Academic Disciplines	
College Name:	Shawnee Community College
Academic Years Reviewed:	2018-2022
Discipline Area:	Mathematics
Review Summary Complete this section to review the Academic Discipline as a whole. Use the Course Specific Review portion of this template for each course reviewed in the Discipline.	
Program Objectives What are the objectives of the discipline?	The mathematics program provides coursework, instruction, and support to successfully prepare the students for successful transition into the next mathematics course or the workforce.
To what extent are these objectives being achieved? How do you know the extent to which they are being achieved?	After reviewing the Developmental Education Reform Act (DERA) report submitted to ICCB on May 1, 2022, where only 3 of 37 students (8.1%) passed the gateway math course, the Math Department determined that changes in the math curriculum were needed.
How does this discipline contribute to other fields and the mission of the college, including addressing the college's vision for equitable access for students?	Mathematics courses are offered to help strengthen the general education curriculum as well as support students in the career and technical fields. Various delivery modalities, times, and locations are utilized to help serve the needs of students at various skill levels. ALEKS-PPL software has been purchased to help students with math placement and skill building. Additionally, the College has implemented multiple measures placement to ensure students are able to enroll in a gateway math course in year one.

Prior Review Update Describe any quality improvements or modifications made since the last review period.	The Math department utilized funding from the Developmental Educational Innovation Grant for Corequisite Development to contract with consultant Kathy Almy of Almy Education, to redesign the developmental math program, create corequisites, and implement multiple measures placement. MAT 039 Development Math, and MAT 042 Geometry, were both withdrawn during this review period. MAT 043 Intermediate Algebra, will be made inactive since course content has been integrated into the following corequisite courses: MAT 120 College Algebra with Review, and MAT 208 General Elementary Statistics with Review. MAT 120 was offered in Spring 2023. MAT 110 (corequisite), MAT 120, and MAT 208 will be offered in Fall 2023. ALEKS-PPL is being used to supplement instruction in MAT 041 Introduction to Algebra, to meet the needs of students who are not college-ready based on all of the College's placement measures.

Review Analysis

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

Indicator 1: Need	Response
1.1 What mechanisms are in place to determine needs/changes for AA, AS, AFA, and AES academic programs? How are needs/changes evaluated by the curriculum review committee and campus academic leadership?	Initial discussion regarding program and/or course change begins at the department level. Once change has been vetted at the department level, new course and/or course change forms are submitted to the Department Chair for signature, then on to the Curriculum & Instruction (C&I) Chair for C&I Committee review. Department Chairs are all members of C&I and provide points of clarification at meetings, as requested. Once the C&I Committee approves course and/or program changes, the Dean of Transfer & Adult Education Programs submits courses and/or program changes to ICCB and/or IAI for final approval. After approval from ICCB/IAI, the Dean emails all parties on campus to ensure updates are made in Colleague and the Department of Education. That correspondence is logged on a C&I tracking sheet maintained by the Dean's administrative assistant. If the change involves articulation with one of the College's university partners, the Registrar works with university partners on updating articulation agreements for the various courses and/or programs involved.

