## **Program Analysis**

## 1a. What did your unit accomplish last year in relationship to the annual planning initiatives?

• Initiative #1

Improve Capacity for Assessment, Curriculum Development, and Implementation of Standards, and Address Difficulty in Finding Qualified Part-Time Faculty and Substitutes by Adding Full-Time Faculty.

\* Currently Un-funded

• Initiative #2

Improve Student Retention and Improve Capacity for Data Gathering and Assessment through Increased Technical Support and Tutoring.

\* Currently Un-funded

#### • Initiative #3

*Involve Part-Time Instructors by Compensating for Committee Work.* **\* Currently Un-funded** 

#### \* Accomplished without funding:

• The Mathematics Division started 'Mentoring' groups during the 2004/05 school year. The groups were encouraged to communicate with each other and lend support and help to each person in their respective group.

#### • Initiative #4

Improve Capacity for Program Assessment and Curriculum Development, and Address Student Retention, Needs of Evening Students, Professional Development, Etc., with Release Time.

- \* Partially funded:
  - **139 curriculum development hours** were allotted for addressing curriculum, program assessment and student retention.
  - 20 curriculum development hours were allotted to develop a 1-credit math anxiety course. John Steele is working with Debby Ganser. They are currently in the planning stages to offer a combined course of Mth 010A and College Success (Counseling Division) for math anxious students. During Fall 2005, they will gather information from three different departments and explore the possibility of offering the course as part of a Learning Community. Current effort in the information-gathering phase has consisted of interviewing a former instructor (who now lives in the State of Washington) and observing an alternative Mth 070 class offered at Southwestern Oregon Community College. Future interviews are planned in at least two other community colleges.

#### \* Accomplished without funding:

• A Developmental Math Task Force has been started.

• Jean Cassidy and Michel Kovcholovsky are on a committee to improve retention, completion, and success for minority students, in math and science. The task force includes a number of faculty from the Math and Science Divisions, as well as James Florendo, Mark Harris, and Richard Freund. Mary Stinnett and Stephen Selph are co-chairing a number of colloquiums. Since Spring term 2004, they have organized a series of colloquia (4-5) each term to give instructors opportunities to share their ideas/experiences with curriculum, pedagogy, and assessment in math education or to share their research interests. We have also had outside speakers from time to time.

#### • Initiative #5

Study Procedures and Pedagogy at Sister Institutions and Improve Student Retention and Learning by Curriculum Development.

#### \* Currently Un-funded

#### \* Accomplished without funding:

- Discussions about issues and trends in developmental mathematics at the Oregon Mathematics Association of Two-Year Colleges (ORMATYC) annual conference led to inviting Cathy Curtis to LCC and a follow-up visit:
  - . Cathy Curtis (math faculty and former department chair at Mt. Hood C.C.) gave a colloquium talk titled "Implementing Reform in Developmental Algebra". Mt. Hood's Mathematics Division examined its Philosophy and Mission a number of years ago. This led to a major curriculum reform that has transformed the way students learn math at Mt. Hood, as well as at a number of other community colleges nationally. Cathy overviewed the history at Mt. Hood, which led to reform, outlined the nature and structure of the philosophy and implementation of reform and included sample classroom activities, *retention and completion rates*.
  - . Jean Cassidy and Jan Moore visited Mt Hood, Spring term 2005, to see the reforms in place, and obtain further details as outlined in Cathy Curtis's talk.

#### • Initiative #6

*Improve Student Learning and Retention by Upgrading Classroom Technology.* **\*Partially Funded** 

• Installation of new (smart classroom) technology in 8 of the 10 classrooms is in progress (wiring and projector mounts have been installed), but has not been completed in any of classrooms to date.

## 1b. Other accomplishments not related to the annual planning initiatives?

#### Chapter 3: Program Outcomes Analysis, 2004-2005

1) How well did you meet faculty and staff goals?

Goal #6: To maintain high standards and quality in mathematics learning.

• There have been several successful Hiring Committees this past year. The Mathematics Division utilizes a fair hiring process and strives to hire the best-qualified staff to support our diverse student populations.

**Goal #8:** To be responsive to student, program, employer, and community needs in the provision of mathematics learning opportunities, and to regularly assess these needs.

