Career & Technical Education				
COLLEGE NAME:		Kishwaukee College		
FISCAL YEAR IN REVIEW:		FY 2017		
PROGRAM IDENTIFICATION INFORMATION				
PROGRAM TITLE	*DEGREE OR CERT*	*TOTAL CREDIT HOURS*	*6-DIGIT CIP CODE*	*LIST ALL CERTIFICATE PROGRAMS THAT ARE STACKABLE WITHIN THE PARENT DEGREE*
#437 Computer Information Systems	**Degree**	**60-61**	**11.0103**	Parent #437 Computer Programming or Web Development Options - #451 Computer Programming Cert. - #454 Web Development Cert.

Address all fields in the template. If there are certificates and/or other stackable credentials within the program, please be sure to specify and sufficiently address all questions regarding each stackable credential.	
Program Objectives What are the overarching objectives/goals of the program?	1. Develop software and/or hardware applications. 2. Demonstrate an understanding of terminology and core concepts. 3. Test, debug, maintain, and improve the performance of software/hardware systems. 4. Comply with industry standards, laws, and ethics. 5. Demonstrate the use of software/hardware tools to accomplish tasks. 6. Demonstrate professional communication skills and the ability to work in a team. The students who enroll in these courses in many cases have transfer aspirations that go beyond the AAS Degree discussed in this program review. Courses included in the degree also serve additional programs at both Kishwaukee College and Northern Illinois University among others.
To what extent are these objectives being achieved?	We have been assessing sub-components of the goals in several courses over the last five years. Most have met or exceeded their benchmarks. Course modifications and re-assessment have been made when benchmarks have not been met.
Past Program Review Action What action was reported last time the program was reviewed?	Done: Work on getting student feedback, rework web certificate, review and update curriculum Not done due to declining enrollment: Hire additional faculty, promote seminar courses Ongoing: Promote women in technology (50% increase in student percentage since 2012), work on distinguishing which degree options are being pursued

CTE PROGRAM REVIEW ANALYSIS

Complete the following fields and provide concise information where applicable. Please do not insert full data sets but summarize the data to completely answer the questions. Concise tables displaying this data may be attached. The review will be sent back if any of the below fields are left empty or inadequate information is provided.

List all pre-requisites for this program (courses, placement scores, etc.).	Appropriate placement test scores, or ENG 097 Writing Improvement and/or ENG 098 Reading Improvement (as required) with a "C" or higher grade; or ENG 109 Introduction to Technical Report Writing with a "C" or higher grade; concurrent enrollment in ENG 098 Reading Improvement may be required; MAT 075 Elementary Geometry and MAT 086 Intermediate Algebra II or MAT 098 Intermediate Algebra with grades of "C" or higher. (One year of high school geometry with a passing grade will satisfy the MAT 075 Elementary Geometry prerequisite requirement); MAT 150 College Algebra with a grade of "C" or higher; ENG 097 Writing Improvement with a grade of "C" or higher or appropriate placement test scores; MAT 086 Intermediate Algebra II
Please list or attach all required courses (including titles) for completion of this program including institution required courses (e.g. student success, first year, general education requirements, etc.).	See attached Program Planner
Provide a rationale for content/credit hours beyond 30 hours for a certificate or 60 hours for a degree.	The curriculum for this particular degree was reviewed in detail by the faculty and advisors and the number of hours was reduced to 60-61, so it is no longer beyond 60 hours.

INDICATOR 1: NEED	RESPONSE
1.1 How strong is the occupational demand for the program?	It depends on the option taken: Programmer: not very strong (Bachelors degree suggested) Web developer: very strong Systems analyst: strong (Bachelors degree required)
1.2 How has demand changed in the past five years and what is the outlook for the next five years?	Over the past five years demand for programmers has been falling, but demand for systems analysts and web developers has risen. 2014-2024 outlook: -8% programmers (but locally expected to rise 24% according to Illinois 2012-2022 projection), +21% systems analysts, +26% web developers, but 32% expected for Illinois.
1.3 What is the district and/or regional need?	The long-term outlook was given above. The school is in a rural area and demand for our programs/courses has been a mix of traditional students, professionals expanding their skill set, and students from NIU taking specific courses as needed. The last few years has shifted away from returning professionals. There is more of a need for supporting students planning to transfer to four year schools.
1.4 How are students recruited for this program?	The school attends college nights and career fairs to advertise our programs. There is some on-campus advertising. Off campus advertising is possible, but limited due to funds.

