

SVCC Transfer Program Review Template

This program review template will be used to review the following program and courses.

Program (degree): A.S. 840 and A.A. 641

Related program courses (only English courses that are part of the English degree are reviewed here).

CIS 150
CIS 207
CIS 208

Transfer Program Objectives

Prompt: *What are the objectives of this program and the courses related to this degree?*

Response to prompt:

A.A. 641 objectives:

- Students will complete the Illinois Articulation Initiative's transferable General Education Core Curriculum and the lower-division portion of a Baccalaureate Degree in Computer Information Systems.
- Students will demonstrate an understanding of the use of computer technology and information management methods to solve business problems.
- Students will demonstrate an understanding of both the organizational context of the problem and the technologies, methodologies, and tools available in a variety of business applications.

A.S. 840 objectives:

- Students will complete the lower-division (freshman and sophomore) portion of a bachelor of science degree in Computer Science.
- Students will demonstrate an understanding of algorithms, theoretical foundations of computer science, and development of software.

In addition to the courses listed above, two math courses are related to the degree: MAT 150 and MAT 230. They will be included in the review as well.

Transfer Program Need

Prompts: *Is there a need for this program? Is the array of courses offered for this program appropriate to meet the needs of students?*

Data sources: Table 1A, Table 1B, Table 2

Possible topics to discuss: Number of students in the program, number of students in the individual classes, number of students by modality (online, face-to-face, dual credit), number of majors, number of GECC completions, number of degrees completed.

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.

In analyzing the data, it helps to divide the computer programming courses into first-year courses and second-year courses. In the first year, computer science students take CIS 150 and

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CIS 207 while engineering students take MAT 150 (which is taught concurrently). In the second year, students take CIS 208 and MAT 230. First year courses are consistently well-attended but the number of second-year students drops off sharply.

Here is the average number of students per year over the last five years:

16.8 in CIS 150

14.9 in MAT 150/CIS 207 (7.3 and 7.6 respectively)

4.8 in CIS 208

2.8 in MAT 230

The second-year numbers are consistent with the number of declared majors:

4.2 in AS 840

3 in AA 641

Many of the first-year programming students are actually going into engineering rather than computer science. The number of declared majors in Engineering Science (320) averaged 40 per year over the last five years. CIS 207 fulfills a transfer requirement for those students.

Students take the first year courses for other reasons as well. CIS 150 is a transferable elective at NIU, for example. CIS 207 is often taken by students who want programming experience for reasons not directly related to their degrees.

Thus there is enough interest in computer science at lower levels to support the need for the program, but we should work to find out how to increase enrollment in upper-level courses. That will be addressed at length in Focused Question #1 below.

It seems unlikely that increasing the availability of online courses would be helpful. First-year students are apparently not deterred by being taught in face-to-face mode. Students haven't expressed a desire to have face-to-face courses replaced by online courses. Although an abundance of textbooks and online training sites promise to take someone from a novice to a programming expert with no face-to-face instruction, most are unhelpful unless the student is already an experienced programmer. The difficulty with increasing dual-credit courses is that of finding sufficiently qualified instructors. |

Transfer Program Cost Effectiveness

Prompts: *Is the program cost effective? What steps can be taken to offer courses more cost effectively? Does the program need additional resources?*

Available Data Sources: Table 3A, Table 3B, Table 1A, Table 1B

Possible topics to discuss: Has the program remained within its allocated budget? Is the budget adequate to supply necessary services? Is the program's net income positive or negative? Does the program need additional resources? What resources are needed? Is class size appropriate and cost effective?

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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.

The program has remained within budget for supplies and expenses. The program has all the resources it needs, as long as we can continue to keep our subscription to Visual Studio updated.

Overall, the program has been running slightly in the red for the last five years. Here are the number of sections taught in the last five years:

Row	AS 0840, AA 0641	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	5 Year Total
A	Total College Enrollment (standard students)	5246	5003	4692	4360	4020	23321
B	Total # of Instructors	1	1	1	1	1	n/a
C	Total # of sections (not tutorial, not honors)	3	3	3	3	3	15
D	Total # of tutorial sections (#)	0	0	1	1	0	2

Here are the expenses for the same five years:

AS 0840, AA 0641	FY2012	FY2013	FY2014	FY2015	FY2016	5-year Totals
Employee Salaries (prorated for program)	8,727	8,061	18,119	16,293	13,117	64,318
Employee Benefits (prorated for programs)	1,735	1,484	2,745	1,912	1,507	9,381
Total (t+u)	10,462	9,545	20,864	18,206	14,624	73,699

Two factors obscure the exact state of the finances for the program.