- Flexible Algebra Sequence <u>David Shellabarger</u> 2004/05 was the second year of a three-year grant to provide students with a choice of delivery of Math 95 materials.
  - The Flexible Sequence Algebra (FSA) Project is currently beginning its third year. This grant project seeks to adapt instruction to students' varied preparation, pace of learning, and life events by teaching algebra as a sequence of short courses. Test results indicate that graduates of the program are at least as well prepared as students from the more traditional Intermediate Algebra. Surveys show students favor the new approach and that the FSA format has reduced their stress. The credits paid per credits awarded shows about a 7% reduction in cost for FSA Intermediate Algebra over the regular Intermediate Algebra. The FSA team is working to repackage FSA into three meetings per week compared to the present four or five, in order to increase enrollment in the pilot program.
- Math Skills Fair Day (MSFD) The Mathematics Division hosts this event, for all area high schools, each spring term. The MSFD event strengthens Lane Community College's connection to the area high schools and provides the students an opportunity to visit our campus. Students can showcase their math skills and they accomplish this in a fun and competitive atmosphere with numerous activities.
- **College Now** Mathematics Division instructors meet twice a year (fall and spring) to review curriculum and pedagogy during the College Now Articulation meetings with all high school instructors who are teaching lower division math courses for college credit at their high schools throughout Lane County.
- Engineer Transfer Program Robert Thompson and Cathy Miner suggest that an improvement in enrollment in the program may be due to the fact that they are speaking in classrooms, participating in career fairs, and street fairs.

## 2. In relation to our 05/06 initiatives what are the areas that still need attention?

We believe that to best improve our capacity for assessment, retention, and curriculum development, we still have the following needs:

- Initiatives #1, 2, and 3 (currently un-funded). These initiatives require money for people, including full-time instructors, part-time instructor involvement, and technical support and tutoring.
- Initiative #4 (funded only in part). An un-funded part of this 05/06 initiative involves money for release time for an instructor to coordinate our math colloquia. This is our division's "inhouse" professional development program.
- Initiative #5 from 05/06 was un-funded. We need time to do research at sister institutions to learn to improve our student retention.

• Initiative #6 from 05/06 was partially funded. Still needed are funds to install new (smart classroom) technology in the classrooms to serve students better.

In addition to the above, the Mathematics Division wants to stress that a full assessment of our developmental mathematics program needs to be started. This project to assess, refine and/or change the program will be an ongoing concern for some time. Funds will be requested for the time needed to research and compile information to bring to our math program for comparison and possible redesign. It is our goal to provide our students with the best and the latest in math instruction.

# 3. Considering your responses to questions 1 & 2 and emerging needs and demands, what are your plans for next year? This conclusion should be the foundation on which 06/07 initiatives are built.

The math department wants to reach out and effectively communicate with today's students. Research shows that the use of technology and alternative delivery systems are effective ways to meet the needs of today's students. Students are in need of, and are used to, fast and easy communication with modern technology. Another concern of our students is the efficient use of their time with all the demands in a community college student's life.

With these thoughts in mind, we have expanded our initiatives to include a complete review and reorganization of the developmental mathematics sequences. This may include the use of technology directly relating to students, alternative ways to provide instruction, and content modification.

We have moved the need for classroom technology up in our list of initiatives. Faculty cannot use what isn't there. Smart classrooms will give us the tools we need to reach students with clarity, conciseness, and speed.

Still topping our list of priorities, however, is the need for more people to implement emerging and pre-existing initiatives. We need more full time instructors, more technical support and tutoring, and more funding to be able to pay for the involvement of our part time instructors.

## Mathematics Division Initiatives 2006-2007 (Using the above foundation)

These initiatives will assist the Mathematics Division in articulating the College's vision of providing learning opportunities for our students to transform their lives. These initiatives will further enable the Mathematics Division to align with the College's Mission of providing quality educational opportunities for our students. These initiatives support Lane's Core Values by enabling the Mathematics Division to provide an environment that respects the needs and potential of each student through fairness, honesty, and openness.

These prioritized (**re-prioritized from the 05/06 Unit Plan**) initiatives, *beginning on the next page*, will enable the Mathematics Division to:

- □ Cultivate respectful, inclusive, and accessible learning environments;
- □ Respond to demographic changes and internal challenges;
- □ Consistently and effectively respond to the challenges of a changing technological community and workplace;
- **□** Remove barriers to learning for our students;
- □ Improve and strengthen our students' quantitative literacy;
- □ Address specific challenges identified in Chapter 3 (05/06 Unit Plan).

#### **Mathematics Division**

#### 1. Initiative Title

Improve Capacity for Assessment, Curriculum Development, and Implementation of Standards, and Address Difficulty in Finding Qualified Part-Time Faculty and Substitutes by Adding Full-Time Faculty

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

This addresses challenges identified in Chapter 3 (05/06 Unit Plan), including:

- □ Not enough full-time faculty to do the work of the division;
- Difficulty in undertaking systematic assessment of student learning and of division goals due to the heavy workload already resting on the full-time faculty;
- Difficulty in undertaking new curriculum development projects, again due to inadequate time for curriculum review/development;
- Difficulty in finding qualified part-time faculty to cover the large number of sections taught by part-time faculty.

