

Math Program (A.S. 416)

SVCC Transfer Program Review (ver. 1)

Program (degree): Math Program (A.S. 416)

Related program courses:

MAT 150, MAT 203, MAT 204, MAT 205, MAT 211, MAT 230, MAT 231

Transfer Program Objectives

Prompts:

1. What are the objectives/goals of the discipline?
2. To what extent are these objectives being achieved?
3. How does this discipline contribute to other fields and the mission of the college?
4. Describe any quality improvements or modifications made since the last review period.

Response to prompt:

1. The goal of the program is to provide Freshman and Sophomore math courses, prescribed by the IAI, for students pursuing a bachelor's degree in mathematics.

2. All of the IAI math courses referenced in question 1 are included in our math program. The courses are offered frequently enough so the program can be completed in 4 semesters.

3. All Science, Technology, Engineering, and Mathematics (STEM) fields utilize mathematics extensively, in fact there is considerable overlap in the Freshman/Sophomore mathematics requirements for all STEM areas of study.

The college's mission includes "... dedicated to teaching and scholarship..." As mathematics is a foundational course of study, offering them at SVCC makes sense.

4. Link to the last program review for math:

<https://www.svcc.edu/departments/irp/reporting/program-review/index.html>

In 2013 a new Area Leader for math was established. The Area Leader has led the group to significantly improve our implementation of the Area Assessment. |

Transfer Program Need

Prompts:

1. What mechanisms are in place to determine programmatic needs/changes for AA, AS, AFA, and AES academic programs? How are programmatic needs/changes evaluated by the curriculum, review committee and campus academic leadership?
2. How are students informed or recruited for this program?

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Data sources: Table 1A, Table 1B, Table 2
<p>Response to prompts (identify strengths and challenges): In your narrative, please refer to the data sets or evidence you have chosen to support your case.</p> <p>1. If the IAI were to change their course recommendations for this program, they would notify the college. This has happened before, most recently when the Geometry prerequisite was eliminated from many transfer courses.</p> <p>Upon notice of a change in the program, the Academic VP (AVP) will consult with the math department, and a course of action decided upon to bring the program into compliance. Changes or additions to course outlines will be tasked to the math department. Upon completion, either the math department or AVP will write a Curriculum Action Form (CAF), after which the AVP will present the CAF to the Curriculum Committee. The committee votes to accept the changes described in the CAF, or to send them back to the AVP/math department for refinement.</p> <p>2. We continue to host mathematics competitions annually for area middle and high school students which helps familiarize them with SVCC and our math program. Approximately 50 middle school students attend the MathCounts competition and approximately 35 high school students attend the American Mathematics Competitions each year. Top scoring students receive SVCC mementos and are photographed and identified in a press release. We also offer a Math Club as a student activity on our campus. Student interest in the Math Club varies from year to year. Top SVCC math students with high GPAs are invited to join Mu Alpha Theta, a national mathematics honor society for high schools and two year colleges. </p>

Transfer Program Cost Effectiveness

<p>Prompts:</p> <ol style="list-style-type: none"> 1. What are the costs associated with this discipline? 2. What steps can be taken to offer curricula more cost-effectively? 3. Is there a need for additional resources? 																					
<p>Available Data Sources: Table 3A, Table 3B</p> <p>Response to prompts (identify strengths and challenges). In your narrative, please refer to the data sets or evidence you have chosen to support your case.</p> <p>1. Cost, expenses, and income are detailed in the tables 3A and 3D. Income is positive for each year under review.</p>																					
<table border="1"> <tr> <td colspan="7">Table 3A: Program Expenses</td> </tr> <tr> <td>Math (AS 416)</td> <td>FY2013</td> <td>FY2014</td> <td>FY2015</td> <td>FY2016</td> <td>FY2017</td> <td>5-year Totals</td> </tr> <tr> <td>Total Expenses</td> <td>42,194</td> <td>36,910</td> <td>38,320</td> <td>40,926</td> <td>33,271</td> <td>191,622</td> </tr> </table>	Table 3A: Program Expenses							Math (AS 416)	FY2013	FY2014	FY2015	FY2016	FY2017	5-year Totals	Total Expenses	42,194	36,910	38,320	40,926	33,271	191,622
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<table border="1"> <tr> <td colspan="7">Table 3B: Program Revenue</td> </tr> <tr> <td>Revenue Item</td> <td>FY2013</td> <td>FY2014</td> <td>FY2015</td> <td>FY2016</td> <td>FY2017</td> <td>5-year Totals</td> </tr> </table>	Table 3B: Program Revenue							Revenue Item	FY2013	FY2014	FY2015	FY2016	FY2017	5-year Totals							
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Total Revenue	55,767	47,740	46,464	45,725	44,635	240,331
Net Income	13,573	10,830	8,144	4,799	11,364	48,709