First, there is a discrepancy in the employee salaries totals across the years. After investigation, it appears that this is due to the changes in the way that Mary Lou Kidder's salary was coded in FY 2014 and FY 2015 (although I am the only instructor teaching in the programs under review).

Second, the finances only include the CIS 150, 207 and 208 courses. The data for MAT 150 and MAT 230 should be included to arrive at more accurate figures.

The program is close to being profitable. Changing class sizes seems unlikely to be helpful, because we only have one section each, each year. Once again, the best solution would be to increase enrollment in second-year courses, discussed in the focused questions below. Doing that is likely lead to the program running in the black.

Transfer Program Quality

Prompts: *Do the program and the program's courses provide quality and pertinent educational opportunities for students? What steps need to be taken to update or improve the program or the program's courses? Describe any programmatic achievements.*

Available Data Sources: Table 1A, Table 1B, Table 2, Table 4A, Table 4B, Table 5A, Table 5B, Assessment Data Base, College Dashboard, program surveys, focus groups, interviews.

Possible topics to discuss: Fulltime to part-time faculty ratio, amount of overload, class size, communication practices between full-time and part-time faculty (including dual credit), professional development of faculty, program and class grade distributions, success of students in classes with prerequisites, course scheduling (sequencing), convenience of class schedule (day, evening, online course availability, dual credit), currency of equipment and facilities, degree completion rate, GECC completion rate, number of transfer students.

The following topics MUST be discussed in this section to satisfy ICCB and HLC guidelines: retention rates, degree completion rates, proportion of faculty participating in assessment (FT and PT including dual credit) and the impact of academic assessment on the program.

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.

I am the program's only instructor, so there are no concerns about the proportion of part-time faculty or communication with adjuncts.

I participate in assessment every year, as required by the college, but my required formal assessments are in the areas of math and philosophy, so I do not turn in a computer science assessment regularly. Nonetheless I do use a formal assessment instrument for the Computer Science degrees, one built into the final exam for CIS 208. Instead of a typical final exam, the test is deliberately designed to assess student learning across the whole degree (for either degree): It has questions that cover skills ranging from those learned in the early months of CIS 150 and CIS 207 through those learned in CIS 208. In this way, I can keep track of whether the computer science degrees are continuing to effectively prepare students.

In general, since I am the only instructor, and class sizes are small, I have been able to respond to needs in the program based on that final exam as well as class performance in general. I have been responding to needs as they arise. For example, two years ago I noticed that students were doing unexpectedly poorly in CIS 208. Based on homework assignments submitted to me, I realize that most students lost their bearings near the end of CIS 207, where we cover the topic of object-oriented programming. The next semester, I made two changes. In CIS 207, I re-aligned the lectures and assignments to be sure we had adequate time to cover object-oriented programming. In CIS 208 I reduced the semester-long group project to a half-semester so that I could add extra assignments at the beginning of CIS 208 to help the students review their understanding of object-oriented programming and bridge the gap between that set of skills and the more complex skills that followed. In the first year of the new course,

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students did even worse than before, but this year students were more successful than they have been for a while (3 out of 4 students are doing well).

It has been difficult to find opportunities for professional development in computer science that would be relevant to my own teaching. Still, while computer technology changes rapidly, the specific content of CIS 207-CIS 208 does not. While it would be helpful to find opportunities for more professional development in my area, it is not essential.

As you can see from the summary below, retention rates for AS 840 are slightly higher than the college average and rates for AA 641 are slightly lower. However, the sample sizes are sufficiently small (around 7 or 8 students per year) that it is difficult to draw more specific conclusions.

Retention rates:

	AS 840	AA 641	College average
Fall to spring	82.5	73.3	77.7
Fall to fall	68.3	60.6	59.4

In the last five years, there were 8 degree completions for AS 840 and 11 for AA 641. That means that the percentage of degree completions compared to declared majors is less than 40% for AS 840. Though this is higher than the college average, it would be helpful to increase retention rates, and we discuss possible solutions below.

Degree completions:

	AS 840	AA 641
Declared majors	8	11
Degree completions	21	15
Percentage	38%	73%

The low rate of degree completions is probably related to the low number of students taking second-year courses in general, a problem discussed in the focused questions below.