1.2 How will students be informed or recruited for this discipline?	Students are recruited at various community events, by word of mouth from other students, the SCC website, social medial, newspaper and print materials, radio and TV ads, the Shawnee Experience recruitment day, and faculty and recruiter visits to district high schools.
1.3 What, if any, new Academic Transfer degrees/major options have been added/deleted to the college's offerings during the last review period? What determined this action?	There were no new transfer degrees/majors added or deleted during this review period.
1.4 How many total courses are offered by the college in this discipline? What courses see the largest need (enrollment) from students?	There are currently 16 math courses, with two additional corequisite courses, MAT 110 General Education Math (offered concurrently with MAT 090 General Education Math Corequisite Lab), and MAT 208 General Elementary Statistics with Review, being offered in Fall 2023. The highest enrollment courses from 2017-2022 were: MAT 110 General Education Mathematics (N=648), MAT 116 College Algebra (N=415), MAT 210 General Elementary Statistics (N=400), and MAT 115 Pre-Calculus (N=240). The average annual enrollment for these courses were: MAT 110 General Education Mathematics (N=130), MAT 116 College Algebra (N=83), MAT 210 General Elementary Statistics (N=80) and MAT 115 Pre-Calculus (N=48).
Indicator 2: Cost Effectiveness	**Response**
2.1 What are the costs associated with this discipline? (How does the operational cost of this discipline compare to that of other baccalaureate/transfer disciplines and all programs offered by the college overall? What are the primary costs associated with this discipline? How many full- and part-time faculty are maintained for this discipline?)	Costs associated with this discipline include faculty salaries and benefits, classroom supplies, instructional technology, and professional development/meeting attendance. The College currently employs three full-time math faculty and four adjunct faculty. Additionally, seven dual credit faculty (employed by district high schools) teach one or more dual credit math courses at their respective institutions. Two full-time math faculty have left the college (one retirement and one resignation) since the last program review and neither position has been replaced due to declining enrollment at the College.

2.2 What steps can be taken to offer curricula more cost-effectively?	The College offers courses in several modalities to accommodate students who may struggle financially. In an attempt to run course sections in a more cost-effective way, college leadership and faculty are working together on an academic schedule with fewer sections that also meets the needs of students. In other attempts to keep costs down, the campus bookstore offers used textbooks and online access cards with e-book options. Calculators are also available for students to checkout from the library rather than purchase. Additionally, newer textbook editions are available for rent in the campus bookstore rather than student purchase.
2.3 Is there a need for additional resources?	There could potentially be the need for additional full-time or adjunct math faculty dependent on enrollment. Due to the rural, remote location of the College's campus, advertising in an expanded region would be beneficial to attract a larger, and more diverse, qualified applicant pool. Additionally, two of the three full-time math faculty anticipate retiring within the next few years.
Indicator 3: Quality	**Response**
3.1 Are there any alternative delivery methods of this discipline? (e.g. online, flexible scheduling, accelerated, team teaching, etc.)?	The math department offers courses using the following instructional modalities: in-person, interactive television (ITV), fully online, and/or zoom. The first corequisite math course (MAT 120 College Algebra with Review) was offered in Spring 2023, and had 20 students enrolled. Two additional corequisite math courses, MAT 110 General Education Math (offered concurrently with MAT 090 General Education Math Corequisite Lab), and MAT 208 General Elementary Statistics with Review, will be offered beginning Fall 2023. The math department does not currently team teach or offer flexible or accelerated scheduling.

3.2 If the college delivers a course in more than one method, does the college compare success rates of each delivery method? If so, how? How does the college provide supports to students to ensure that they have equitable access to these different course delivery methods?	The Office of Institutional Effectiveness created a data dashboard that allows faculty and administrators to compare success rates among various locations, delivery modality, etc. The data dashboard is relatively new and was officially rolled out in Fall 2022. To assist students, the College employs one part-time professional mathematics tutor, with options of peer and online tutoring also available for students. Math faculty also tutor students in-person during their office hours and remotely via zoom.
3.3 What assessments does the discipline use to measure full-time and adjunct instructor performance in the classroom?	All faculty are evaluated in accordance with College Policy and/or the Collective Bargaining Agreement.
3.4 What professional development is offered for full- and/or part-time faculty in this discipline? Is all professional development offered to both full time and adjunct faculty?	Full-time and part-time faculty are encouraged to take part in professional development opportunities offered through the College's Teaching and Learning Center, which include topics such as active learning strategies, instructional technology use in the classroom, online pedagogy, and student engagement, improving synchronous and asynchronous learning environments. Faculty are also encouraged to participate in off-campus professional conferences by requesting that funds be budgeted for professional development activities and attendance at professional meetings. The College also hosts Convocation at the beginning of the fall and spring semesters that includes professional development activities for faculty and staff. Full-time faculty are contractually required to attend two departmental professional development days each academic year usually surrounding assessment and the continuous quality improvement (CQI) process.
3.5 How many faculty have been actively involved in IAI panel review for courses in this discipline over the last review period?	No mathematics faculty members have served on an IAI panel over the last review period.

