Las Positas College
PROGRAM PLANNING UPDATE (Instructional) AY 2015-2016

Name of Program	Division	Author(s)
Mathematics	STEMPS	Jason Morris & Kristine Woods

INSTRUCTIONS:

1. This Program Planning Update covers the academic years 2012-2013 and 2013-2014.
2. The planning should be for the academic year 2015-2016.
3. Use the Save As feature in Word to save this template with your program name, so that you do not overwrite the original template. Please use your program's catalog rubric and this format when naming your document:

   Rubric INS PPU 15_16
   e.g., ESL INS PPU 15_16
4. If the document displays in large type with only File, Tools, and View tabs at the top of the page, select **View, Edit Document**. You will then be able to type where it says "Click here to enter text" and you will be able to click on the check boxes to select them.
5. In each section, click in the box under the instructions and fill in your information. The box will expand as you type. If a section is not pertinent to your program enter N/A in the box; do not leave it blank.
6. When you have completed the form, run the spell-checker (**click inside the text in the first box**, then click on the Review tab and find Spell-Check in the far left corner of the ribbon).
7. Please address your questions to your Program Review Committee representatives or the PR Chair Karin Spirn. Concerns, feedback and suggestions are welcome at any time to PRC representatives or co-chairs.
8. Instructions for submitting your Program Planning Update will be available at the start of the fall semester.

I. STUDENT LEARNING OUTCOMES

Review of academic years 2012-13 and 2013-14

A. SLO Assessment Review

Review your program's SLO assessment results through spring 2014 and respond to the following questions.

1. Discuss how assessment results indicate success in student learning. Identify results that indicate a need for improvement.

The Math Department, full time and part time faculty members, gathered on Friday October 3 for our annual "Closing the Loop on SLOs". Seventeen members of the department participated in the closing the loop process this year as a department, while even more participated on an individual level. This meeting is designed to encourage department-wide conversations around what our students are learning and departmental initiatives to improve instruction and student learning. The goal is have all faculty aware of the

departmental needs, beyond their own classroom, and participate in the efforts to improve. Often the individual learning from assessing and analyzing SLO data, when shared out to the department, will spur other individuals to learn from their colleague's process. The conversation was recorded and summative notes of the conversations for each course, including analysis of the data and conversations of what actions are being considered as a result of the data, is posted on the Math Department's Blackboard site for all math faculty to access and also submitted to the college's wiki-site for prosperity.

All of our courses have assessments and assessment results and are designed to be assessed each and every semester a course is offered and in every section that it is offered. However, many of our classes have a large number of sections that are taught by part-time faculty who are not participating in the SLO Process. We currently have 11 full-time faculty members and 32 part-time faculty members. The department has submitted to the college a request for three full-time math faculty positions, two of them replacements. We hope to encourage more participation in the SLO assessment and analysis process. During this meeting we started to discuss and act upon ways we can streamline the SLO Assessment and "Closing the Loop" process. As a result of this meeting, on our Departmental Blackboard site everyone now has access to course specific SLO information, including:

- SLOs for each course (always available on Math Department Website)
- Directions for how to login to eLumen
- How to do "direct entering" of SLO assessments for non-major courses
- Sample SLO Assessment questions have been posted in Course Folders. We hope these will become living documents that evolve over time - everyone is encouraged to send their assessment questions update the documents on Blackboard!
- Tally sheets to make entering "direct assessment results" easier
- Full time faculty is offering to enter in data for part-timers!

Some of the highlights of how assessment results indicate success in student learning was evident in our discussions around Math 107: PreAlgebra, Math 34: Business Calculus, Math 42 and 44: Statistics with Probability courses. Especially in our Math 107 course, taught by a full time faculty member this last year had strong results which we believe were due to the innovative and details course materials that were developed to support student learning in this course.

Some of the highlights of how assessment results indicate a need for improvement was evident in our discussions around Math 38: Trigonometry, Math 20: Pre-Calculus, Math 1: Calculus and Math 2: Calculus. These courses are very difficult, fast-paced courses and a gateway for STEM students. Discussions around the SLO data in these courses has led to new departmental initiatives to start conversations this year and into next around rethinking the curriculum, pacing and textbooks for these courses.

2. Discuss how distance education courses assessment results compare to face-to-face courses, if applicable? (*Respond to this question if your program has distance education courses*.)

