May 10, 2013

To: Ryan Girard, Kaua'i CC

From: John Morton, Vice President for Community Colleges

Subject: FY 2013-14 Innovative Developmental Education Initiatives

The UHCC system is pleased to support the project, "One-Room Schoolhouse," in the amount of $20,730.00. The project "creates a One-Room-Schoolhouse (ORS) in which more than one class would be offered at the same time, in the same room, with the same instructor" with the goal of increasing student enrollment to justify offering summer courses and thereby giving students the opportunity to complete a developmental math class over the summer. The reference number for your project is M-2.

The project funding is subject to the following requirements:

1. Proposer submit a revised proposal for approval by June 1, 2013, which includes explicit outcomes for conference attendance, strengthened scalability and sustainability plans, and provides baseline and success rates. The revised approval should be emailed to Gayle Ishii (gaylei@hawaii.edu) with a copy to Suzette Robinson (suzetter@hawaii.edu) and Laurie Kuribayashi (laurieak@hawaii.edu).

2. Implementation will occur in AY 2013-14.

3. All funds must be expended, not just encumbered, by June 30, 2014.

4. The project final report (in the form attached) must be submitted in electronic form to Gayle Ishii (gaylei@hawaii.edu) with a copy to Suzette Robinson (suzetter@hawaii.edu) and to Laurie Kuribayashi (laurieak@hawaii.edu) not later than September 30, 2014.


Tuition and Fee Special funds will be transferred to your campus for this project after July 1, 2013.

Based on the information provided in your final report, funds may be re-purposed. The project proposal and reports will be published on the UHCC website.

Thank you for your work in developing innovations to increase student success in developmental education. We look forward to working with you as the project unfolds.

cc: Helen Cox, Chancellor
    Peter Quigley, AVPAA
    James Dire, VCAA
    Brandon Shimokawa, VCAS
    Gregory Enos, Fiscal Officer
    Suzette Robinson, Director for Academic Programs
    Gayle Ishii, Academic Support
    Lisa Tsuchako, Budget Specialist
    Laurie Kuribayashi, Developmental Education Committee Chair

Att: Final Report template
UHCC Developmental Education Project Proposal Form -- AY 2013-2014
Deadline for Proposal Submission: 12:00 p.m. on February 21, 2013

<table>
<thead>
<tr>
<th>Proposal Section</th>
<th>Pts</th>
<th>Proposal Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Summary</td>
<td>3</td>
<td>Concise description of project, including the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Actions to be taken and resources needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Data supporting need for project (no attachments)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Explanation of how project reduces time to certificate or degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prior year’s outcomes for continuation projects</td>
</tr>
<tr>
<td>2. Effectiveness Indicators/Outcomes and Benchmarks</td>
<td>3</td>
<td>Specific explanation of how project’s effectiveness will be assessed, including the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Effectiveness indicators/outcomes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Benchmarks (numeric and percentage)</td>
</tr>
<tr>
<td>3. Background Research</td>
<td>1</td>
<td>Concise explanation of background research (with citation information) for project</td>
</tr>
<tr>
<td>4. Relationship to Campus &amp; UHCC Strategic Plans</td>
<td>1</td>
<td>Discussion of project’s relationship to campus &amp; UHCC strategic plans, including the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Specific references to and copies of applicable sections of plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Brief explanation of relationship between project and referenced sections</td>
</tr>
<tr>
<td>5. Scalability</td>
<td>1</td>
<td>Discussion of project’s scalability (on campus and/or to other campuses)</td>
</tr>
<tr>
<td>6. Sustainability</td>
<td>1</td>
<td>Discussion of project’s sustainability (after UHCC project funding ends)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Also required:
- Executed Signature Page (see Attachment 1)
- Budget Summary (see Attachment 2)

Proposals which do not have both a fully executed signature page and a budget will not be reviewed.