1.5 Where are students recruited from?	Primarily from local area high schools as well as the local Illinois WorkNet Center.
1.6 Did the review of program need result in actions or modifications? Please explain.	Yes, but the need was under review before this program review started. This ongoing review has led to eliminating courses deemed less relevant or somewhat redundant, offering fewer sections of courses, and moving more course materials to online and/or hybrid formats to facilitate more flexible scheduling.
INDICATOR 2: **COST EFFECTIVENESS**	**RESPONSE**
2.1 What are the costs associated with this program?	The costs associated with the program are primarily faculty salaries for both full and part-time, there are other limited expenses related to software licensing, computer lab infrastructure and some specific technical hardware and equipment.
2.2 How do costs compare to other programs on campus?	The costs of operating the CIS program are similar to many other programs that have a mixture of lecture and lab based course offerings. Costs of operating the CIS programs are generally less than most other CTE related programs. The operating costs of the CIS department have resulted in net revenues of $12,375.29-$77,101.23 during the review cycle.
2.3 How is the college paying for this program and its costs (e.g. grants, etc.)?	The program costs are being covered through the institutional budget with some larger capital items purchased through Perkins or other local grant awards.
2.4 If most of the costs are offset by grant funding, is there a sustainability plan in place in the absence of an outside funding source? Please explain.	Almost all of the departmental costs are absorbed within the overall college budget.
2.5 Did the review of program cost result in any actions or modifications? Please explain.	Observing the declining enrollments over the past few years the decision was made to reduce full-time faculty staffing within the department by one FTE in FY17. The reduction in full-time faculty staffing as well as other structural changes related to curriculum and course offerings resulted in an overall net increase of close to $70,000 over FY16.
INDICATOR 3: QUALITY	**RESPONSE**
3.1 What are the program's strengths?	Small class sizes, direct access to instructors, current hardware and software, instructors have experience in the topics they are teaching, full-time instructors also have Master's degrees in the field.
3.2 What are the identified or potential weaknesses of the program?	Low enrollment currently limits us from offering multiple sections of some classes at more varied times, and also from offering a larger variety of courses. There needs to be more job placement support upon graduation. College advisors need more experience with the program to better advise students.

3.3 What are the delivery methods of this program? (e.g. traditional format/online/hybrid/team-teaching etc.)?	Most classes are taught either as traditional or hybrid courses. The hybrid courses range from half the usual on-campus time to almost fully online. For instance CIS 123 can be taken entirely online except for the midterm and final exam – however the instructor still provides weekly face-to-face class sessions for those students who prefer that format. We are moving toward offering additional courses through online delivery models to help address some of the potential weaknesses identified in section 3.2.
3.4 How does this program fit into a career pathway?	The programming option of this degree supports the programming and software development career pathway. The web development option supports the web and digital communications pathway.
3.5 What innovations have been implemented or brought to this program that other colleges would want to learn about?	The department is often trying new approaches and techniques to see if student retention (both knowledge and enrollment) can be improved – but these are approaches other programs are also trying. One of our strengths has been to have the full-time faculty interact on a personal level with the students.
3.6 Are there dual credit opportunities? If so please list offerings and the associated high schools.	There are currently limited dual credit offerings through the Kishwaukee Education Consortium that services our local high school districts.
3.7 What work-based learning opportunities are available and integrated into the curriculum?	This degree requires either an internship (CIS 296) or a project (CIS 236). The internship is always a work-based experience. The project provides a similar experience, but is often not for an employer. Most students opt for the internship.
3.8 Is industry accreditation required for this program (e.g. nursing)? If so, identify the accrediting body. Please also list if the college has chosen to voluntarily seek accreditation (e.g. automotive technology, NATEF).	No.
3.9 Are industry-recognized credentials offered? If so, please list.	CIS 115 – CIW Internet Business Foundations CIS 118 – CIW Site Development CIS 140 – CIW Network Technology Associate, CompTIA Net+ CIS 170 & CIS 270 – CompTIA Linux+
3.10 Is this an apprenticeship program? If so, please elaborate.	No.
3.11 If applicable, please list the licensure examination pass rate.	N/A
3.12 What current articulation or cooperative agreements/initiatives are in place for this program?	Five courses have IAI articulation numbers (CIS 123 = IAI BUS 902, CIS 150 = IAI CS 911, CIS 250 = IAI CS 912, CIS 160 = IAI CS 911, CIS 260 = IAI CS 912). NIU accepts CIS 170 as their CSCI 330. We have 2+2 agreements with SIU, Franklin, NIU BSAM.