The Math Department offers basic skills classes in a variety of modes: full-paced lecture, half-paced lecture, self-accelerated/self-taught courses in the Math X Program, and in a variety of distance education modes such as hybrid or "flipped model" (meeting once a week and the rest online) and online (meeting on campus only for examinations).

The results of the SLO Assessments in these online and flipped/hybrid courses varied widely based on who the full-time faculty member was. Two of the three instructors tended to have consistent results with each other in their on-line courses. They had low retention rates in their online sections (remember, our math SLO assessments occur in the final exam) but an above average proficiency results than the average non-distance education sections. We believe that this occurred because by the W-date students were very aware of whether the online mode was appropriate for them as learners and those who were retained were strong students and very proficient in the concepts.

3. Discuss how your discipline, or someone in your discipline, made changes in pedagogy as a result of SLO assessment results.

One example of many is Teri Henson. Teri made changes in the lab assignments and in-class activities used in her Math 55 class, after students in her sections performed poorly on the SLO assessments for the Multiple Representations and Communications SLOs. In the next two semesters, proficiency improved with respect to the Multiple Representations SLO, but remained about the same with respect to the Communications SLO.

4. Give an example of a change in the number of units and/or lab hours based on assessment data, if applicable.

N/A

5. Did your program discover the need for additional resources (for AY 2015-16) based on the assessment results? YES ☐ NO ☒

If yes, please explain.

At Las Positas College 73% of our students place into a basic skills math course. While the success and retention rates of students in these basic skills courses are consistent with the state averages, it is well below what we want to see. Our department also wants to increase our support for STEM students and transferring students to complete their math goals. Our math SLO data supports need for increased supports. Kristy Woods is using a sabbatical leave this year to implement Math Jam, starting January 2015, to provide support to students in achieving their math goals. The Math Department has sought funding from the Basic Skills Committee, a Career Training Grant (CTE) to support this new program.

Math Jam is FOR ALL STUDENTS – to help students achieve their math goals – from preparing to re-take the Math Placement Test to preparing for their upcoming math courses. Math Jam will be designed to help them complete their goal of a degree or transfer faster, while introducing them to a community of support and FREE resources to help them succeed at LPC. During Math Jam, students will receive work in a self-paced environment on the math THEY need support on. [Think 30 tutoring hours PRIOR to the start of the semester and if the students are interested, PRIOR to re-taking the Assessment (Placement) Exam, which will be offered to all Math Jam participants on Friday afternoon!] This program will be FREE TO ALL LPC STUDENTS and will provide students with everything they need -- including FOOD and supplies -- students just need to come ready to learn....

B. **SLO Process**

1. Describe how your program reaches consensus when writing student learning outcomes that are used in multiple sections.

   My program offers only one section of each course. ☐

The Mathematics department holds meetings with the full time faculty devoted to writing SLO's. We work collaboratively in subgroups to create them and then they are presented to the entire department. Once shown, some adjustments are typically made to ensure that the entire department is satisfied with each learning outcome.

2. Describe how your program reaches consensus when developing and evaluating assessment results for student learning outcomes that are used in multiple sections.

   My program offers only one section of each course. ☐

The math department's SLO assessment questions are not standardized. Each instructor is told to either write their own lab assignment and/or final exam questions to assess their course's SLOs. To promote consistency across the sections, we do however provide both full-time and part-time faculty the following for each course:

- Course Information sheets, posted on the Department website, with important information for teaching the course. Information includes content to be covered, SLOs for the course plus directions on when to assess, suggested math lab assignments, items to be included on the syllabus, etc.
- Course Coordinators who are full-time faculty members who are there to provide all faculty with course specific support, such as answering questions, mentoring, providing sample pacing, syllabi and sample materials (final exams, math lab assignments, collaboratives, etc)

NEW Blackboard departmental site with the following:

- SLOs for each course (always available on Math Department Website)
- Directions for how to login to eLumen
- How to do "direct entering" of SLO assessments for non-major courses
- Sample SLO Assessment questions have been posted in Course Folders. We hope these will become living documents that evolve over time - everyone is encouraged to send their assessment questions update the documents on Blackboard!
- Tally sheets to make entering "direct assessment results" easier
- Course Coordinators are offering to enter in SLO data for part-timers!

3. What methods does your program use for documenting SLO related discussions? Check all that apply.

Program emails ☒

Program meeting minutes/agendas ☒

Blackboard/other website ☒

Other (please describe): ☐

Click here to enter text.