Deadline for Proposal Submission: 12:00 p.m. February 21, 2013

Please email your completed proposal (with a scanned copy of the executed signature page) to Gayle Ishii (mailto:gayiel@hawaii.edu) with a copy to Suzette Robinson (suzetter@hawaii.edu) and Laurie Kuribayashi (laurieeak@hawaii.edu) on or before the deadline noted above.

Your campus may have internal deadlines for the required review by your campus institutional research, business, and human resources offices and your campus administration. Please confer with your campus UHCC Developmental Education Committee member prior to submission to confirm any campus requirements and deadlines and to ensure your proposal is complete and meets the guidelines.

Review by UHCC Developmental Education Committee and UHCC Administration

Proposals received by the deadline noted above will be reviewed by the UHCC Developmental Education Committee, using the Project Proposal Rubric Form (see attached). After the UHCC Developmental Education Committee's review, proposals will be forwarded to UHCC Administration for additional review. Proposals may be returned to proposers for revision and resubmission prior to review by UHCC Administration. Final approval comes from VP Morton.

Funds for proposals accepted by UHCC Administration for funding will be available upon receipt of the award letter and must be expended, not just encumbered, by June 30, 2014. Accepted proposals will be published on the UHCC website.

Proposers whose proposals are funded are required to submit year-end reports (see attached) which will also be published on the UHCC website.

PROJECT PROPOSAL FORM (for completion and submission)

Attachment 1: Signature page
Attachment 2: Budget Summary

PROJECT PROPOSAL RUBRIC FORM (included for informational use only)

PROJECT PROPOSAL YEAR-END REPORT FORM (included for informational use only)
1. Project Summary (3 points)

Actions to be taken

Kauai CC currently offers five different, semester-long, developmental math classes:

Math 21: Basic Math & Pre-Algebra. No minimum compass score (open enrollment) (4 cr)
Math 22: Pre-Algebra similar to Math 21 but with no Basic Math component. Minimum Compass score needed (3 cr)
Math 24: Elementary Algebra I (3 cr)
Math 25: Elementary Algebra II (3 cr)
Math 26: Elementary Algebra (5 cr)
When the UHCC system began charging academic year rates rather than traditional summer rates for Developmental Education classes offered during the summer, Kauai CC offered summer classes to help students take advantage of the lower tuition as well as complete their developmental math sequence faster. Unfortunately many of the math offerings ended up being cancelled due to low enrollment (see data section).

This project creates a One-Room-Schoolhouse (ORS) in which more than one class would be offered at the same time, in the same room, and with the same instructor. The hope is that by pooling students from different classes into a ORS, there will be enough student enrollment to justify running these classes.

The One-Room-Schoolhouse would be phased in over two summers. During the summer of 2013, Math 24 and 25 would be offered in ORS format. During the summer of 2014, Math 21/22 would be offered in ORS format in addition to Math 24/25. Depending on student need and staffing, the Math 21/22 sequence could either be offered as an additional stand-alone ORS or combined with Math 24/25.

**Resources needed**

1) **Summer Overload for One-Room-Schoolhouse course creation and summer teaching**

Summer overload is requested to develop and implement the ORS. Development will include creating an emporium model for the ORS, researching best practices, developing online tools, creating a Laulima course template, learning to use any new technologies, and creating documentation. The request for overload for summer teaching helps guarantee a pilot class will run regardless of enrollment.

2) **Embedded peer tutor**

The ORS nature of the class will provide students with multiple resources for learning the mathematics such as a textbook, workbook, video lectures, and just-in-time remediation. Additionally, students will be able to get assistance from the instructor on a one-on-one basis. To increase face-to-face interaction and provide tutoring availability to students both in and out of class, an embedded peer tutor will be hired for 12 hours per week. This allows the tutor to be available for 8 hours of in class time while also providing an additional 4 hours per week outside of class. The outside of class tutoring component is important because the Kauai CC tutoring center is not open in the summer.