2. Data in Table 1A suggests that a cost-saving could be realized by setting a minimum class size. For example, in MAT150, 230, and 231, average class enrollment is less than 5 students.

3. Math courses are becoming more reliant on technology in the classroom, in particular, a computer at each student's desk. Presently (2017) there are just enough classrooms at SVCC equipped with computers. It is reasonable to expect that in the next few years, the proportion of math classrooms needing computers will increase. Therefore we advise administration to expect the need for additional classrooms equipped with computers. |

Transfer Program Quality

Prompts:

1. Are there any alternative delivery methods of this discipline? (E.g. online, flexible-scheduling, accelerated, team teaching, etc.)?
2. If the college delivers the course in more than one method, does the college compare success rates of each delivery method? If so, how?
3. What assessments does the discipline use to measure full-time and adjunct instructor performance in the classroom?
4. How does the discipline identify and support at-risk students?
5. To what extent is the discipline integrated with other instructional programs and services?
6. What does the discipline or department review when developing or modifying curriculum?
7. When a course has low retention and/or success rates, what is the process to address these issues?
8. List any barriers encountered while implementing this discipline.

Available Data Sources: Table 1A, Table 1B, Table 2, Table 4A, Table 4B, Table 5A, Table 5B, Table 6, program surveys, focus groups, interviews, etc.

Response to prompt (identify strengths and challenges). In your narrative, please refer to the data sets or evidence you have chosen to support your case.

1. Yes. There are Independent Study, Internet Courses via ILCCO, and Dual Credit courses offered at district high schools.
2. The college compiles the data necessary to compare success rates of different delivery methods, as in Tables 1 and 4 of this document. Currently there is no formal structure for analyzing this data. However, the data is occasionally examined when a specific problem is suspected, and in this case a meeting is convened to discuss the issue.
3. Performance is measured by grade distribution over the course of several semesters, plus class evaluations completed by students.

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4. At risk students are identified by the college's counselling department, using guidelines established by the ICCB. Faculty are often asked, by the counseling department, to provide incremental progress reports and suggestions relating to the student's work in a particular course.

5. Math courses need to be highly integrated with other science courses, as science courses sometimes utilize mathematics which is being learned concurrently.

Each course in the math program has an IAI description of the topics that must be taught in a particular class. A further description, with additional detail, is published by the Illinois Math Association of Community Colleges (IMACC), which the IAI uses as a reference. SVCC's course outline is derived from these sources. The outline is the instrument used to communicate to other departments what mathematics is taught, and the order in which topics are presented throughout the semester.

Courses of study are scheduled so students are prepared with salient math skills before they are needed in another discipline.

6. When developing or modifying a curriculum the department reviews the IAI and IMACC course description (which includes clear guidelines on course content). Our curriculum must be aligned with these course descriptions.

7. As in question 2 (above), the college compiles the data necessary to compare success and retention rates, e.g., Tables 1 and 4 of this document. Currently there is no formal structure for analyzing this data. However, the data is occasionally examined when a specific problem is suspected, and in this case a meeting is convened to discuss the issue.