The initiative will address these challenges by **increasing the number of full-time faculty in the division** and improving our full-time to part-time ratio.

#### 3. Describe the initiative

As discussed in Chapter 3 (05/06 Unit Plan), Mathematics Division goals for program assessment, curriculum development, and implementation of national standards (such as those published by AMATYC and NCTM) will be difficult or impossible to successfully achieve without more full-time faculty. As our full to part-time instructor ratio decreases, large numbers of day and evenings courses taught by part-time instructors create increasing needs for instructional leadership, curriculum development, and various administrative duties, while there are relatively few full-time instructors to do this work.

Currently, not counting release for grant and other leaves, there are 15 FTE contracted fulltime faculty (16 with the MRC Director who teaches only for the Science Division engineering transfer courses). This last year the Division served approximately 900 student FTE. We are one of the three largest divisions at Lane Community College. Factoring in releases for grant and other leaves (parental and sabbatical), the contracted full-time faculty FTE for the division has averaged less than 14 the past 2 years. This Fall (2005) there are 14 FTE and this Winter (2006) there will be only 13 FTE teaching math and engineering transfer courses.

Our actual head count part-time to full-time ratio is approximately 2 to 1. In the last comparator study: for P'03 there were 30 part-time faculty to 15 (only 13.8 were not on release) full-time contracted faculty; F'03 it was 32 to 14.8, W'04 it is 29 to 13.8. The **Fall** 

**2005** headcount of 35 part-time faculty to 16 (only 14 were not on release) full-time contracted faculty continues to show a better than 2 to 1 part-time to full-time headcount ratio.

If you compare the number of credit sections taught by full-time faculty to part-time faculty it is full-time faculty teaching (P'03+F'03+W'04: 45+45+41) 131 sections and part-time faculty teaching (P'03+F'03+W'04: 35+59+53) 147 sections. For this period, full-time faculty taught 47.1% of all math courses while part-time faculty taught 52.9% (these numbers do not include the 28 sections of MRC classes offered each term—self-paced). This trend has continued: Fall 2005 (111 sections) there are 61 sections being taught by part-time faculty and 50 sections taught by full-time or full-time faculty are teaching 45% of all math courses while part-time faculty are teaching 55%.

The conclusion to be drawn is that part-time faculty are teaching substantially more of our courses than contracted full-time faculty.

All Mathematics Division students will benefit from additional full-time faculty, not only through improved access to instruction, but also because the mathematics curriculum will be improved and the division will be better able to achieve its goals.

#### 4. Describe the resources needed

- □ **Mathematics Instructor** (1.0 FTE contracted faculty. Payroll with OPE is <u>\$72,971</u>, at Level 2 Step 6);
- □ **Mathematics/Engineering Instructor** (1.0 FTE contracted faculty. Payroll with OPE is <u>\$72,971</u> at Level 2 Step 6).

#### 5. List the possible funding sources

General Fund (recurring).

This initiative could be **partially funded** (one new instructor) at a minimum annual cost of <u>\$72,971</u>.

6. Org & Prog codes

Math Org:	681001
Math Prog:	111100

7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

Additional full-time contracted faculty are the Mathematics Division's highest need for providing improved assessment, and curriculum development in support of Lane's vision and mission of providing quality educational opportunities.

#### **Mathematics Division**

#### 1. Initiative Title

Improve Student Retention and Improve Capacity for Data Gathering and Assessment through increased Technical Support and Tutoring

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

This addresses challenges identified in Chapter 3 (05/06 Unit Plan), including:

- □ Student retention;
- Creating an accessible learning environment;
- **□** Removing barriers to learning for students;
- □ Lack of mechanisms for data collection;
- Giving evening students comparable support.

The initiative will address these challenges by improving tutorial and computer lab open hours and staffing levels, and by providing support staff to collect and manage data for program assessment.

#### 3. Describe the initiative

Drop-in tutoring in the Math Resource Center is among our best mechanisms for promoting student learning and increasing student retention. However, limited staffing creates long lines of students waiting to see tutors during the MRC's busiest hours, and limits the MRC's ability to serve transfer level students and, especially, students in evening classes.

Sometimes 5 or 6 students at a time are waiting up to 15 or 20 minutes for tutoring assistance. The demand adds to students' frustration and creates a significant stress level for contracted staff. The Division is concerned that we might lose talented and experienced tutors due to burnout.