3.6 How does the discipline identify and support "at-risk" students? What supports are available to these students and how are students made aware of these supports?	Faculty utilize an online Retention Alert system which notifies the academic advisor (who then contacts the student) for issues such as missed classes, work not turned in, low test scores, etc. Students can also be referred for tutoring services, as needed. The Testing Center also provides accommodations for students with physical and/or learning disabilities (such as note takers, extended test time, a quiet testing environment, etc.). The College's TRIO program and Student Support Services are available for students who meet the qualification criteria. Also, in Fall 2023, ALEKS-PPL software will be available to students who are not deemed college-ready by multiple measures placement and must enroll in MAT 041 Introduction to Algebra.
3.7 To what extent is the discipline integrated with other instructional programs and services?	The math and science faculty are combined into a single department under one Chair. The math faculty work with other departments outside of math and science (such as Allied Health, CTE, etc.) to ensure that course content and scheduling meets the needs of students enrolled in their programs.
3.8 What does the discipline or department review when developing or modifying curriculum?	One of the College's full-time math faculty members serves on the Illinois Mathematics Association of Community Colleges (IMACC) committee, which has proven invaluable for ensuring the math department is aware of legislative changes as well as trends and best practices in math education. Consultant Kathy Almy, of Almy Education, has also been a valuable partner by providing data, resources, and best-practice recommendations to the math department as faculty have redesigned the math curriculum. Kathy works with other colleges throughout the state and shares insight for best practices. When modifying the curriculum, the math department relied heavily on best practices, as well as networking with peer institutions as part of the ASPIRE project.

3.9 When a course has low retention and/or success rates, what is the process to address these issues? Are data reviewed to determine if one student population is disproportionately affecting course success rates? If so, how does the college address these disparities?	Faculty consistently review retention and success rates and adjust the curricula to address identified gaps. Adjustments include revising assignments, referrals for tutoring or ALEKS, and library resource sessions for students. Faculty also compare course success rates (available through the data dashboard) and course evaluations and discuss strategies for improvement with other faculty at department meetings. Faculty sometimes compare those success rates, particularly in remedial education, with data reported across the state and even nationally. Additionally, the College has purchased the ALEKS-PPL software and it will be utilized to help students fill knowledge gaps and review math concepts they are struggling to understand with the ultimate goal of completion of a gateway math course in year one.
3.10 How does the college determine student success in this discipline?	In math courses, success is demonstrated by earning a grade of C or better in a course; therefore, allowing transfer of credit or continuation to next math course.
3.11 Did the review of quality result in any actions or modifications? Please explain.	Numerous changes to the mathematics curriculum (as discussed throughout this report) were already in progress or completed prior to this completion of report.

List any barriers encountered while implementing the discipline.

Barriers:

1. Limited pool of qualified adjuncts.
2. Students are often underprepared for college-level mathematics work, and lack the study and test-taking skills to be successful.
3. Very few district high schools offer Transitional Math.
4. Equity gaps exist, but will hopefully be narrowed as we implement multiple measures placement, utilize ALEKS-PPL, and enroll students in corequisite math courses.

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Academic Discipline Area: Mathematics Courses Reviewed: MAT 110 General Education Mathematics,