3) **Textbook Subsidy**

Students who take Math 24 during the regular semester are able to use the same textbook the following semester in Math 25. Since the textbook and software required to create a successful ORS in the summer would be different, students who complete Math 24 in the summer would need to purchase a new textbook if they continue on with Math 25 in the Fall. The textbook subsidy would provide the students who successfully complete Math 24 in the summer and who enroll in Math 25 in the Fall to purchase the regular textbook at a reduced price. This would be offered in the summer of 2014 as well. However, due to the June 30, 2014 expended deadline, students with satisfactory academic progress at the start of the third week of class (approximately June 25) would be given a credit toward the textbook already purchased.

4) **Attend American Mathematical Association of Two Year Colleges (AMATYC) Conference November 13-16, 2014 Nashville, TN.**

AMATYC is the premier conference for Community College Mathematics. In addition to having multiple threads on developmental math classes, there are themes on course redesign and best practices. Some sessions given at past conferences include: Developmental Mathematics Online: Can It Be Done Successfully, Scaling Innovation in Dev Math: Lessons from Research and Practice, A Summer Bridge to Success in Developmental Mathematics, What Does
It Mean to Be a Teacher in a Redesigned Math Classroom, Mastery-based, Modularized, Self-paced Courses for Student Success, and A First Look at Developmental Math Students After Course Redesign.

Additionally, the innovative Teaching and Learning Committee for AMATYC meets during this conference. This committee is charged with facilitating the effective use of innovative instructional techniques, including but not limited to distance learning, technology in the classroom, and active learning. I believe this would be a great resource for teaching a ORS.

Data supporting need for project

According to institutional, data the following Developmental math classes have been offered since 2010.

2010: Math 24 was offered, with 6 students enrolled at the time it was cancelled.
2011: Math 22 ran with 6 students.
2012: Math 21, 22, and 24 were offered. When they were cancelled, 21 had 4 students, 22 had 3 students, and 24 had 7 students.

Explanation of how project reduces time to certificate or degree

Giving students the opportunity to complete a developmental class over the summer helps students complete their developmental math sequence a semester earlier.

2. Effectiveness Indicators/Outcomes and Benchmarks (3 points)

Effectiveness Indicators/Outcomes

There are three indicators we will look at to determine effectiveness:

1) Twenty-five students have signed up to take a Dev Ed Math class over the past three summers at Kauai CC. Nineteen of them have had their class cancelled. If Kauai CC is able to offer summer classes on a regular basis it would be a measure of effectiveness.

2) In order for the project to be viable, the ORS has to be as effective as the traditional face-to-face classes.

3) Students should persist to the next math class and be as successful in it as students entering from other paths.

We would use the following benchmarks to determine effectiveness.
Benchmarks

- The percentage of students successfully completing the ORS will be the same as those in the traditional math classes (52% for Math 21, 54% for Math 22, 56% for Math 24 and 67% for Math 25).
- The percentage of students persisting to the next level math class after completing the ORS will be the same as those in the traditional math classes.
- The percentage of students successfully completing the next math after completing the ORS will be the same as those in the traditional math classes.

Conference Benchmarks

- Share strategies learned at conference during one of the new "Workshop Wednesdays" professional development series at Kauai CC.
- Share conference sessions and strategies with full and part time Kauai CC Math faculty.
- Use strategies gained from the conference to improve the ORS for the second year pilot when up to four different developmental math classes will be offered at same time. Strategies will be assessed for their impact by using the appropriate student learning outcomes (SLOs). These SLOs are assessed every semester using Course Assessment Report of Data (CARDs). Data from the CARDs will be gathered during the 12/13 academic year and serve as a benchmark to compare with the ORSs.