We are open 40 hours per week, but we have only one 25 hour per week testing specialist (service counter person), and only 5 tutors, two of whom work 25 hours per week (including summer term) and three who work 30 hours per week (and do not work summer term). They are classified as instructional support specialists and work in room 163 that serves developmental math students. We also allocate about 20-25 hours per week from Division ICP funds for timesheet staffing and tech support.

At the service counter our testing aide handles make-up lecture class testing and MRC testing intake (40-98 tests per day), check-in/out videos on all math topics, and the MRC Director handles enrollment clearing and advising. Frequently there are several students waiting for assistance. The MRC Director spends a significant portion of each day assisting our aide at the counter.

In our developmental math tutoring room, #163, we average over 700 student contacts per week.

In room 177, we provide tutoring for transfer level math students (Math 105-256). One faculty member staffs this room each hour from 9am to 3pm daily. These positions are part of six full-time faculty assignments. Tutoring Services and Learn & Earn tutors help in this room. They provide 50 to 60 hours per week and 28 to 32 hours of tutor time per week, respectively. Their schedules provide coverage from 8am until 7pm. Frequently there are 3 or 4 students waiting for assistance.

This initiative seeks to **add two 25 hours per week Instructional Support Specialist positions**. This increase in staffing would lessen student waiting time, offer some flexibility to tutors for breaks, and would allow for a tutor to assist the aide at the service counter during peak demand.

As discussed in Chapter 3 (05/06 Unit Plan), the Mathematics Computer Lab is open 8:30am to 5pm with mixed use for testing, classes, and individual students. We would not be able to utilize the lab to this extent without the help of our classified technical administrative support person, Siv Serene Barnum, whose position is currently supported by minimal department funds and a FIPSE grant (for Flexible Sequence Algebra) that will expire in Summer 2006. So this initiative also seeks to add one 1.0 FTE technical support position.

The technical support person's responsibilities include opening and closing the lab, lab security and maintenance, keeping software and equipment organized and up-to-date, helping instructors and students use the lab, troubleshooting equipment and software problems, and coordinating with the faculty lab supervisor.

All Mathematics Division students will benefit from additional tutorial or technical support staff, particularly evening students.

- 4. Describe the resources needed
  - **Two** 0.5 FTE Instructional Support Specialists (both @ Level 8, Step 4 with OPE),  $\frac{$40,973};$
  - One 1.0 FTE Tech/Computer Support Specialist (Level 13, Step 4 with OPE), \$<u>38,609</u>.
- 5. List the possible funding sources

General Fund (recurring).

[Or STFAC funding for equivalent time sheet dollars ('06/'07) (non-recurring) if General Fund dollars not available.] Note: will be requested each year from STFAC funds.

**IF STFAC Funds** (Note: Begin date is 9/1/2006)

#### **Category of request:**

Maintain existing and/or supporting technology.

#### How does this request fit in with other unit or college technology plans?

An integral part of the College and the Mathematics Division mission is to provide adequate staffing support wherever computer technology is used. Developmental, Professional-Technical, and Lower Division College Transfer courses are scheduled in this room throughout the year. The room is also used as a drop-in mathematics open computer lab for students with assistance provided.

#### Cost breakdown, including any unit resources being applied to project:

Mathematics Division requests from **STFAC** two (2) less than 1040 time sheet hour amounts (at the Instructional Support Specialist level 8 step 4, currently is \$14.05 /hr.) not to exceed \$40,933.

14.05 \* 1039 \* 1.402 = 20,466.3314.05 \* 1039 \* 1.402 = 20,466.33Totals = 40,932.66

This initiative could be **partially funded** at a minimum annual cost (for one ISS) of <u>\$20,467</u>.

6. Org & Prog codes

Math Org:	681001
Math Prog:	111100

7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

Additional classified instructional and technical support staff will better enable the Mathematics Division to address Lane's core values of *learning* and *accessibility*.

#### **Mathematics Division**

#### 1. Initiative Title

Involve Part-Time Instructors by Compensating for Data Analysis, Curriculum Research and Related Committee Work.

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

This addresses challenges identified in Chapter 3 (05/06 Unit Plan), including:

- Difficulty in getting part-time faculty involved in division committees and seminars;
- □ Not enough full-time faculty to do the work of the division.

The initiative will address these challenges by compensating part-time instructors to assist in the work of course & program assessment, data collection & analysis, and curriculum research which is needed to move a variety of college and division goals forward.