3.13 Have partnerships been formed since the last review that may increase the quality of the program and its courses? If so, with whom?	No.
3.14 What is the faculty to student ratio for courses in this program? Please provide a range and average.	Approximately 72-75% of all course sections offered are taught by full-time faculty. The average class size across the program has been stable at around 11 students, however the range of actual class sizes for non-individualized/independent offerings was from 6 to 24 students.
3.15 What professional development or training is offered to adjunct and full time faculty that may increase the quality of this program?	Kishwaukee College offers some in-house free training for topics such as using instructional technology and using the learning management system. The school offers a tuition waiver for employees. The full-time faculty contract also includes some reimbursement for outside courses, training, and workshops.
3.16 What is the status of the current technology and equipment used for this program?	The hardware and software are current enough to fit our needs and is updated on a rotating schedule. We have what we need at this time.
3.17 What assessment methods are used to ensure student success?	Primarily assignments (some written, most practical application), labs, exams, and quizzes.
3.18 How satisfied are students with their preparation for employment?	83.3% of students responded that they were satisfied or very satisfied with their preparation for work.
3.19 How is student satisfaction information collected?	Graduation information was obtained via a graduate survey. Ongoing student opinion is gathered via course and instructor evaluations for select courses/instructors, and by periodic Noel-Levitz surveys school-wide.
3.20 How are employers engaged in this program? (e.g. curriculum design, review, placement, work-based learning opportunities)	Employers are primarily engaged through our advisory committee. The advisory committee suggests topics and courses, and suggests and reviews curriculum. We also get some feedback from the employers of our students in the Internship course.
3.21 How often does the program advisory committee meet?	Twice a year in the fall and spring semester
3.22 How satisfied are employers in the preparation of the program's graduates?	We do not have hard data on that, but through our advisory committee and internship course, employers seem mostly satisfied and have asked for additional students to intern. One employer in particular has recommended strongly that we need to emphasize more critical thinking and problem solving in some of our courses.
3.23 How is employer satisfaction information collected?	Mainly anecdotally though our advisory committee and communication with employers participating in our CIS 296 internship course.

3.24 Did the review of program quality result in any actions or modifications? Please explain.	We were reviewing our curriculum and programs before starting this program review. The curriculum/program review led us to make major changes in required courses and scheduling in this particular program and others in Fall 2016 (effective Fall 2017).

DATA ANALYSIS FOR CTE PROGRAM REVIEW
Please complete for each program reviewed. Colleges may report aggregated data from the parent program or report on enrollment and completion data individually for each certificate within the program. Provide the most recent 5 year longitudinal data available.