II. PROGRAM ANALYSIS

Review of academic years 2012-13 and 2013-14

Review the student data provided by the Office of Institutional Research and any additional data your program has collected. Then respond to the sections below.

A. **Data Review**

If applicable, summarize any ***changes*** in your program's data since the Annual Program Review of 2011-12 or observed significant trends that will affect program planning or resource requests.

NOTE: Only include changes that affect student learning, program planning or resource requests.

Success and Completion rates are fairly consistent from 2009 to 2014 in both Fall and Spring semesters. Due to the high fill rates (97% or higher for all semesters) and current demand for FTES, it seems reasonable to offer more high-enrollment math courses in both basic skills and transfer.

More specifically, the data reflects that we have offered more transfer level math courses and the data indicates that we have had an increase of students with transfer as a goal. With this in mind, as a department we would like the see the college discuss how to set up a clear pathway through the math courses, where success in one course guarantees access into the next math course. We would also like to improve our student support and outreach in regards to assessment (placement) into a math course at Las Positas. Currently there are three different ways to pace into a math course at Las Positas: through EAP scores, AP Calculus Exam scores, or Accuplacer. The department would like to work with Student Services and Basic Skills Committee to improve marketing and supports around taking the Accuplacer exam, by improving preparation and review support and validate the current cut scores and margins with multiple measures.

B. **Program-Set Standard for Successful Course Completion Rates**

Your program-set standard for successful course completion rates (i.e., number of grades of 'A', 'B', 'C', 'CR', and 'P' divided by total grades) is calculated by averaging successful course completion rates for your program over a five-year period and then multiplying that result by 95%.

In order to determine if you have achieved your program-set standard for successful course completion rates for a given year (e.g., 2012-13), you will need to assess if your program met or exceeded 95% of the previous 5-year average (i.e., 2007-08 through 2011-12) for your program; these calculations are done for you (*see links below*).

1. What was your program-set standard for successful course completion rates in 2012-13 and 2013-14?

	Program-Set Standard for successful course completion	**Did you meet your program-set standard? (Yes or No)**
2012-13	http://tinyurl.com/mmfwqfe	
2013-14	http://tinyurl.com/q6dah55	

2. If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests.

We met the standard for both years, but this fillable form does not allow me to type in "Yes" into question 1.

C. Curriculum Review

1. Review your program's current curriculum. If applicable, describe any internal or external impacts which will affect your curriculum plans for 2015-16.

The department would like to start conversations this year around a complete restructuring of our Trigonometry, Precalculus, and Calculus courses. This will be accomplished through textbook selection committees and potentially reworking the course outlines if the department deems that necessary. Also Teri Henson is on sabbatical leave to develop an alternative pathway course to Statistics that would be equivalent to Intermediate Algebra.

D. Human Resources

1. Have there been changes in the number of full-time or part-time faculty associated with your program since the Annual Program Review of 2011-12? If yes, briefly describe the changes.

We currently have one full-time position vacancy (Dale Boercker) and this year Cindy Keune has turned in her letter of retirement starting at the end of Spring 2015. In addition, we expect another full time retirement within a year.

This Fall semester alone we have had to hire six new part time faculty members in order to staff our math courses. This brings the total part time faculty number up to 32. Finding, mentoring and evaluating part-time mathematics faculty is a daunting task. Every semester we are scrambling to recruit and hire new part-time faculty.

2. Have there been changes in the number of full-time or part-time classified staff associated with your program since the Annual Program Review of 2011-12? If yes, briefly describe the changes.

Click here to enter text.

3. If applicable, describe how the changes indicated in 1 and 2 have impacted student learning?

Mathematics is a huge program at LPC. We have served over 29.8% of the students each semester since Fall 2011. We address basic skill needs and transfer needs. There are several initiatives in the math department that require full-time math attention.

• The Integrated Learning Center is putting stress on all our faculty to try to meet student's needs. This is a wonderful facility and we need to have confident, consistent help available for our students.

• The Math X program is undergoing a revamping. This requires massive full-time faculty input.

• Closing the loop on Student Learning Outcomes for the multiple levels and variety of math courses we teach is a daunting task without full-time faculty help as we have receive little part-time faculty participation.

• One full-time faculty member is on sabbatical to determine an alternative pathway through the basic skills pathway. This will require many additional full-time faculty members input and curriculum development to be implemented successfully.