	MAT 111 Math for Elementary Teachers I, MAT 112 Math for Elementary Teachers II, MAT 113 Quantitative Literacy, MAT 115 Pre-Calculus, MAT 116 College Algebra, MAT 118 Trigonometry, MAT 119 Finite Mathematics, MAT 121 Technical Mathematics, MAT 122 Mathematics for Healthcare Professionals, MAT 209 Calculus I, MAT 210 General Elementary Statistics, MAT 211 Calculus II, MAT 212 Calculus III, MAT 213 Ordinary Differential Equations I, and MAT 215 Applied Calculus for Business and Social Sciences				
Course Title	MAT 110 General Education Mathematics				
Course Description	This course focuses on mathematical reasoning and the solving of real-life problems, rather than routine skills. Topics to be studied in depth include graph theory, counting techniques and probability, statistics, and finance or geometry. Calculators will be used extensively.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	151	135	112	133	117
Credit Hours Produced	612	544	452	532	476
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	86.09%	88.15%	82.14%	81.95%	74.36%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1904	M1904	M1904	M1904	M1904
How does the data support the course goals? Elaborate.	Overall, students are successfully completing MAT 110 and achieving transferable credential. MAT 108 (General Education Mathematics with Review) has been developed to expedite a student's achievement of college-level mathematics credit.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	Students were most successful when the course delivery mode was internet-based (77.39%) or in person (81.23%) and least successful when the delivery mode is ITV (58.62%). White student success rates were highest (82.5%) followed by unknown ethnicity (73.68%), Hispanic (71.05%) and Black/African American (69.11%). The population size for unknown ethnicity was small (N= 19 over 5 years). The lowest success rates were for American Indian (37.5%; N= 8) and Asian (40%; N=5), but the population sizes were very small. Males (81.79%; N=291) had greater success than females (76.60%; N=483).				

Performance and Equity Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.					
Academic Discipline Area	Mathematics				
Course Title	MAT 111 Math for Elementary Teachers I				
Course Description	This course covers problem solving strategies, sets, relations, other numeration systems, algorithms, whole numbers, integers, rational numbers and real numbers. It is designed for elementary education majors.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	11	6	11	10	7
Credit Hours Produced	44	24	44	40	28
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	100%	83.33%	81.82%	70%	71.43%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	SIUC, Murray State, and SEMO				
How does the data support the course goals? Elaborate.	This course has 70% or higher success rate; it is successfully preparing students for transfer or employment.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is only taught in-person so success rates by delivery mode are not addressed. Success rates and student numbers by ethnicity are as follows: White (85%; N=34), Hispanic (100%; N=2) and Black/African American (66.67%; N=3) Asian (100%; N=1). Students aged 21-25 had the lowest success rate (75%). Males (88.89%; N=8) had greater success than females (81.58%; N=38).				

Performance and Equity Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.	
Academic Discipline Area	Mathematics
Course Title	MAT 112 Math for Elementary Teachers II
Course Description	This course is a continuation of MAT 111. It includes mathematical reasoning, logic, probability, statistics, finance, and

	geometry. It is designed for elementary education majors.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	8	7	8	4	5
Credit Hours Produced	32	28	32	16	2012
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	87.5%	100%	87.5%	75%	100%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1903	M1903	M1903	M1903	M1903
How does the data support the course goals? Elaborate.	This course has 75% or higher success rate; it is successfully preparing students for transfer or employment.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is only taught in-person so success rates by delivery mode are not addressed. Success rates and student numbers by ethnicity are as follows: White (74.19%; N=31), Hispanic (100%; N=2) and Black/African American (100%; N=1) Asian (100%; N=1). Students aged 18-20 had the lowest success rate (72.41%). Males (83.33%; N=6) had greater success than females (77.42%; N=31).				

Performance and Equity Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.					
Academic Discipline Area	Mathematics				
Course Title	MAT 113 Quantitative Literacy				
Course Description	This course provides a conceptual understanding of quantitative reasoning. It develops skills in problem solving, analytical thinking, and analyzing data using graphs; descriptive statistics; using polynomial, exponential, and logistic functions and systems of equations and inequalities to model and solve real-world problems; logic, estimating, and judging reasonableness of answers; using the graphing calculator and/or computer to facilitate problem solving.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	30	23	15	16	9