CTE PROGRAM	CIS #437 Computer Information Systems (Degree)				
CIP CODE	11.0103				
	YEAR 1	*YEAR 2*	*YEAR 3*	*YEAR 4*	*YEAR 5*
NUMBER OF STUDENTS ENROLLED	148	119	109	111	98
NUMBER OF COMPLETERS	1	0	0	2	1
OTHER (ALL OTHER CIS CERTIFICATES & DEGREES)	17	13	11	8	14

How does the data support the program goals? Elaborate.	As discussed previously regarding the overall educational goals of the students taking courses within this program of study as well as the employment outlook there are many students taking these courses for a variety of educational and professional goals. The students who are enrolling in individual courses are meeting the primary objectives of those courses as they related to the specific program outcomes… The number of students enrolled is slightly skewed by the students enrolled in other service courses i.e. CIS 101 for Nursing students. However for those students who are enrolled in multiple CIS courses the data also highlights the trend toward 4-year bachelor's degree attainment and AS Transfer related curricular decisions.
What disaggregated data was reviewed?	Disaggregated data was reviewed for student demographics related to age, gender, ethnicity, educational pathways, and purpose for course/program enrollment. Additional data was reviewed regarding full/part time faculty assignments, course scheduling by format and time of day etc.
Were there gaps in the data? Please explain.	There aren't necessarily gaps in the data, as much the data explains the disconnect between the larger total number of enrolled students and their individual completions. Approximately 50% of the students enrolled in the related CIS courses are taking them with the intent to transfer and are rounding out their A.S. Degree electives within the CIS program. Other gaps may include tracking of student academic program, their intended rate of completion etc…
What is the college doing to overcome any identifiable gaps?	From student services and IT we have implement student self-service and academic advising modules within our campus wide infrastructure to help students with academic planning, course scheduling, and degree/certificate completion.

Are the students served in this program representative of the total student population? Please explain.	The ethnic mix is similar to the community. Traditional aged students (18-24) constitute 52% - 63% of CIS courses. The gender mix is skewed toward male (68%, down from 79% in 2012), although some courses, such as CIS 101 and CIS 123 are much more balanced.
Are the students served in this program representative of the district population? Please explain.	In general, yes. The average age is naturally much younger than the district population as a whole. The disparity in gender was noted above. The gender gap in this field is a known national trend. We have been able to slowly start balancing out the numbers.
REVIEW RESULTS	
Action	☒ Continued with Minor Improvements ☐ Significantly Modified ☐ Placed on Inactive Status ☐Discontinued/Eliminated ☐ Other (please specify)
Summary Rationale Please provide a brief rationale for the chosen action.	We have just made major changes across our programs and it is time to assess those changes over the next couple of years to see how they affect student success and enrollment. We plan to review and refine our program and course objectives over the next year.
Intended Action Steps What are the action steps resulting from this review? Please detail a timeline and/or dates for each step.	Review and refine course and program objectives (by 5/2018) Review and update selected courses (ongoing, 1 to 3 per year) Move more course materials and courses online (1 to 2 per year) Promote courses and programs (ongoing, emphasis in 2018/2019)

KC KISHWAUKEE COLLEGE

Associate of Applied Science
Curriculum Guide

CareerClusters
Information Technology

Curriculum No. 437

Computer Information Systems: Web Development

FIRST YEAR

Fall Semester

CIS 101	Introduction to Computers	(3)
CIS 111	Logic and Program Design	(3)
CIS 115	Internet Fundamentals	(2)
CIS 118	Foundations of Web Site Development	(3)
ENG 103	Composition I	**OR**
ENG 109	Intro to Technical Report Writing	(3)

Spring Semester

CIS 119	JavaScript	(3)
CIS 123	Management Information Systems	(3)
CIS 140	Networking Fundamentals	(4)
COM 100	Oral Communication	(3)
MAT 150	College Algebra	**OR**
MAT 210	Finite Mathematics	(3-4)

SECOND YEAR

Fall Semester

CIS 160	Java Programming I	(3)
CIS 170	Introduction to UNIX	(3)
	CIS Electives	(4)
	Humanities Elective	(3)
	Social Science Elective	(3)

Spring Semester

CIS 122	Web Site Creation Software	(4)
CIS 236	CIS Project	**OR**
CIS 296	CIS Internship	(3)
CIS 237	Database Management and SQL	(3)
CIS 260	Java Programming II	(3)
CIS 265	Server-Side Programming	(3)