3. Background Research (1 point)

Other Community Colleges that have adopted the One-Room-Schoolhouse model include Somerset CC (http://www.thencat.org/Mathematics/CTE/Abstracts/SCC_Abstract.html), Northwest-Shoals CC (http://www.thencat.org/Mathematics/CTE/Abstracts/NWSCC_Abstract.html), and Big Bend CC (http://information.bigbend.edu/STEMgrant/Pages/MathRedesign.aspx). All three of the campuses indicated that their reason for offering ORS was to "deal with low-enrollment sections, producing both institutional cost savings as well as clear benefits to students. Previously, when small sections did not "fill" (particularly at smaller campuses and sites or during certain class times), they had to either be cancelled, (interrupting student progression through the sequence and incurring lost revenue to the college) or offered at a relatively high cost. The one-room schoolhouse approach allows the college to offer multiple developmental math courses in the same computer classroom or lab at the same time. Students work with instructional software, and instructors provide help when needed. Even though students may be at different points in the developmental sequence, they can be in the same classroom. This strategy will enable the institution to increase course offerings and avoid cancelling classes, which, in turn, will reduce scheduling roadblocks for students and enable them to complete their degree requirements sooner. Since fewer sections will be needed to accommodate the same number of students, the overall cost-per-student will be lowered."


In addition, I have been in direct contact with the following colleagues: Jenny Polm, Montgomery College; Elizabeth Howell, North Central Texas College; Joel Gutierrez, Tarrant County College; and Marianne Rosato from Massasoit CC. All of them have been involved to with a ORS initiative on their campus and have offered to assist me with best practices.
4. **Relationship to Campus and UHCC Strategic Plans (1 point)**

**UH Strategic Plan—GOAL 1: Educational Effectiveness and Student Success**

**Kauai CC Strategic Plan:**
- **Access** – To provide open access to educational excellence for a diverse student population.

**College-wide performance measure:**
1. Increase Native Hawaiian student enrollment by 3%/year
2. Increase Enrollment by 11%

**Kauai CC Strategic Plan:**
- **Learning & Teaching** – To promote excellence in learning and in teaching, career technical, remedial/developmental education and lifelong learning.

**College-wide performance measure:**
1. Increase Developmental Ed success among NH students. The 2010 percent of new NH students who successfully complete one developmental course during their first year is 52%.
2. Increase Developmental Ed Success. The 2010 percent of new students who successfully complete one developmental course during their first year is 58%

According to the Kauai'i Community College Report on Strategic Priorities 2011-2013 update Fall 2012, one of the goals is to *Increase the retention and success of Remedial/Developmental Students*. One of the objectives listed for achieving this is “To shorten the time a student spends in remedial and developmental courses prior to reaching college level courses by redesigning courses and pedagogies.” By offering a One-Room-Schoolhouse we are helping students complete their developmental sequence a semester earlier.

5. **Scalability (1 point)**

If the ORS model proves successful and there is student demand for it, this could be implemented during the regular semester or expanded to other disciplines where low enrollment may cause certain classes to become cancelled.

6. **Sustainability (1 point)**

Since this request is for course development and a two-year pilot run I do not believe sustainability will be an issue. Once the ORS is established and shown to be a regular summer offering, the class should become self-sufficient.
SIGNATURE PAGE
AY 2013-14 UHCC Developmental Education Project Proposal
Deadline for Proposal Submission: 12:00 p.m. on February 21, 2013

Project Title: One Room Schoolhouse
Date: 2/21/2013
College: Kauai CC
Proposer’s Name: Ryan Girard
Budget Request: $ 20730.75

Certification by Proposer

I certify that I have consulted with and submitted this proposal in a timely manner to the appropriate (A) institutional research office, (B) business office, and (C) human resources office for review of all assessment, budget, and resource commitments. Outcomes have been reviewed and are appropriate for the proposal. I understand I will have primary responsibility for monitoring any funds awarded and agree to maintain accurate and current records of expenditures consistent with the attached budget.