Focused Questions from the Administrative Review Team (ART)

Question 1. What are potential (fixable) barriers to completing a degree at Sauk or at a 4-year institution? What would be a plan to help students be more successful in degree completion?

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

As part of the program review process, I met with my program review committee, which included a student, a counselor, and another faculty member from the CIS department.

Discussion of this question led to the following comments and suggestions.

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- Recognize that many students taking the computer programming courses are doing so in order to go into Engineering Science (see the response to question 1).
- Remove MAT 150 and replace it with CIS 207 (see focused question 2 below). This should make it clearer to students that CIS 208 is the natural follow-up.
- Have instructors in all CIS program remind their students each semester what courses to take next, just at the point in the semester when registration for the next semester starts.
- Change the sequencing for MAT 230 from spring to fall so that it does not conflict with Calculus 3 class, and modify the suggested schedule in the catalog accordingly. (This has already been done.)
- Increase marketing efforts for the degree as a whole. (See focused question 3 below.)
- A student mentioned that the 8 am start time for CIS 207 and 208 is a problem for many students. We could consider whether a better starting time is available that does not conflict with other courses and for which a room is available.

Another question to consider is whether we can drop either of the low-attended courses from the program altogether.

With respect to CIS 208, the answer is clearly no: We must offer CIS 208 if we are to offer the program at all, due to AIA requirements. CIS 207 and 208 are equivalent to IAI's CS 911 and 912, respectively. The description for CS 911 and 912 reads states: "It is strongly recommended (and may be required by some receiving schools) that both CS911 and CS 912 be taken at the same school before transfer."

(<http://www.itransfer.org/IAI/majors/default.aspx?file=iai§ion=students&t=cs&p=TechRe>[c](#)). So we need CIS 208 in order to make CIS 207 a transferable course to computer science programs at other institutions.

MAT 230, Discrete Math, is in a different situation. Although it is a helpful class for students to have – Discrete Math is often taken by student in computer science and engineering programs – it could be dropped from our CIS program if necessary without causing any major trouble for students.

If the proposed steps above are successful, then the enrollment in MAT 230 should increase. I propose that we wait 3 years to see if the steps listed above are successful in increasing enrollment in MAT 230. If the number of students in MAT 230 remains low, then at that point we should consider dropping it as a course and modifying the program accordingly. |

Question 2. Is there a need for Math 150 anymore? Explain.

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

No. At one point there were schools that accepted MAT 150 as an elective, but did not accept CIS 207. That is no longer the case. We should eliminate the course after Spring of 2017. |

Question 3. What is the best way to market to potential students about these transfer CIS programs and the careers related to these degrees?

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

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Here are several suggestions for marketing the CIS transfer programs more effectively.

- The most important step would be for instructors (i.e., me) to make occasional visits to area high schools. We would coordinate the visit with counseling, and have one of them to with us to address questions about careers and transferability. I could do this as long as it is kept to about one visit a semester. I would be expecting to use the time to show the students something interesting about programming, rather than to talk about career options – that would be the role of the counselor. Josh West from counseling has indicated his interest in this, and other CIS instructor may want to coordinate with us as well.
- The CIS instructors in entry-level CIS courses will try to deliberately explain to students what the various available programs in CIS are. (This already happens to a large extent, but we could be more deliberate about it.)
- As time permits the CIS instructors would like to make several 2-3 minute videos profiling various CIS careers and make them available. Perhaps there would be videos profiling specific courses as well.
- Pursue the possibility of having CIS 208 students collaborate with Alexis Rivera and the newly formed robotics club at SHS.

Question 4.

Response to question 4 (please refer to any data sets or evidence to support your case):

Question 5.

Response to question 5 (please refer to any data sets or evidence to support your case):

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.

Response to Challenges:

It is clear from the analysis above that the primary challenge for the program is to increase the number of majors and second-year students. Several proposals for responding to this challenge were listed above.

One of the proposals has already been implemented: Change the sequencing for MAT 230 from spring to fall so that it does not conflict with Calculus 3 class, and modify the suggested schedule in the catalog accordingly.

Apart from that, the most important proposals include:

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- Remove MAT 150 and replace it with CIS 207 (see focused question 2 below). This should make it clearer to students that CIS 208 is the natural follow-up.
- In three years, if MAT 230 enrollment remains low, consider whether to drop it as a course and modify the program accordingly.
- Arrange a visit by an instructor and a counselor to an area high school once a semester.
- Have the CIS instructors produce several 2-3 minute videos profiling various CIS careers or courses and make them available.

Each of these should be reflected in the operational plan.