• As stated previously Math Jam will be starting in the Spring 2015 and offered twice a year to students in order to to help them achieve their math goals - from preparing to re-take the Math Placement Test to preparing for their upcoming math courses. This will require the support of the full time math department.

• Success and retention in mathematics is a constant concern that needs to be addressed by full-time faculty

• Service courses are being developed for the Trades (Automotive and EMT)

…

The list goes on and on. All the math faculty are working on college and department items aside from their teaching load and we just can't get it all done. As we continue to grow our needs grow as well. As wonderful as our part-time faculty is many of the things that need doing they cannot do. We need help.

E. Other information pertinent to the program

Click here to enter text.

III. PLANNING

A. Planning Update

Summarize your program's plans, initiatives, and objectives accomplished since the Annual Program Review of AY 2011-12 (include accomplishments for the academic years 2012-13 and 2013-14).

Part of the Math Department's mission statement is to provide assessment-based instruction, in multiple modes of deliver and support mechanisms to foster student success in our diverse student body.

- In the 2011-12 Program Review, the department listed several new and ongoing initiatives that we have focused on in 2014-15 and some not listed in our last Program Review.
- Teri Henson is currently on sabbatical leave to develop a non-stem pathway through Algebra.
- Kristy Woods is currently on sabbatical leave to work on implementing successful algebra review support at Las Positas College. After the 2011-12 Program Review was written, she attended a conference and learned about Math Jam and has used the Fall to implement Math Jam at LPC starting in January 2015. Math Jam is an award-winning, intensive one-week program the week prior to the start of Spring and Fall semesters, in January and August. Math Jam is for ALL students, to help them achieve their math goals - from preparing to re-take the Math Placement Test to preparing for their upcoming math courses. Math Jam is designed to help students complete their goal of a degree or transfer faster, while introducing them to a community of support and FREE resources at LPC.

- Math X Program mode of offering basic skills math courses has dramatically changed this year.
- Course scheduling has changed so that more homogeneous groups students are cross-listed (Math 107 with Math 71; Math 65 with Math 55)
- Course times have changed to reflect the same contact hours as the equivalent course taught in a lecture format
- Courses now have required math lab assignments, designed to have students engage in the content in a more rigorous way prior to assessments
- Online interface has changed to highlight how students should be learning the material and fostering best learning practices.
- Student tutors are embedded in every section
- New Math X Instructor Evaluation and feedback forms have been successfully updated and approved by the FA to reflect the use of computers and the unique way in which students interact with the materials and the instructor in the Math X mode.
- New Math 40: Statistics and Probability course was approved as is offered for the first time this Fall 2014. This four unit course replaces the deactivated 3 and 5 unit Probability and Statistics courses.
- This year we have had to hire six new part time faculty members in order to staff our math courses. This brings the total part time faculty number up to 32. Finding, mentoring and evaluating part-time mathematics faculty is a daunting task. Every semester we are scrambling to recruit and hire new part-time faculty.
- Alignment efforts with local high school math departments continues. This Fall we met together again to discuss pathways through our college math courses, assessment and initiatives to improve our assessment process.

B. **Program Planning for AY 2015-16**

As appropriate for your program, please address each of the following areas. For each area, describe your program's plans, initiatives, and objectives for the academic year 2015-16. Focus on how planning will impact student learning or the student experience at Las Positas College.

1. SLO assessments. NOTE: 100% of courses in your disciplines should be assessed a minimum of once every two years. As a guideline, each program should be assessing 25% of its courses every semester.
    a. How does your program plan to use assessment results for the continuous improvement of student learning? Examples might include (Your responses may vary.):

- changing number of units/lab hours
- changing pedagogy/curriculum
- changing assessments

As stated above in Part A, many of our initiatives are ongoing, such as creating/offering an alternative to Intermediate Algbera, improve supports for our math students to achieve their goals (Math Jam), continue to streamline/improve the math x mode of offering basic skills math courses, improve the assessment process and pathways through math courses and work with local high school departments on alignment and marketing. In addition to these, the department would like start conversations around our STEM courses of Math 38: Trigonometry, Math 20: PreCalculus, and the Calculus sequence (Math 1, 2 and 3). We will discuss changing the number of units of a course, pedagogy/curriculum, and/or the assesments themselves based on assessment results for student learning. For example our current Precalculus course (Math 20) has a two week trigonometry review as part of its curriculum. It has been theorized that we could increase our students' proficiency ratings by restructuring our Math 38 (Trig) and Math 20 classes into Precalculus I and Precalculus II so there is less overlap in curriculum between the two courses. The belief is that there would be more time for the instructor to teach about the SLO topics, and this extra time would make it easier for students to absorb the material.

b. Have your assessment results shown a need for new SLOs? YES ☐ NO ☒
If yes, in the table below, state the number of courses in your program and estimate the percentage of courses for which your program will write new SLOs.