Credit Hours Produced	120	92	60	64	36
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	90%	86.96%	93.33%	93.75%	66.75%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1901	M1901	M1901	M1901	M1901
How does the data support the course goals? Elaborate.	This course typically has high success rates (86% or higher). The lower FY 22 success rate could be attributed to learning losses during the Covid pandemic.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is only taught in-person so success rates by delivery mode are not addressed. Success rates and student numbers by ethnicity are as follows: White (91.67%; N=60), Hispanic (80%; N=5) and Black/African American (74.07%; N=27) Asian (100%; N=2). Students aged 18-20 had the lowest success rate (80.00%). Females (90.77%; N=65) had greater success than males (78.79%; N=33).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 115 Pre-Calculus				
Course Description	An integrated college-level course in the elementary functions of College Algebra and Trigonometry. It includes a study of number systems, equation and inequality solving, functions and graphing, linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric functions, systems of equations and inequalities, binomial expansions, analytic trigonometry, and applications of trigonometry. This course should not be taken by a student who has completed College Algebra-MAT 116 and Trigonometry-MAT 118 with a grade of "C" or better. Graphing calculators will be used in this course.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	59	71	47	42	21
Credit Hours Produced	295	355	235	225	1053

Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	86.44%	94.37%	87.23%	76.19%	95.24%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	SIUC, Murray State, and SEMO				
How does the data support the course goals? Elaborate.	This course successfully prepares the student for higher mathematics coursework. Success rate are highest when the course is taken in person with the instructor.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	Students were most successful when the course delivery mode in person (80.32%) and least successful when the delivery mode is ITV (48.57%). White student success rates were highest (80.32%; N=249), identical for Hispanic and Asian (57.14%; N=7), and lowest for Black/African American (50%; N= 8). Females (79.25%; N=159) had slightly greater success than males (75.21%; N=121). Students aged 18-20 had the lowest success rate of 68.82%				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 116 College Algebra				
Course Description	This is a college-level algebra course. First and second degree equations and inequalities; polynomial, rational, exponential and logarithmic functions; complex numbers; graphing; systems of equations, matrices and determinants; and binomial expansions. This course should not be taken by a student who has successfully completed Pre-calculus-MAT 115. Graphing calculators will be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	73	66	97	98	81
Credit Hours Produced	304	272	388	392	324
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	83.56%	90.91%	86.60%	84.69%	80.25%

IAI Status (list code) or Form 13 Status (list signature dates and institutions)	SIUC, Murray State, and SEMO				
How does the data support the course goals? Elaborate.	The high enrollment and success rates of this course support that it is preparing students for transfer. MAT 120 (College Algebra with Review) has been developed to expedite a student's achievement of college-level mathematics credit.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	Students were most successful when the course delivery mode in person (81.91%) and least successful when the delivery mode is ITV (46.15%). Students of unknown or mixed race had 100% success but population size is small (20 total), followed by White (82.44%; N=410), and lowest for Black/African American (53.33%; N= 30). Males (83.82%; N=173) had slightly greater success than females (78.64%; N=323). Success rate decreased as age increased, and students under age 18 had the highest rate of success (88.97%).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 118 Trigonometry				
Course Description	This course is the study and applications of fundamental concepts in trigonometry. It includes trigonometric functions, identities, equations, and inverse functions; graphing, degree and radian measure; solution of triangles; vectors. This course should not be taken by a student who has successfully completed Pre-calculus-MAT 115. Graphing calculators will be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	2	2	32	34	22
Credit Hours Produced	4	4	64	68	44
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	100%	50%	78.13%	73.53%	81.82%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	SIUC, Murray State, and SEMO				

How does the data support the course goals? Elaborate.	The significant increase in course enrollment in FY20 is due to the course being offered as dual credit. The FY19 success rate was low, but not significant with a sample size of N=2.
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.
Were there identifiable gaps in the data? Please explain.	Students were most successful when the course delivery mode in person (71.43%) and least successful when the delivery mode is ITV (61.11%). White students account for 89.47% of students who have taken MAT 118 the past five years and have a 63.73% success rate. Males (63.64%; N=44) and females (61.43%; N= 70) had comparable success rates.