8. The largest barrier to student success is the low level of mathematical ability that our students' possess upon starting college. In general this is viewed as a problem of the K-12 system. As such, it is being addressed by the State, locally by the school districts, along with SVCC cooperation.

For barriers more directly under our control, please see the response to the section titled *Responses to Program Challenges*.

Focused Questions from the Administrative Review Team (ART)

Question 1. What are the math faculty doing to collaborate with local high schools to assist in the transitions math pathways?

Response to question 1 (please refer to any data sets or evidence to support your case):

Under the auspices of SVCC's Partnership Advocating Student Success (PASS), the math department is fully cooperating with Regional Office of Education #47. The latter organization represents the high schools within SVCC's district. At the time of this writing,

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Dec. 5, 2017, three meetings have been held, 6 high school math departments are represented, and each meeting has had at least 2 SVCC faculty members present |

Question 2. The grade distributions in math major classes are inconsistent between full-time, part-time, and adjunct faculty (particularly MAT 203). What more can be done to help align the grade distributions between faculty types? What recommendations can be made to improve the grade distributions overall (less W grades, more A grades)?

Response to question 2 (please refer to any data sets or evidence to support your case):

Re: Faculty Current Enrollment (via FAST) years 2013 to 2017

Closer examination of the data from MAT203 reveals that the discrepancy is almost entirely due to a single part-time instructor who has not taught for several years. Recently, all on-campus sections have been taught by the same full-time instructor. So, the discrepancy has been eliminated between part-time and full-time instructors. The discrepancy in grades between full-time and dual-credit instructors remain.

Given that every dual enrollment section of MAT 203 has been comprised of just 1-4 students since the Fall of 2012, one might expect those students to be among the best prepared and most highly motivated students taking the course. This may well account for a higher percentage of A's and B's in those sections.

Nonetheless, with regard to MAT203, supplementary review problems will be placed in the LCT. A review session can be set up in the LCT (led by a tutor) prior to an exam. The math department will coordinate the timing of this session and provide guidance on the types of problems to review.

In addition, please see the response, below, in the section titled *Responses to Program Challenges*. |

Question 3. MAT 203 is a prerequisite to MAT 204, yet the success rates in MAT 204 are low (47% D, F, W rate). What can be done to improve the grade distributions in MAT 204?

Response to question 3 (please refer to any data sets or evidence to support your case):

MAT204 is inherently more difficult than MAT203. Accordingly, success rates in MAT204 are lower.

To improve the pass rate in MAT204, supplementary review problems will be placed in the LCT. A review session can be set up in the LCT (led by a tutor) prior to an exam. The math department will coordinate the timing of this session and provide guidance on the types of problems to review. |

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<p>Responses to Program Challenges. Every program has challenges it must overcome. This program review process allows Sauk employees to identify those challenges and then create a plan to overcome those challenges. Please describe the program’s challenges and the purposed response below. These responses will be added to the Operational Planning matrix found below.</p>
<p>Response to Challenges: A major challenge is to improve coordination between full-time, adjunct, and dual-credit instructors. For a given course, disparities in class expectations and grading are mostly due to a lack of communication between instructors. A plan to discuss these issues does not exist, except for the five-year program review.</p> <p>Therefore we suggest the Area Leader, along with the faculty, develop a plan to improve the consistency of courses offered by multiple instructors. For example, some of the things that could be done are:</p> <ul style="list-style-type: none"> • Create an online depository of sample exams for each math course, including final exams • Publish grade distributions to the group (as in Table 4) each semester • Create a department message board to make it easier for the instructors to share ideas and documents

Program Bookkeeping Tasks

Task List	Description of Task	Is the task complete?
Course outlines	Please review all course outlines for the courses listed at the top of this document and send it to Curriculum Committee for approval. ALL outlines must go through Curriculum Committee even if no or few changes were made.	yes
Catalog descriptions	Please review catalog descriptions of the program. If there are changes to the program description, please send it to the Curriculum Committee for approval.	yes
Course descriptions	Please review course descriptions found in the catalog that are listed at the top of this document. If there are changes to the course descriptions please send them to the Curriculum Committee for approval.	yes
1.1 transfer completion list	ICCB expects the college to maintain current articulation agreements for all <u>1.1 transfer courses</u> . IR* will use the following link to create a master table that shows the current articulation agreements	Updated Feb 2017

