet they teach math as part of their assignments. By showing them ways they can enjoy math and understand it, we thereby help their students. When working directly with K-12 students, we not only help pre-collegiate students with their math skills, but also with their attitudes about math and learning. Here are some of the activities we plan to continue to work on this year.

- **Homework Hotline** - a live, call-in television show on our local PBS station. Local math and science teachers, as the hosts on the show, respond to questions phoned-in by local students, and give demonstrations and lessons. Tami Matsumoto works closely with these teachers as a co-producer of the show and also as the math content advisor (thus also providing them with an accessible CR resource person). She and other CR faculty will occasionally be hosts on “Homework Hotline” this year. Through this TV show, CR gets enhanced visibility on the air. We have also gotten feedback from local teachers that this show is making math and science more “cool” among their students.

Tami Matsumoto is working as the co-producer of Homework Hotline again this year. Kevin Yokoyama will be hosting the opening two shows in September, and will be hosting two episodes in October when he will be promoting the College’s annual Science Night presentation.

- **The Eel River Valley Math Vertical Team** began as a group of local middle-school and high school teachers. Michael Butler and Tami Matsumoto joined the team a few years ago and will continue to participate, coordinating curriculum, and sharing and cultivating teaching ideas for teachers of mathematics, as well as helping assist and advise high school students, especially regarding CR math courses.

**Eel River Valley Math Vertical Team** -- Tami Matsumoto and Michael Butler continue to work with the Eel River Valley Math Vertical Team. Rob Marshall of Fortuna High School, who started the Vertical Team, is doing a workshop for the Humboldt County Office of Education in November. The workshop is designed to encourage articulation through work with Vertical Teams and Tami Matsumoto will be one of the panel members at the workshop.

Here are two new ways we are furthering our work with local K-12 teachers:

**CSU EAP PLC** -- Kevin Yokoyama, Tami Matsumoto, and others are participating in a “Professional Learning Council,” working with teachers from throughout Humboldt and Del Norte counties. This is sponsored by the CSU’s Early Assessment Program (EAP), the early assessment of high school juniors who can take an augmented version of the STAR test and gain an exemption from taking the Entry Level Math test at CSU. Last spring, two meetings were devoted to math instructors at various levels discussing
challenges and successes in the teaching of mathematics. We will continue to meet this school year to discuss strategies for teaching and learning math that will help improve students' math knowledge, test performance, and college readiness.

WRMA -- Tami Matsumoto is working together with RAMP to provide teacher training in the Wild River Mathematics Academy (WRMA), a three-year professional development program for teachers of grades three through algebra. The Del Norte County Office of Education received a California Mathematics Project Grant which is funding WRMA through the No Child Left Behind Act.

- Academy of the Redwoods is an Early College High School on the CR campus. Michael Butler, Tami Matsumoto, and Kevin Yokoyama have been working together with the Academy as faculty liaisons. Previous work has included advising students about CR courses, and helping to coordinate usage of facilities. This year, we will expand our role to include working with the Academy faculty on curriculum sharing and development.

Kevin Yokoyama is chairing the Academy of the Redwoods Faculty Liaison Committee this year. Tami Matsumoto and Kevin Yokoyama will be presenting a report at the Early College High School fall convening hosted by the Foundation of California Community Colleges. The report will summarize the work that was done for the Academy of the Redwoods Summer Bridge Program that was held from August 18-20, 2008. We continue to meet with the principal, faculty, and staff of the Academy on a monthly basis.

- The local chapter of the California Mathematics Council is run mainly by local K-12 teachers, and hosts an annual fall conference. Several of our faculty are members and will give presentations at their fall conference (Note: scheduling of the conference has not been confirmed for 2007).

The California Mathematics Council, Far North Chapter’s Annual Fall Conference was cancelled for fall 2007. This year’s conference is scheduled for October 25, 2008; several CR math faculty have already signed up to give presentations, and Tami Matsumoto is on the conference organizing committee.