#### 3. Describe the initiative

As described in Chapter 3 (05/06 Unit Plan), the main barrier to achievement of Math Division goals in the area of assessment, curriculum development, and bringing our programs into alignment with national standards is a lack of full-time instructors. We think the best response is to add full-time faculty, but another approach (alternative or supplemental) is to involve more part-time instructors in this work. Among the Division's part-time faculty are some PhD's, some with special expertise in mathematics education and curriculum development, some with extensive knowledge of the Division and the College, and many with talents for leadership and teamwork. This initiative seeks to utilize this untapped resource in order to address Division challenges.

- 4. Describe the resources needed
  - □ Annual funding to pay part-time instructors for research, data analysis, and related committee work. **200 hours** =  $200*26.44*1.402 = \frac{\$7,414}{4}$ .

#### 5. List the possible funding sources

General Fund (recurring). This initiative could be **partially funded** at (\$7,414)/2 = \$3,707 (for **100 hours**).

6. Org & Prog codes

Math Org:	681001
Math Prog:	111100

7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

Greater involvement of part-time instructors will help us achieve our assessment and curriculum development goals in support of Lane's vision and mission of providing quality educational opportunities.

#### **Mathematics Division**

#### Priority #4

#### 1. Initiative Title

Improve student learning and retention, and facilitate effective transitions to and among the many programs that Mathematics serves at LCC through a complete review, assessment, and reorganization of the developmental mathematics course sequences. (The courses in the sequences are Math 10, 20, 52, 60, 65, 70 and 95).

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

The Mathematics Division is primarily a service division. It serves to equip students with the technical and problem-solving skills required by many programs, from professional technical programs such as nursing and welding to university transfer programs such as business, physics and engineering.

We strive each year, individually and as a division, to find and implement practices that improve student learning. In particular, we:

- work to incorporate national mathematics education standards (NCTM and AMATYC).
- experiment with alternate delivery methods [open-entry/exit, variable credit, self-paced courses offered through the Math Resource Center (MRC), Computer-Based Instruction (CBI), telecourses, and now Flexible Sequence Algebra (FSA) and web-based supplements].
- have begun a project to reexamine the developmental mathematics sequences, as a whole, with regard to content and delivery.

We are now at a stage where we need to integrate these efforts in a systematic way to redesign our developmental mathematics program. The need for integration of this work into a comprehensive curriculum redesign is taking on a special urgency at this time for three reasons. First, we are facing an increase in the number of vocational/technical students in our developmental math courses, and we need to make our classes more responsive to the needs of these populations. Second, the Nursing Program recently changed its math requirement from 52 to 95. This will require immediate adjustments to the curriculum in 60, 65, and 95 to include content and notation Nursing students require. Third, we have successfully created and piloted Flexible Sequence Algebra for Math 95. The task of assessing the FSA Mth 95 curriculum and integrating FSA methods into our general curriculum is yet to be accomplished but our FSA grant funding ends in August 2006.

Whatever success we achieve in improving the learning and retention of our students will be leveraged by the programs we serve. Increasing the success rate and preparedness of our developmental math students will in turn increase the retention and performance of the students in their professional and academic programs.

#### 3. Describe the initiative

We will embrace the above opportunities and challenges by creating a small team of principal investigators with a supporting team of part-time and full-time instructors to carry out the necessary data collection, analysis and related curriculum re-design.

We plan to extend our study (begun last year) of the most effective models for the developmental mathematics programs at our sister community colleges in Oregon, and to integrate their successes with our own best-practice experience in existing programs at LCC (e.g., MRC, lecture, group activities) along with new innovations and efforts currently evolving here (FSA, better retention of non-traditional students, and web-based instruction). We will complete an aggressive study of curriculum research on how these types of courses are taught at other similar schools. We will pay attention to class structure, pedagogical methods, improvement of learning environments and student success, and methods used to assess student, class, and program success. This study will be done locally, statewide, regionally, and nation-wide, tapping colleagues through regional and national organizations such as ORMATYC, AMATYC, NCTM, and MAA. Many of our part-time faculty members also have special expertise in this area, which will be especially valuable for this study.

Specifically, we will utilize the lessons from FSA and the MRC to build more flexibility into the scheduling and delivery of our courses through modularization, flexible scheduling, trailer sections, and the use of technology, thus improving student retention and efficiency of instruction. We will utilize the special expertise of a number of our part-time faculty to ensure that our curriculum is inclusive of students having diverse learning styles. Combined with our Scope and Sequence document (developed last year) and the work of our Developmental Math Task Force and Retention Task Force (both begun this year), our experience with FSA will allow us to redesign the content of these courses, creating a more efficient and flexible format. Finally, by systematically researching and integrating best practices from other Oregon community colleges, and tapping the expertise of our own staff we will be assured of obtaining the best possible synthesis for Lane's diverse student populations and multi-layered programs.