Signature: __________________________ Date: Feb 21, 2013
Name: Ryan Girard
Title: Instructor, CC

Confirmation of Support by Dean or Division Chair

I have reviewed and support this proposal.

Signature: __________________________ Date: Feb 21, 2013
Name: Brian Yamamoto
Title: Dean of OR Division Chair of Sciences and Math

Confirmation of Campus Approval by Chancellor or Vice Chancellor of Academic Affairs

The campus approves the proposal and is committed to advance the amounts, if any, described in the proposal as being funded by the campus and is committed to sustaining the project if evidence of its success is warranted and funding is available.

Signature: __________________________ Date: Feb 21, 2013
Name: James Dirks
Title: Chancellor OR Vice Chancellor of Academic Affairs

Attachment 1
UHCC Developmental Education Project Proposal Form

1/28/12
BUDGET SUMMARY
AY 2013-14 UHCC Developmental Education Project Proposal
Deadline for Proposal Submission: 12:00 p.m. on February 21, 2013

Name of Project: One-Room-Schoolhouse
Campus: Kauai CC

Instructions: Complete the following, inserting and/or deleting rows as needed.

General guidelines: Funds may be used for faculty and staff assigned time; for pilot projects; for consultants; for financial aid audits; for related equipment, software, or curriculum materials; or similar one-time expenses. Funds may not be used to hire new full-time faculty or staff.

For projects involving more than one campus, budget must include a breakdown of costs by campus in addition to a total project budget. Single requests over $2,500 require Superquote.

The relationship between the requested expenditures and the project's effectiveness indicators/outcomes and benchmarks must be addressed specifically in the project proposal.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>A PERSONNEL¹</td>
<td></td>
</tr>
<tr>
<td>A1 4 Credits @ $1603 per cr (Lecture-Step B) + 2.06% Fringe (Summer 2013) ORS Development &amp; Pay Differential to offset teaching 6 credits (Math 24 &amp; Math 25)</td>
<td>$6544.09</td>
</tr>
<tr>
<td>A2 4 Credits @ $1651 per cr (Lecture-Step B) + 2.06% Fringe (Summer 2014) ORS Development &amp; Pay Differential offset teaching 13 credits</td>
<td>$6740.04</td>
</tr>
<tr>
<td>A3 Embedded tutor $10/hr @ 12 hrs/wk for 6 weeks @ two summers = $1440 $1440 + 0.46% Fringe</td>
<td>$1446.62</td>
</tr>
<tr>
<td>TOTAL PERSONNEL</td>
<td></td>
</tr>
<tr>
<td>SUPPLIES²</td>
<td></td>
</tr>
<tr>
<td>B1 Textbook subsidy for students completing Math 24 20 @$150</td>
<td>$3000</td>
</tr>
<tr>
<td>TOTAL SUPPLIES</td>
<td></td>
</tr>
<tr>
<td>C EQUIPMENT³</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td></td>
</tr>
<tr>
<td>TOTAL EQUIPMENT</td>
<td></td>
</tr>
<tr>
<td>TOTAL BUDGET REQUEST</td>
<td>$20730.75</td>
</tr>
</tbody>
</table>

Indicate fringe percentage and cost as a separate line item. Fringe benefits rate (for FY2013) are as follows: faculty/staff 41.49%; graduate assistant 9.55%; casual hire/overload 2.06%; student 0.46%. Please confirm the current fringe benefits rate with your human resources or business office because the rates are subject to change.

² Supplies: Supplies include, but are not limited to, office supplies, travel, conference fees, mileage, and computers.
³ Equipment: Equipment is defined as any one item costing $5,000 or more.

Attachment 2
UHCC Developmental Education Project Proposal Form

112612
Kauai CC One Room Schoolhouse (ORS) Grant Addendum & Timeline Modification Request

Ryan, please send all of us a timeline for activities. Based on the timeline, we may be able to make changes to the deadline.