- Our faculty will continue to work with local K-12 students through Humboldt County Office of Education events, such as the County Science Fair (as judges), and the Redwood Environmental Education Fair (as presenters). We also work with the Redwood Area Mathematics Project (a California Math Project), and will continue to do so as long as RAMP continues (their funding has been reduced significantly lately).
These are Humboldt County Office of Education events we participated in:

(1) The Humboldt County Science Fair was last March. Several CR mathematics faculty participated as judges of science projects from 4th grade through high school, and expect to do so again this spring.

(2) The Redwood Environmental Education Fair was held last May for Humboldt County 3rd through 8th graders. Tami Matsumoto team-taught a lesson on measuring with trees; Tami taught some mathematics, while Dr. Jeff Hogue taught botany, and Dr. Tim Baker taught forestry.

Additionally, there are other ways we have been, and continue to work with local K-12 students:

(1) Michael Butler will continue to work with middle school students in the after-school mathematics program.

(2) The Humboldt Math Festival was held last April 26 in Eureka at the Bayshore Mall. This community event was created by Ken Pinkerton, of Zane Middle School, Eureka. This year, Tami Matsumoto was one of the organizers, and five CR mathematics faculty and several of their students held activity tables at the Math Festival. Tami Matsumoto will continue to work with the Math Festival creator to organize the 3rd Annual Humboldt Math Festival in spring 2009.

ADDITIONAL GOALS:

• The department plans ongoing assessment of one or more of the course learning outcomes in many of its classes during the spring semester.

• The department will continue to work towards reducing the cost of textbooks for its students. In particular, planning will begin for the writing of a College Algebra textbook.

• The department will continue development of its course web site, making more information available to both students and instructors.

• The department plans to teach three sections of Elementary Algebra on the HSU campus on a trial basis during the spring semester. If these classes are successful, additional Elementary and Intermediate Algebra courses would be taught in the fall of 2009. This would result in an average of 11 new sections each semester.
• The department will try to hire a permanent Math Lab coordinator, streamline Math Lab operations, and work towards establishing some Math Lab hours at Arcata and Mendocino.

• The department will continue to work on refining our current courses that are offered in the online and hybrid modality, and work on increasing the variety of online and hybrid course options.
The Math Department requests at least one full-time faculty position for the fall semester of 2009. At the beginning of January 2008, the Math Department was down three full-time math faculty due to several retirements: Michele Olsen retired after the fall semester of 2006, Sandy Vrem retired after the spring semester of 2007, and Sandra Taylor retired after the fall semester of 2007. Because only one of these positions was replaced with a full-time position, the math department has had a 20% decrease in the number of full-time faculty over the last two years. However, the number of FTES in mathematics has increased 34% during this same period.

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<thead>
<tr>
<th></th>
<th>FTES</th>
<th>Change from 2006</th>
<th>Change from 2007</th>
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<tbody>
<tr>
<td>Fall 08</td>
<td>303.51</td>
<td>+76.6 (33.8%)</td>
<td>+47.67 (16.8%)</td>
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<tr>
<td>Fall 07</td>
<td>255.84</td>
<td>+28.93 (12.7%)</td>
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<tr>
<td>Fall 06</td>
<td>226.91</td>
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This semester we have a ratio of 10 full-time faculty to 14 associate faculty. All of our full-time faculty are teaching overloads, and some of our associate faculty are currently teaching a full-time (or more than full-time) load. In the fall of 2006, full-time faculty taught 64.3% of the TLU load for the department, and associate faculty taught 35.7%. In the fall of 2007, full-time faculty taught 57.3% of the TLU load for the department, and associate faculty taught 42.7%. We believe that the decreased load taught by full-time math faculty has had a negative impact on student learning as course success rates have fallen from 68% in 2004-2005 to 54% in 2007-2008.