- 4. Describe the resources needed
  - 24 credit hours of full-time faculty release + 200 additional hours of paid time for qualified part-time faculty to assist in conducting curriculum research and to collect and analyze data.
    - **24-credit** (six 4-credit) **release** backfills: \$758\*24\*1.402 = \$25,506 for six 4-credit release backfills (two each for Fall, Winter, and Spring @ level 2, step 6).
    - Funding to pay part-time instructors for research, data analysis, and related committee work. **200 hours** (@ level 1, step 1) =  $200*26.44*1.402 = \frac{$7,414}{.}$
    - Partial funding (**100 hours**) at  $\frac{7,414}{2} = \frac{3,707}{2}$ .
- 5. List the possible funding sources
  - General Fund (non-recurring).
  - Curriculum Development (non-recurring)
- 6. Org & Prog codes

- Math Org: 681001
- Math Prog: 111100
- 7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

This initiative will dramatically improve the ways in which the Mathematics Division can support Lane's core values of *learning, innovation* and *accessibility*.

#### **Mathematics Division**

**Priority #5** 

#### 1. Initiative Title

Improve Student Learning and Retention by Upgrading Classroom Technology

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

This addresses challenges identified in Chapter 3 (05/06 Unit Plan), including:

- □ Student retention;
- Difficulty in implementing national standards for math education.

The initiative will address these challenges by enhancing the quality and variety of instructional delivery, thus improving the learning environment for students.

#### <u>3. Describe the initiative</u>

National standards for mathematics education urge us to teach mathematics using multimedia and interactive instructional technologies.

A draft manuscript of AMATYC's forthcoming standards document, *Beyond Crossroads: Implementing Mathematics Standards in the First Two Years of College*, recommends that "Departments will...choose technological tools primarily for their pedagogical value...provide technology with options for interactivity between students and faculty supporting classroom activities and student learning of mathematics...provide appropriate technology for students to learn mathematics and faculty to teach mathematics courses" (page 23, draft 6.0).

Increasingly, Lane math instructors use computer and Internet based demonstrations and visual aids in teaching mathematics and in teaching technology skills that support mathematics learning. A limited number of portable projectors have been used for this practice, but in order to facilitate its practical implementation among a greater number of instructors on a more regular basis it is necessary to provide fixed multimedia projectors in each of our classrooms.

The cost of LCD projectors and installation were funded for eight of our classrooms in the previous budget cycles. Now we are requesting funding for the remaining two math first-partitioned classrooms. As per a *Todd Lutz* memo the resources needed are:

#### 4. Describe the resources needed

- 1. Smart classroom equipment (projector, VCR, PC, Elmo, etc.), instructor podium, network and control equipment with installation for building 16 **room 184**, <u>\$15,000</u>;
- 2. Smart classroom equipment (projector, VCR, PC, Elmo, etc.), instructor podium, network and control equipment with installation for building 16 **room 186**, <u>\$15,000</u>.

#### 5. List the possible funding sources

- STFAC funds (non-recurring)—if not covering Smart classroom requests, then
- General Fund (non-recurring).

#### STFAC Funds

#### **Category of request:**

Increase student access to technology.

#### How does this request fit in with other unit or college technology plans?

The Mathematics Division strives to develop an accessible learning environment for current and future students. We are systematically responding to change in technology by providing equipment in a timely fashion. We are minimizing barriers to learning by integrating appropriate technology into our courses. We *place students at the heart of what we do*, by having *current* equipment available for student learning, while minimizing the cost. We *mainstream innovation*, by replacing current equipment regularly and continually being open to new technology.

#### 6. Org & Prog codes

Math Org:681001Math Prog:111100

7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

This initiative will help the Mathematics Division promote Lane's core values of *learning*, *innovation*, and *accessibility*.

#### **Mathematics Division**

#### 1. Initiative Title

Improve Capacity for Program Assessment and Curriculum Development, and Address Student Retention, Needs of Evening Students, Professional Development, Etc. with Release Time.

#### 2. How is the initiative linked to your Program Outcomes Analysis for last year?

This addresses challenges identified in Chapter 3 (05/06 Unit Plan), including:

- □ Not enough full-time faculty to do the work of the division;
- Difficulty in undertaking systematic assessment of student learning and of division goals due to the heavy workload already resting on the full-time faculty;
- Difficulty in undertaking new curriculum development projects, again due to inadequate time for curriculum review/development;
- □ Student retention;
- □ Lack of mechanisms for data collection;
- □ Lack of funding for professional development;
- Giving evening students comparable support.