**Award Timeline:** July 1, 2013 to June 30, 2014.
**Requested Award Timeline:** June 12, 2013 to September 2, 2014

**Reason for request:**
- Grant request includes funding for both a lecturer and an embedded tutor during Summer Session 2013 and 2014. The dates for Summer Session 2013 are June 12-July 25 and the estimated dates for Summer Session 2014 are June 10 - July 26.
- Grant request includes a textbook subsidy to be awarded *after* successful completion of the class for students continuing on in the Math 24 & 25 sequence. In order for students to complete the ORS, register the subsequent class, and purchase the textbook, September 2 is the requested end of award timeline.

**Modifications to Existing Request:** (No overall budget change)

1) **Conference Location**

**Original:** Conference listed as American Mathematical Association of Two Year Colleges (AMATYC) Conference November 13-16, 2014, Nashville, TN.

**Revised:** Conference should be American Mathematical Association of Two Year Colleges (AMATYC) Conference October 31- November 3, 2013 Anaheim, CA

**Rationale:** Incorrect year and location listed

2) **Textbook Subsidy**

**Original:** Subsidy was to offset cost of student switching from the ORS textbook for Math 24 to the traditional textbook in Math 25 the following semester.

**Revised:** If funding within the original budget allows, would like to subsidize students who took Math 24 in the Spring, take ORS in the summer, and then enroll in a 100 level class for Fall.

**Rationale:** The Math 24 & 25 legacy classes use the same textbook. However, the textbook and software required for a successful ORS are different. This means that students who intend to participate in the ORS while completing the Math 24/25 sequence would need to purchase a two different textbooks. Providing a subsidy to those who complete either class in the ORS and who meets the criteria listed above seems more consistent and fair.
3) Supplies

Original: None listed

Revised: Advertising, flyers, outreach, math manipulatives, workbooks, calculators or similar equipment, software and peripherals, etc.

Rationale: Due to the correction in conference location from Nashville to Anaheim, it is possible that the conference will come in under budget. If this happens, the proposer would like to use the residual funds to advertise the course, purchase some calculators and/or software to be used to improve the class for the 2014 ORS session.

"explicit outcomes for conference attendance, strengthened scalability and sustainability plans, and provides baseline and success rates”.

Outcomes from Conference Attendance
American Mathematical Association of Two Year Colleges (AMATYC) Conference October 31-November 3, 2013 Anaheim, CA.

- The entire Kauai CC full-time math department will attend this conference.
  - All four full-time faculty members have committed to attending. We have funding from our APRU for two faculty members and are requesting funding from an additional source for the third one. This grant provides the funding for the fourth faculty member.
- Learn about best practices from others who are teaching ORSs and implement them in the 2014 ORS.
  - Attend sessions on topics such as Developmental Mathematics Online, Redesigned Math Classrooms, and Mastery-based, Modularized, Self-paced Courses
- Attend the Innovative Teaching and Learning Committee meeting during this conference.
  - Gain further ideas and network with others exploring ORS and other modes of instruction.

Conference Benchmarks

- Share strategies learned at conference during one of the new "Workshop Wednesdays" professional development series at Kauai CC.
- Share conference sessions and strategies with full and part time Kauai CC Math faculty.
- Use strategies gained from the conference to improve the ORS for the second year pilot when up to four different developmental math classes will be offered at same time. Strategies will be assessed for their impact by using the appropriate student learning outcomes (SLOs). These SLOs are assessed every semester using Course Assessment Report of Data (CARDs). Data from the CARDs will be gathered during the 12/13 academic year and serve as a benchmark to compare with the ORSs.
Strengthened Scalability Plans

If the ORS model proves successful and there is student demand for it, this could be implemented during the regular semester or expanded to other disciplines where low enrollment may cause certain classes to become cancelled.

Additionally, the model will be made available to other campuses and can even be expanded to include other (non developmental) math courses in the summer.