Other possibilities mentioned were considering whether a better starting time than 8:00 am is available for the programming courses, having instructors in all CIS programs be more deliberate about educating students with regard to the various degree and course options in CIS, and pursuing the possibility of a collaboration with the Sterling High School robotics club.

Program Bookkeeping Tasks

Task List	Description of Task	Is the task complete? Yes/No.
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 for the program's courses. http://www.svcc.edu/students/equival.pdf *This task will be completed by IR Department.	IR will complete

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Signature/Date	Program Review Team Member	
		Chair
		Member
		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)
PR 2016	12/18/2016	Kevin Megill	Remove MAT 150. It is no longer needed, and replacing it with CIS 207 will make it clearer to students that CIS 208 is the natural sequel	MAT 150 no longer offered. Catalog descriptions updated.	MAT 150 no longer offered by Spring 2017, catalog updated accordingly for Spring 2017.		
PR 2016	12/18/2016	Kevin Megill	Reconsider whether to drop MAT 230 in three years. If enrollment has not increased, it would be more cost-effective to drop it from the degrees.	Either enrollment increases, or we drop MAT 230, or we make a definite decision not to and provide a rationale.	Decision made by January of 2020		
PR 2016	12/18/2016	Kevin Megill	Arrange visits by an instructor and a counselor to an area high schools. Should help in marketing the CIS programming degrees.	Visit at least one high school each semester.	One visit in either Fall 2017 or Spring 2018; one visit per semester after that.		
PR 2016	12/18/2016	Kevin Megill	Have the CIS instructors produce several 2-3 minute videos profiling various CIS careers or courses. This will help in marketing the CIS degrees and courses.	One video produced during year beginning Fall 2018. Based on how that goes, a plan for producing more.	First video finished by May 2019.		
Comments:							

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ACADEMIC DISCIPLINE PROGRAM REVIEW SUMMARY REPORT

Required ICCB Program Review Report

Sauk Valley Community College (506)

Academic Year 2015 - 2016

Academic Degree (discipline)	A.S. 840
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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?

The objective of the program is to prepare students to transfer into a bachelor-level program in Computer Science with a technical as opposed to a business emphasis. There are three courses in the discipline.

First semester (fall): CIS 150 (preprogramming logic)

Summary of objectives: Students will be prepared for programming by learning to develop algorithms using flowcharts and pseudocode. Students will use programming features such as variables, assignment statements, selection statements loops, subprograms with parameters, and arrays.

The fundamental purpose of CIS 150 is to acquaint students with algorithms and programming logic to help them progress more successfully through the next two programming courses.

Second semester (spring): CIS 207 / Third semester (fall): CIS 208 (C++ programming and data structures)

CIS 207-208 fulfill the IAI requirements for CS 911-912.

Summary of objectives: Students will learn to program in C++, using variables, assignments, selection statements, loops, functions, arrays, structs, classes and objects (including object-oriented design, constructors, and inheritance), pointers, and recursion. They will design and use abstract data types including linked lists, stacks, queues, and binary trees. They will design and analyze classic algorithms for sorting and searching. They will use structured program design and conform to guidelines for programming style throughout.

The objectives for the courses are 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?

Yes.

CIS 207 and CIS 208 correspond to IAI CS 911 and 912, which are the primary two courses needed to prepare students for transfer. IAI strongly urges that students take both courses

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together at the same institution. CIS 150 is a prerequisite course that prepares students for taking the C++ courses more successfully. Students themselves report that it is a very useful course for helping them progress through the subsequent programming courses, and the consistent enrollment and the success rates of students in CIS 207 bear that out. |

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

|The program is breaking nearly even financially, but an important step toward greater profitability would be to increase the number of majors. Specific plans for doing so, outlined above, include merging a programming course in mathematics (MAT 150) with CIS 207, and having instructors visit high schools regularly to increase the visibility of the program.

There is no need for additional resources at the present time. |

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.

|Based on assessments given at the end of CIS 208, instruction for individual courses is successfully meeting its goals. Programmatic plans for increasing the number of majors are described in the answer above. |

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

|CIS 207 articulates with CS 911
CIS 208 articulates with CS 912

Both are currently approved by IAI.
|

ACADEMIC DISCIPLINE PROGRAM REVIEW SUMMARY REPORT

Required ICCB Program Review Report

Sauk Valley Community College (506)

Academic Year 2015 - 2016

Academic Degree (discipline)	A.A. 641
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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:	
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	