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 119 Finite Mathematics				
Course Description	This course is an introductory course in analysis for business, life science, and social science students. This course includes set theory, counting and elementary probability theory, vectors, systems of linear equations and matrices, Markov chains, and game theory, systems of inequalities and an introduction to linear programming, logic and statistics. Graphing calculators will be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	0	6	7	0	0
Credit Hours Produced	0	18	21	0	0
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	NA	100%	85.71%	NA	NA
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1906	M1906	M1906	M1906	M1906
How does the data support the course goals? Elaborate.	This course has not been offered the last two years due to low demand. Low demand courses like MAT 119 are now being offered to students through the ILCCO consortium.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				

Were there identifiable gaps in the data? Please explain.	Internet-based was the only delivery mode for this course. Twelve of the 13 students are white and had a 91.67% success rate. Males (100%; N=4) fared better than females (88.89%; N=9).

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 121 Technical Mathematics				
Course Description	This course involves basic mathematics for the vocational-technical student. It includes arithmetic, the metric system, geometric concepts, and basic algebra with applications to vocational situations.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	15	14	14	9	14
Credit Hours Produced	45	42	42	27	42
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	75.86%	71.43%	78.57%	78.26%	64.29%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	NA	NA	NA	NA	NA
How does the data support the course goals? Elaborate.	This course typically has high success rates (71% or higher). The lower FY 22 success rate could be attributed to learning losses during the Covid pandemic.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is only taught in-person. Highest success rate (100%) was seen in American Indian (N=5, Hispanic (N=4) and unknown ethnicity (N=1) students, followed by white (82.26%; N=62), and lowest in Black/African American students (75%; N=75%). Students aged 21-25 had the lowest success rate (57.14%). Females had a 100% success rate (N=18) while males had a 79.41% success rate (N= 68).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 122 Mathematics for Healthcare Professionals				
Course Description	This course includes topics in mathematics that are frequently encountered in many medical areas. It is specifically designed for students in nursing programs. The topics covered include fractions, mixed numbers, decimals, percent, metric measurements, ratios and proportions. The majority of this course will be devoted to real problems from pharmacology.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	41	44	28	24	35
Credit Hours Produced	123	132	84	72	105
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	85.37%	81.82%	75.00%	79.17%	82.86%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	NA	NA	NA	NA	NA
How does the data support the course goals? Elaborate.	This course is strongly recommended (but not required) for students entering the LPN program. This course prepares the student to perform calculations used in pharmacology.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	Success rates varied little by ethnicity for Black/African American, Hispanic, unknown and white students, ranging between 71.43 (Hispanic)-76.67% (Black). Two or more races had a 100% success rate, but N=2. Success rates increased with age. Females were more successful (76.92%; N=182) than males (57.89%; N=19). Delivery mode success rates were as follows in-person (80.56%) and ITV (57. 89%).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics
Course Title	MAT 209 Calculus I
Course Description	This is a college level course in analytic geometry and calculus, including coordinate geometry, limits, continuity derivatives

	(including trigonometric functions) and applications, and indefinite and definite integrals with applications. Calculators will not be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	22	11	12	19	11
Credit Hours Produced	270	180	195	170	195
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	86.79%	97.22%	75%	94.12%	94.87%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1900-1 MTH901	M1900-1 MTH901	M1900-1 MTH901	M1900-1 MTH901	M1900-1 MTH901
How does the data support the course goals? Elaborate.	The FY20 lower success rate could be attributed to remote instruction as a result of the Covid pandemic. Otherwise, success rates are very good and prepare the student for further coursework in calculus.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is only offered in-person. Success rates were 100% for Asian (N=5), Black (N=2) and unknown race students (N=3). White students have a success rate of 80.79% (N=203) and Hispanic students have the lowest success rate (60%; N=5). Students aged 20 and under had the greatest success. Males (84%; N=100) had greater success than females (78.15%; N=119).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 210 General Elementary Statistics				
Course Description	This course is an introduction to the theory and application of statistics. The course of study will include descriptive methods of data analysis, probability theory, counting techniques, probability distributions including binominal and normal distributions, correlation, regression, one-sample and two-sample hypothesis testing, confidence intervals, chi-square, sampling and simulation techniques, and analysis of variance. Graphing calculators will be used in this course.				
	FY18	FY19	FY20	FY21	FY22