Strengthened Sustainability Plans

Since this request is for course development and a two-year pilot run I do not believe sustainability will be an issue. It is believed that once the ORS is established and shown to be a regular summer offering, students will more likely to plan on taking a summer class. This should lead to student enrollment being enough to sustain the class.

Additionally, the college is committed to offering the ORS each summer pending enrollment and the math department is committed to teaching it every summer if the numbers show success.

Baseline and Success Rates

- The percentage of students successfully completing the ORS will be the same as those in the traditional math classes (53% for Math 21, 55% for Math 22, 55% for Math 24 and 67% for Math 25).
- The percentage of students persisting to the next level math class within one semester of completing the ORS will be the same as those in the traditional math classes. (60% for Math 21, 67% for Math 22, 69% for Math 24 and 57% for Math 25).
- The percentage of students successfully completing the next math class within one semester of completing the ORS will be the same as those in the traditional math classes. (59% for Math 21, 59% for Math 22, 73% for Math 24 and 79% for Math 25).
Outcomes earned within next semester
Fall 2007 - Spring 2012

% of those who took the original class

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall 2007</th>
<th>Fall 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 21</td>
<td>53% 55% 53%</td>
<td>60% 67% 55%</td>
</tr>
<tr>
<td>Math 22</td>
<td>55% 67% 59%</td>
<td>69% 69% 55%</td>
</tr>
<tr>
<td>Math 24</td>
<td>55% 59% 73%</td>
<td>69% 78% 67%</td>
</tr>
<tr>
<td>Math 25</td>
<td>67% 69% 79%</td>
<td>57% 57% 69%</td>
</tr>
<tr>
<td>Math 26</td>
<td>69% 79% 73%</td>
<td>69% 75% 69%</td>
</tr>
</tbody>
</table>

Outcomes earned within next year
Fall 2007 - Spring 2011

% of those who took the original class

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall 2007</th>
<th>Fall 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 21</td>
<td>51% 55% 51%</td>
<td>69% 76% 55%</td>
</tr>
<tr>
<td>Math 22</td>
<td>55% 76% 55%</td>
<td>68% 75% 68%</td>
</tr>
<tr>
<td>Math 24</td>
<td>56% 79% 56%</td>
<td>68% 75% 68%</td>
</tr>
<tr>
<td>Math 25</td>
<td>68% 71% 68%</td>
<td>71% 80% 68%</td>
</tr>
<tr>
<td>Math 26</td>
<td>68% 72% 78%</td>
<td>72% 88% 68%</td>
</tr>
</tbody>
</table>
### Success Rate Data (F07 – F12)

<table>
<thead>
<tr>
<th></th>
<th>Math 21</th>
<th>Math 22</th>
<th>Math 24</th>
<th>Math 25</th>
<th>Math 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Took course</td>
<td>131</td>
<td>567</td>
<td>881</td>
<td>759</td>
<td>93</td>
</tr>
<tr>
<td>Passed course</td>
<td>57%</td>
<td>55%</td>
<td>56%</td>
<td>69%</td>
<td>73%</td>
</tr>
</tbody>
</table>

### Outcomes within next semester (F07 – S12)

<table>
<thead>
<tr>
<th></th>
<th>Math 21</th>
<th>Math 22</th>
<th>Math 24</th>
<th>Math 25</th>
<th>Math 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Took course</td>
<td>90</td>
<td>527</td>
<td>822</td>
<td>691</td>
<td>48</td>
</tr>
<tr>
<td>Passed course</td>
<td>53%</td>
<td>55%</td>
<td>55%</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>Took next course next semester</td>
<td>32%</td>
<td>37%</td>
<td>38%</td>
<td>38%</td>
<td>54%</td>
</tr>
<tr>
<td>Passed next course next semester</td>
<td>19%</td>
<td>22%</td>
<td>28%</td>
<td>30%</td>
<td>40%</td>
</tr>
</tbody>
</table>