Number of Courses	**Estimated Percentage for which new SLOs will be written**
Click here to enter text.	Click here to enter text.

c. What percentage of courses will your program assess in the next academic year (2015-16)?

100%

d. In order to budget to pay part-time faculty to work on SLOs during the academic year 2015-16, estimate the number of part-time faculty in your program and the percentage of them who are likely to participate in the SLO process in 2015-16.

Estimated Number of Part-time faculty	Estimated Percentage who will participate in the SLO process
32	30%

4. Curriculum

   a. Considering the criteria of relevance, appropriateness, achievement of course objectives, currency, and future needs and plans, will your program be making any changes to **existing** curriculum to address any of these criteria? If yes, please describe the changes and your program's reasons for the changes. Please provide any data which supports your program's reasons for the changes to your curriculum. Include a discussion of how the changes will improve student learning.

Many changes to curriculum were made in 2013-2014. This year we will be focusing on starting conversations around our STEM courses of Math 38: Trigonometry, Math 20: PreCalculus, and the Calculus sequence (Math 1, 2 and 3). We will discuss changing the number of units of a course, pedagogy/curriculum, and/or the assesments themselves based on assessment results for student learning as stated in section B.1.

   b. Will new curriculum be submitted to the Curriculum Committee for the academic year 2015-2016? If yes, please describe briefly what new curriculum is planned and the rationale for the new curriculum. Please provide any data which supports your reasons for the new curriculum. Include a discussion of how the changes will improve student learning.

When the math proficiency requirement was raised to the level of Intermediate Algebra the framers of the Title 5 language intended allowing mathematics departments to develop alternatives to the traditional course. For several years the department has wanted to develop an alternative course, one that will better serve our non-STEM students by providing them with solid quantitative reasoning skills and an understanding of mathematical ways of thinking. As part of her sabbatical research and development project, full-time Mathematics Department faculty member Teri Henson will be drafting curriculum for an alternative 4-unit course at the level of Intermediate Algebra which students can take to satisfy the mathematics proficiency requirement and/or as a prerequisite to selected transfer level courses (Statistics, Mathematics for the Liberal Arts, Finite Mathematics). The new course will incorporate the Common Core best practices for mathematics and will be intended for non-STEM majors. While there will be some overlap with content covered in the traditional Intermediate Algebra course, the course will also include mathematics which is relevant to everyday life. Continuing low success rates in basic skills, troublesome SLO data, the implementation of the Common Core State Standards and on-going state-led initiatives to improve completion and transfer are driving

forces behind the proposed new curriculum.

5. General Program Planning

Use this area to describe any program plans, initiative, or objectives your program wishes to accomplish in 2015-16 and their impact on student learning or the student experience. Focus on what the plans are and how they are to be accomplished (not resources needed).

Math 47 – Math for Liberal Arts is active Fall 2015. We look forward to collecting data for success and student satisfaction of this class and possibly offer more sections.

Math Jam – We plan to pilot this idea in the spring of 2015, and if this is successful we would like to try to institutionalize by the end of 2016.

Revise Calculus and pre-Calculus (38, 20) Sequences: We have used the same textbook for our calculus sequence for 13 years, and feel we need to consider other textbooks. We would like to revise the curriculum to (hopefully) avoid overlap in Math 2 & Math 3 as long as it maintains articulation.

Department faculty member Teri Henson will be making recommendations to the Mathematics Department regarding the structure and content of the basic skills sequence. In addition to the new course described in III.B.4(b) above, the department will be considering:

- A restructuring of the pre-Intermediate Algebra courses (by re-aligning some of the content).
- Models for offering basic skills courses in accelerated mode (e.g., offering Pre-Algebra in the first 8 weeks of the semester, followed by Elementary Algebra in the second 8 weeks).
- A new Technical Mathematics pathway to math proficiency (possibly transfer).