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	<p>for the program's courses. http://www.svcc.edu/students/equival.pdf</p> <p><i>*This task will be completed by IR Department.</i></p>	
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Review Team's Final Recommendation

Recommendation	Check only one	List program name (if more than one is being reviewed or make additional copies of this table for each program)
Continued with minor improvements	<input type="checkbox"/>	<input type="checkbox"/>
Significantly modify the program	<input type="checkbox"/>	<input type="checkbox"/>
Placed on Inactive Status	<input type="checkbox"/>	<input type="checkbox"/>
Discontinued/Eliminated	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify:	<input type="checkbox"/>	<input type="checkbox"/>
<p>Summary Rationale Please provide a brief rationale for the chosen action.</p>		
<p>Intended Action Steps What are the action steps resulting from this review. Please detail the timeline and/or dates for each step.</p>		

Signature/Date	Program Review Team Member	
	<input type="checkbox"/>	Chair
	<input type="checkbox"/>	Member
	<input type="checkbox"/>	Member

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Program Review. Items from the program review will be entered here. *After this program review is complete and approved, transfer (paste and copy) the items below to your FY 2016 Operational Plan.*

** Use the origination code PR 2015.*

Origination Code*	Date Activity was Added to this OP (MM/DD/YYYY)	Name(s) of Individual(s) Responsible	Description/Purpose/Justification of Proposed Activity	Goal/Desired Result from Activity (measurable and under department's control)	Target Completion Date for This Activity (MM/DD/YYYY)	Actual Results from this Activity	Actual Completion Date for this Activity (MM/DD/YYYY)
Comments:							

ACADEMIC DISCIPLINE PROGRAM REVIEW SUMMARY REPORT

Required ICCB Program Review Report

Sauk Valley Community College (506)

Academic Year 2015 - 2016

Academic Degree (discipline)	
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Summary

Objectives: What are the objectives of the course and sequences of courses (such as developmental through college-level) in the discipline? To what extent are they being achieved?

Need: It is expected that there is a continuing need for courses in each of the academic disciplines, but is the array of courses offered appropriate to meet the needs of students and support academic programs?

Cost-effectiveness: What steps can be taken to offer courses more cost effectively? Are there needs for additional resources?

Quality: Based on the results of assessment and other information about courses and sequences of courses in the discipline, what steps need to be taken to update or improve instruction? Describe any programmatic achievements already achieved or are planned for the future.

Transfer Courses: Generate a list of 1.1 transfer courses within the discipline and action taken to obtain current articulation agreements.

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Program Review Committee & Administrative Review Teams Recommendations	
This Program Review is considered complete.	
The following are the recommendations from the Program Review Committee and the Administrative Review Team:	
<ul style="list-style-type: none">• Math faculty could schedule some office hours within the Learning Commons in order to provide additional support to students. This would be especially helpful to students who are taking higher level math courses (e.g., calculus) and who must currently rely on student tutors in the LC.• In order to improve communication and consistency in assessment practices, have the Faculty Leader work with the Dean of General Education and Transfer programs to schedule regular meetings with adjunct and dual credit math faculty. These meetings would allow faculty to share resources, best assessment practices, and teaching/assessment materials (or examples of such).• Upload syllabi to Net Tutor so they can use it to guide our students more effectively.• Investigate a Calculus 2 (MAT 204) prep session in order to improve success in MAT 204. Determine additional student remediation strategies that might improve success in that class.• Keep working with high school faculty and administration in PASS in order to help with the high school to college transition.	
Signature of the Program Review Committee Chair	

President's Recommendation	
The Program Review has been reviewed.	
The following are the recommendations from the President:	
President's Signature/Date	