### Outcomes within next year (F07 – F11)

<table>
<thead>
<tr>
<th></th>
<th>Math 21</th>
<th>Math 22</th>
<th>Math 24</th>
<th>Math 25</th>
<th>Math 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Took course</td>
<td>70</td>
<td>490</td>
<td>746</td>
<td>627</td>
<td>25</td>
</tr>
<tr>
<td>Passed course</td>
<td>51%</td>
<td>55%</td>
<td>56%</td>
<td>68%</td>
<td>68%</td>
</tr>
<tr>
<td>Took next course within 1 year</td>
<td>36%</td>
<td>42%</td>
<td>44%</td>
<td>48%</td>
<td>72%</td>
</tr>
<tr>
<td>Passed next course within 1 year</td>
<td>24%</td>
<td>31%</td>
<td>33%</td>
<td>39%</td>
<td>56%</td>
</tr>
</tbody>
</table>

**Data presented as % of original total:**

**Data presented as one-step pipeline (% of previous line):**

### Outcomes within next semester (F07 – S12)

<table>
<thead>
<tr>
<th></th>
<th>Math 21</th>
<th>Math 22</th>
<th>Math 24</th>
<th>Math 25</th>
<th>Math 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Took course</td>
<td>90</td>
<td>527</td>
<td>822</td>
<td>691</td>
<td>48</td>
</tr>
<tr>
<td>Passed course</td>
<td>53%</td>
<td>55%</td>
<td>55%</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>Took next course next semester</td>
<td>60%</td>
<td>67%</td>
<td>69%</td>
<td>57%</td>
<td>79%</td>
</tr>
<tr>
<td>Passed next course next semester</td>
<td>59%</td>
<td>59%</td>
<td>73%</td>
<td>79%</td>
<td>73%</td>
</tr>
</tbody>
</table>

### Outcomes within next year (F07 – F11)

<table>
<thead>
<tr>
<th></th>
<th>Math 21</th>
<th>Math 22</th>
<th>Math 24</th>
<th>Math 25</th>
<th>Math 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Took course</td>
<td>70</td>
<td>490</td>
<td>746</td>
<td>627</td>
<td>25</td>
</tr>
<tr>
<td>Passed course</td>
<td>51%</td>
<td>55%</td>
<td>56%</td>
<td>68%</td>
<td>68%</td>
</tr>
<tr>
<td>Took next course within 1 year</td>
<td>69%</td>
<td>76%</td>
<td>79%</td>
<td>71%</td>
<td>106%</td>
</tr>
<tr>
<td>Passed next course within 1 year</td>
<td>68%</td>
<td>75%</td>
<td>75%</td>
<td>80%</td>
<td>78%</td>
</tr>
</tbody>
</table>

**List of "Next" courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>&quot;Next&quot; course options (also, any higher math course is counted)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Math 21</th>
<th>Math 24, 26, 50, 50H; BUSN 189</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 22</td>
<td>Math 24, 26, 50, 50H; BUSN 189</td>
</tr>
<tr>
<td>Math 24</td>
<td>Math 25</td>
</tr>
<tr>
<td>Math 25</td>
<td>Math 100, 103, 111, 115</td>
</tr>
<tr>
<td>Math 26</td>
<td>Math 100, 103, 111, 115</td>
</tr>
</tbody>
</table>

**Data Notes:**

- For the "enrollment in next", the data includes students who enrolled within one semester with a cutoff of Fall 2012.
- For "success in next", the data includes students who enrolled within one year with a cutoff of Spring 2012.
- In the graphs, the numbers at the base of the columns are the percentages, as taken from the original total who took the class. Above the bars are the "pipeline" percentages, taken of the previous step's total. Just for ease of computation, these aren't strict pipeline numbers (for example, if a student didn't pass Math 25, but took Math 100 within one year anyway, that student counts). Note that this causes one of the percentages for Math 26 to be over 100%.