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<td>2</td>
<td>Fall 07</td>
<td>225.63</td>
<td>188.41</td>
<td>394.04</td>
<td>57.3%</td>
<td>42.7%</td>
<td>-7</td>
<td>-6.9</td>
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<tr>
<td>3</td>
<td>Fall 06</td>
<td>236.2</td>
<td>130.5</td>
<td>367.8</td>
<td>64.3%</td>
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<td>4</td>
<td>Fall 05</td>
<td>246.84</td>
<td>144</td>
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<td>63.2%</td>
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On the Eureka campus, the department has sometimes had to cancel sections that would normally fill because we were unable to recruit a qualified instructor. This semester, we may have to cancel one of our Statistics courses, because we cannot find a qualified instructor to teach the course. The Math Department is also concerned about the future availability of associate faculty in our discipline because many of our associate faculty are currently seeking permanent employment outside of the area, or they choose to work at Humboldt State University because HSU offers health benefits to part-time faculty.

One of the most important changes in the status of the mathematics program is that Humboldt State University is interested in having the math department take over their remedial math program. Next semester, we plan to teach three sections of Elementary Algebra on the HSU campus on a trial basis. If these classes are successful, we would then add additional Elementary and Intermediate Algebra courses in the fall of 2009. This would result in an average of 11 new sections each semester. Dr. Marsee indicated that he wanted to increase the number of FTES by 1000 over the next two years. This is one of the easiest ways to help make this happen. However, if we were to pick up all of these courses, we would need to hire at least two new full-time faculty to cover the additional load, since we do not have an adequate number of associate faculty to cover the additional courses.
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 110**

Check if any of the following are not adequate:

- [ ] Ventilation / room temp
- [ ] ADA access
- [ ] Number of seats / work stations
- [x] Technology (computers, projectors, internet)

- [ ] Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:
Need one document camera: cost = $1,500, replace computer and LCD projector once every five years: cost = $2,600 once every five years. Replace 16 student computers once every five years: cost = $19,200.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: 3  Students: 105
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 115**

Check if any of the following are not adequate:

- [ ] Ventilation / room temp
- [ ] ADA access
- [x] Number of seats / work stations
- [x] Technology (computers, projectors, internet)
- [ ] Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:
Replace document camera, computer and LCD projector once every five years: cost = $4,100 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: 7  Students: 275
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 116**

Check if any of the following are not adequate:

- [ ] Ventilation / room temp
- [ ] ADA access
- [ ] Number of seats / work stations
- [x] Technology (computers, projectors, internet)
- [ ] Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:
Replace computers and laser printer once every five years: cost = $10,800 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: study lab
Students: 100
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: PS 117

Check if any of the following are not adequate:

☐ Ventilation / room temp
☐ ADA access
☐ Number of seats / work stations
☒ Technology (computers, projectors, internet)
☐ Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:
Replace document camera, computer and LCD projector once every five years: cost = $4,100 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: 7 Students: 275
Facilities, and Classroom Technology Form  
Program/Disciplines: Mathematics  
Year: 2008-9  
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 118**

Check if any of the following are not adequate:

- Ventilation / room temp
- ADA access
- Number of seats / work stations
- Technology (computers, projectors, internet)
- ☒ Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:

Install Document Camera cost = $1,500. Replace computers and laser printer once every five years: cost = $10,800 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.

Sections: 6  
Students: 210
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 120**

Check if any of the following are not adequate:

- [ ] Ventilation / room temp
- [ ] ADA access
- [ ] Number of seats / work stations
- [x] Technology (computers, projectors, internet)
- [ ] Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:

Need one document camera: cost = $1,500, replace computer and LCD projector once every five years: cost = $2,600 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: 6 Students: 210
Facilities, and Classroom Technology Form
Program/Disciplines: Mathematics
Year: 2008-9
Submitted by: B. Wagner

List classroom or instructional space name/number: **PS 201**

Check if any of the following are not adequate:

- Ventilation / room temp
- ADA access
- Number of seats / work stations
- Technology (computers, projectors, internet)
- Other (briefly describe):

Describe the specific action and estimated cost (if available) to make this space adequate for your instructional needs:

Need one document camera: cost = $1,500, replace computer and LCD projector once every five years: cost = $2,600 once every five years.

List the average number of discipline/program sections scheduled in this room each semester, and the total number of students enrolled in these sections.
Sections: 7  Students: 275