Research into this is still being conducted, but preliminary investigation suggests it would be possible to create a sequence of two 3 or 4 unit courses which would incorporate all of the content of the current Math 71 Math for Technicians course, as well as some additional algebra topics. A student taking the sequence would satisfy the math proficiency requirement for the associate degree and the technical math requirements of their major at the same time. Typically, a welding or automotive technology student who wishes to get an associate degree must take both Math for Technicians (3 units, required for the major) as well as Intermediate Algebra (5 units). Often these students end up needing to take Elementary Algebra as well (another 5 units). As a result, few welding and automotive students pursue getting an associate degree. By combining core algebra topics and technical math, we can provide a shorter pathway, with fewer units, for those welding and automotive students who wish to get a degree.

These initiatives will provide more choices for students and alternative ways to meet the mathematics graduation and transfer requirements. By reducing the number of units of mathematics that students must take to complete their degree requirements or transfer and/or by reducing the number of semesters needed to complete the required math sequence, it is more likely students will persevere and succeed in meeting their goals.

IV. Resource Requests for AY2015-16

Complete all areas that apply to your program's resource needs for 2015-16 (**not all areas apply to all programs**).

For each request, in the rationale section:

- Describe how meeting this request will improve student learning or the student experience.
- Provide any data or evidence which supports this request.

A. Enrollment Management

1. Request: New FTEF. Indicate amount being requested.

Due to the high fill rates (97% or higher for all semesters) and current demand for FTES, it seems reasonable to offer more high-enrollment math courses in both basic skills and transfer.

2. Rationale for request(s).

Specifically, the department would like to try and offer some sections at an accelerated pace – 8 weeks instead of 17 weeks – so that the department can gather data on how interested and successful students would be in a pace that allowed them to complete two math courses in a single semester, reducing the time it takes to complete their math sequence significantly. For example, offer in a single semester 8 weeks of Elementary Algebra followed by 8 weeks of Intermediate Algebra. [Eight weeks is the length of summer school.]

C. Human Resources

1. Request: New or replacement faculty position(s).

The department requested 3 tenure-track math faculty positions. Two of the positions would be replacement (Dale Boercker and Cindy Keune – retiring Spring 2015) and new

position.

2. Rationale for faculty position request(s).

We currently have 11 full time faculty and 32 part time faculty. It is a huge struggle to staff, evaluate, complete the SLO assessment cycle and move forward with new and ongoing initiatives.

3. Request: Classified staff position(s) (for example, new or replacement classified staff position(s) or increasing classified hours/position level).

We still have a vacant Math X Instructional Assistant position who would act as the coordinating IA between faculty and staff.

4. Rationale for classified staff position request(s).

Click here to enter text.

D. Financial

1. Request: Maintenance of, or increase in, existing program budget (e.g., for supplies, etc.).

$1,000

2. Rationale for financial request(s).

In the school year 2011-2012 our budget was dramatically reduced to $500 per school year from $1000 in previous years. This budget has been used primarily to purchase supplies for the Math X program (paper, printer cartridges, pens, etc.) and to provide whiteboard markers and supplies for the faculty in lecture classes. Occasionally, it has been used to for marketing or to purchase software or software upgrades. The $1000 budget had been sufficient for our needs and we were over budget in 2013 – 2014 year.

E. Technology (software only – discuss hardware in section E)

1. Request: Upgrade existing software or purchase new software.

Click here to enter text.

2. Rationale for technology request(s).

Click here to enter text.

F. Facilities, Equipment (include technology hardware), and Supplies

1. Request: Renovation or upgrade of existing facilities or new facilities.

New Classroom building must have lecture and computer-classrooms with 45 person capacity. In addition, we are waiting on the new computer lab in Building 700 to come online.

2. Rationale for facilities request(s).

There are not enough classroom or computer rooms on campus to meet our staffing needs. We are currently utilizing computer rooms from 8am – 9:45pm at night in order to offer enough sections according to student enrollment demands. We can not offer more classes to meet our existing and future needs without more classrooms and computer-classrooms.

3. Request: Upgrading of existing equipment or purchase of new equipment.

15 headphones

4. Rationale for equipment request(s).

Fifteen Headphones are needed for students to listen to video lectures in the Math X, independent learning lab. Courses taught in this lab include basic skill classes: Math 107A, Math 107B, Math 71A, Math 71B, Math 65A, Math 65B, Math 55A and Math 55B. Increasingly students are taking advantage of the online material to support their learning of the mathematics. The video lectures are a powerful way to support student learning in our math x program.

5. Request: New supplies

Click here to enter text.

6. Rationale for supplies request(s).

Click here to enter text.