The initiative will address these challenges by creating release time for full-time faculty to work on Division goals.

#### 3. Describe the initiative

As described in Chapter 3 (05/06 Unit Plan), the main barrier to achievement of Math Division goals in assessment, curriculum development, and bringing our programs into alignment with national standards is a lack of full-time instructors. We think the best response is to add full-time faculty (as proposed in Initiative 1 above), and that involving more part-time instructors (as proposed in Initiative 3) could also help. A third approach would be to provide **release time** for some full-time instructors so they can handle more non-direct instructional work.

Several instructors and groups of instructors have identified projects they would be eager to tackle if given release time. We think the best way to facilitate this work is to establish a rotating single course (4-credit) release per term (excluding Summer), to be assigned to full-time faculty on a volunteer or rotating basis, allowing them to take on extra non-direct instructional work. An alternative would be to fund release time backfill for individual projects, prioritized as #1 - #6 below.

1. <u>Mentor and support part-time instructors</u>. Establish an on-going full-time/part-time mentoring structure by which each full-time instructor will ensure that his/her part-time instructor group is adequately informed about division procedures, and about resources available to optimize students' success. Possibly assign special responsibilities for supporting part-time instructors to one (rotating) full-time instructor, who would gather materials that are new, updated, and of interest to include in the Faculty Handbook for Full and Part-Time

Faculty, prepare for in-service meetings with part-time faculty, show and guide part-time faculty through copier procedures, mailroom, supply area, paper area, manipulatives, who to get books and calculators from, etc., and answer questions or concerns from part-time faculty throughout the year. Note: The Mathematics Division utilizes the services of 42 to 50 part-time faculty each year.

2. Establish and maintain an on-going instructors' forum ("colloquium" or "math enrichment seminar") for improving teaching and learning in the Mathematics Division and (in some cases) across campus. Schedule and promote open meetings to discuss math pedagogy, national standards for math education, instructional resources, etc.

3. <u>Student retention</u>. A team of full-time/part-time instructors will research and study the factors contributing to student retention in the current learning environment and make recommendations for improvement to the Division.

4. <u>Math anxiety course</u>. Develop and teach a two-week (could be 10 sessions) course on overcoming math and test taking anxieties. This could be a "summer institute" or a pre-fall term class to help students get a jump-start on the academic year.

5. <u>Study breadth and depth of offerings as these relate to teaching philosophy and choice of texts</u>. A team of full-time/part-time instructors will research the breadth and depth of offerings at other community colleges (inside and outside Oregon) and prepare a comparative report for the division.

- 4. Describe the resources needed
  - □ Annual 12-credit (three 4-credit) release backfills: 758\*12\*1.402 = 12,753 for three 4-credit release backfills (one each for Fall, Winter, and Spring @ level 2, step 6).

#### ~ OR INDIVIDUAL PROJECTS ~

- 0. Annual 4-credit release backfill for work on full-time/part-time mentoring and part-time faculty
  - support. Recurring **\$4,251** for a 4-credit release backfill.
- 0. Annual 1-credit release backfill for coordinating math "colloquium" or "enrichment seminars".

Recurring **\$1,063**.

- 0. One time 4-credit release backfill for work on student retention. Non-recurring **\$4,251**.
- 0. One time 1-credit release backfill for work on breadth and depth, text, ideology. Non-recurring

\$1,063.

5. List the possible funding sources

General Fund (recurring or non-recurring). Curriculum Development (non-recurring) [for project #4 above only].

This initiative could be partially funded by choosing projects from the numbered list (arranged by priority) at a minimum one-time cost of \$1,063 (Priority #4 from list above).

6. Org & Prog codes

Math Org:	681001
Math Prog:	111100

7. How does this project articulate with the college's vision, mission & goals and contribute toward meeting the President's/Board's approved goals?

Greater involvement of part-time instructors will help us achieve our assessment and curriculum development goals in support of Lane's vision and mission of providing quality educational opportunities.