CIS ELECTIVES

CIS 142	PC Repair and Configuration	(3)
CIS 150	C++ Programming I	(3)
CIS 182	Window Server Fundamentals I	(3)
CIS 238	Systems Analysis and Design	(3)

CIS ELECTIVES

CIS 250	C++ Programming II	(3)
CIS 270	Fundamentals of Linux Administration	(3)
CIS 282	Windows Server II Networking	(3)

ADDITIONAL SOURCES OF INFORMATION

DEPARTMENT
David Klick, Instructor
815-825-9337
david.klick@kishwaukeecollege.edu

Shelley Lawson, CT Administrative Assistant
815-825-9303
shelley.lawson@kishwaukeecollege.edu

COUNSELORS
Counseling & Student Development Center
Phone: 815-825-9514

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREE REQUIREMENTS

1. Complete specific course and program requirements for A.A.S. degree as outlined in the Career/Occupational Programs section of the catalog. Each curriculum identifies the specific course requirements needed to complete an A.A.S. degree.
2. Meet the residency requirement: a minimum of 15 credit hours in 100/200 level Kishwaukee College course work, applicable to the degree, for each degree earned.
3. Fulfill the grade point average requirement of an overall 2.000 GPA in all required and elective course work applicable to the specific degree program requirement.
4. Resolve any incomplete grades in Kishwaukee College course work applicable to the degree.
5. Apply for graduation in the Enrollment Services office or through myKC.

www.kish.edu | 21193 Malta Road • Malta, Illinois 60150 | 815-825-2086 | TTY: 815-825-9106   Rev. 5/17

KC KISHWAUKEE COLLEGE

Associate of Applied Science
Curriculum Guide
Curriculum No. 437

CareerClusters
Information Technology

Computer Information Systems: Programming

FIRST YEAR		
Fall Semester		
CIS 101	Introduction to Computers	(3)
CIS 111	Logic and Program Design	(3)
CIS 115	Internet Fundamentals	(2)
CIS 118	Foundations of Web Site Development	(3)
ENG 103	Composition I	**OR**
ENG 109	Intro to Technical Report Writing	(3)
Spring Semester		
CIS 119	JavaScript	(3)
CIS 123	Management Information Systems	(3)
CIS 140	Networking Fundamentals	(4)
COM 100	Oral Communication	(3)
MAT 150	College Algebra	**OR**
MAT 210	Finite Mathematics	(3-4)

SECOND YEAR		
Fall Semester		
CIS 150	C++ Programming I	(3)
CIS 160	Java Programming I	(3)
CIS 170	Introduction to UNIX	(3)
	Humanities elective	(3)
	Social Science Elective	(3)
Spring Semester		
CIS 236	CIS Project	**OR**
CIS 296	CIS Internship	(3)
CIS 237	Database Management and SQL	(3)
CIS 250	C++ Programming II	(3)
CIS 260	Java Programming II	(3)
CIS 265	Server-Side Programming	(3)

ADDITIONAL SOURCES OF INFORMATION

DEPARTMENT
David Klick, Instructor
815-825-9337
david.klick@kishwaukeecollege.edu

Shelley Lawson, CT Administrative Assistant
815-825-9303
shelley.lawson@kishwaukeecollege.edu

COUNSELORS
Counseling & Student Development Center
Phone: 815-825-9514

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREE REQUIREMENTS

1. Complete specific course and program requirements for A.A.S. degree as outlined in the Career/Occupational Programs section of the catalog. Each curriculum identifies the specific course requirements needed to complete an A.A.S. degree.
2. Meet the residency requirement: a minimum of 15 credit hours in 100/200 level Kishwaukee College course work, applicable to the degree, for each degree earned.
3. Fulfill the grade point average requirement of an overall 2.000 GPA in all required and elective course work applicable to the specific degree program requirement.
4. Resolve any incomplete grades in Kishwaukee College course work applicable to the degree.
5. Apply for graduation in the Enrollment Services office or through myKC.

www.kish.edu | 21193 Malta Road • Malta, Illinois 60150 | 815-825-2086 | TTY: 815-825-9106   Rev. 5/17