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V P/AV P/ED Responsible	Division/Unit	Division Priority	Date of Initiative	Expected completion	Initiative Title	Resource Description	\$\$	Recurring / Nonrecurring	Payroll (w/OPE)	Equipment	Space	Other	Existing	New Gen Fund	Carl Perkins	Curr Dev	Recruitment	Other
PL	MATH	1	9/11/2006	ongoing	Improve Capacity for Assessment, Curriculum Development, and Implementation of Standards, and Address Difficulty in Finding Qualified Part-Time Faculty and Substitutes by adding Full-Time Faculty	Mathematics Instructor (1.0 FTE contracted faculty. Payroll with OPE is <u>\$72.971</u> , at Level 2 Step 6); Mathematics/Engineering Instructor (1.0 FTE contracted faculty. Payroll with OPE is <u>\$72.971</u> at Level 2 Step 6).	\$145,942	R	x					x				
PL	MATH	2	9/11/2006	ongoing	Improve Student Retention and Improve Capacity for Data Gathering and Assessment through increased Technical Support and Tutoring	General Fund: Two 0.5 FTE Instructional Support Specialists, (both @ Level 8 Step 4 with OPE) <u>\$40.973</u> ; One 1.0 FTE Tech Support Person (@ Level 13 Step 4 with OPE), <u>\$38,609</u> . If STFAC Funds (Note; begin date is 9/01/06): Two 1039 @ $$14.05*1039*1.402$ = \$20,467*2 = <u>\$40,934</u> .	\$120,516	R	x					x	;	ĸ		
PL	MATH	3	9/11/2006	ongoing	Involve Part-Time Instructors by Compensating for Data Analysis, Curriculum Research and Related Committee Work	Annual funding to pay part-time instructors for research, data analysis and related committee work. 200 hours (26.44), 200*26.44*1.402 = $\frac{57,414}{1.402}$ . Partial funding (100 hours) at \$7,414/2 = $\frac{53,707}{1.402}$ .	\$7,414	R	x					x				
PL	МАТН	4	9/11/2006	6/30/2007	Improve student learning and retention, and facilitate effective transitions to and among the many programs that Mathematics serves at LCC through a complete review, assessment, and reorganization of the developmental mathematics course sequences. (The courses in the sequences are Math 10, 20, 52, 60, 65, 70 and 95)	**24-credit (six 4-credit) release backfills: $758*24*1.402 = 525.506$ for six 4-credit release backfills (two each for Fall, Winter, and Spring @ level 2, step 6).	\$25,506	Ν	x					x				

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VP/AVP/ED Responsible	Division/Unit	Division Priority	Date of Initiative	Expected completio	Initiative Title	Resource Description	\$\$	Recurring / Nonrecurring	Payroll (w/OPE)	Equipment	Space	Other	Existing	New Gen Fund	Carl Perkins Stud Tech Fee	Curr Dev	Recruitment	Other
PL	МАТН	4	9/11/2006	6/30/2007	Improve student learning and retention, and facilitate effective transitions to and among the many programs that Mathematics serves at LCC through a complete review, assessment, and reorganization of the developmental mathematics course sequences. (The courses in the sequences are Math 10, 20, 52, 60, 65, 70 and 95)	Funding to pay part-time instructors for research, data analysis, and <u>related</u> committee work. 200 hours (@ level 1, step 1) = $200*26.44*1.402 = \frac{57,414}{1.402}$ .	\$7,414	Ν	x					x		x		
PL	MATH	5	7/1/2006	6/30/2007	Improve Student Learning and Retention by Upgrading Classroom Technology	<ol> <li>Smart classroom equipment (projector, VCR, PC, Elmo, etc.), instructor podium, network and control equipment with installation for building 16 room 184, <u>\$15,000</u></li> <li>Smart classroom equipment (projector, VCR, PC, Elmo, etc.), instructor podium, network and control equipment with installation for building 16 room 186, <u>\$15,000</u>.</li> </ol>	\$30,000	N		x					;	ĸ		
PL	MATH	6	9/11/2006	ongoing	Improve Capacity for Program Assessment and Curriculum Development, and Address Student Retention, Needs of Evening Students, Professional Development, Etc. with Release Time	<ul> <li>Annual 12-credit (3 x 4-credit) release backfill for division work. <u>\$12,733</u> for three-4 credit release backfills (one each for Fall, Winter, and Spring). ~OR INDIVIDUAL PROJECTS~:</li> <li>1. Annual 4-credit release backfill for work on full-time/part-time mentoring and part-time faculty support. Recurring <u>\$4,251</u> for a 4-credit release backfill.</li> <li>2. Annual 1-credit release backfill for coordinating math "colloquium" or "enrichment seminars". Recurring <u>\$1,063</u>.</li> <li>3. One time 4-credit release backfill for work on student retention. Non-recurring <u>\$4,233</u>.</li> <li>4. Non-recurring <u>\$1,063</u> for one time 1-credit release backfill for work on breadth and depth, text, ideology.</li> </ul>	\$12,733	R	x					×		×		