Number of Students Enrolled	87	85	86	90	73
Credit Hours Produced	368	340	352	380	296
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	72.41%	62.35%	66.28%	62.22%	67.12%
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1902	M1902	M1902	M1902	M1902
How does the data support the course goals? Elaborate.	This course is often taught via ITV, which has the lowest success rates. MAT 208 (General Elementary Statistics with Review) has been developed to expedite a student's achievement of college-level mathematics credit.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	White students make up 82.9% of students who take MAT 210 and have a 68.41% success rate. Black students make up 8.87% of students and have a 43.90% success rate. Younger students (<18) had the highest success rate (77.78%). Females (67.32%; N=306) fared better than males (62.82%; N=156) in MAT 210. Success rates by modality: in person (70.42%), online (67.65%) and ITV (53.38%).				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 211 Calculus II				
Course Description	This course is the study and applications of fundamental concepts in trigonometry. It includes trigonometric functions, identities, equations, and inverse functions; graphing, degree and radian measure; solution of triangles; vectors. This course should not be taken by a student who has successfully completed Pre-calculus-MAT 115. Graphing calculators will be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	3	5	5	0	0
Credit Hours Produced	15	25	30	0	0

Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	100%	80%	60%	NA	NA
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1900-2 MTH902	M1900-2 MTH902	M1900-2 MTH902	M1900-2 MTH902	M1900-2 MTH902
How does the data support the course goals? Elaborate.	This course has always had low enrollment. The instructor who taught the course (as well as pre-engineering courses) resigned for health reasons and has not been replaced. Current enrollment trends do not justify replacement of this faculty member.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	No. The course has not been offered the past two years.				

Performance and Equity Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.					
Academic Discipline Area	Mathematics				
Course Title	MAT 212 Calculus III				
Course Description	This course is a study of parametric equations, vector functions, multiple integrals, partial differentiation, 3-space, vector calculus, curvilinear motion, and an introduction to differential equations.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	6	2	2	0	0
Credit Hours Produced	30	10	10	0	0
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	83.33%	100%	100%	NA	NA
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1900-3 MTH903	M1900-3 MTH903	M1900-3 MTH903	M1900-3 MTH903	M1900-3 MTH903
How does the data support the course goals? Elaborate.	No. The course has not been offered the past two years.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				

Were there identifiable gaps in the data? Please explain.	This course is only offered in-person. Success rates were 100% for Hispanic (N=1) and Black (N=1) students. White students have a success rate of 72.73% (N=11). Students aged 18-20 had the lowest success rate (66.67%; N=9) and 21-25 year olds had the greatest success (110%; N=4). Males (81.82%; N=11) had greater success than females (50%; N=2).

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics				
Course Title	MAT 213 Ordinary Differential Equations I				
Course Description	This course is an introduction to differential equations. Methods include separation of variables, homogenous, exact, linear, applications, undetermined coefficients, variation of parameters, power series solutions, and Laplace transforms.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	4	1	2	0	0
Credit Hours Produced	12	3	6	0	0
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	100%	100%	100%	NA	NA
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	SIUC, Murray State, and SEMO				
How does the data support the course goals? Elaborate.	Every student who took the course successfully completed it. The course has not been offered since FY 20 due to faculty resignation (mentioned previously).				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	Success rates are 100% regardless of age, gender and ethnicity. In person is the only delivery mode.				

Performance and Equity

Please complete for **each course** reviewed in the Academic Discipline. Provide the most recent 5-year longitudinal data available.

Academic Discipline Area	Mathematics

Course Title	MAT 215 Applied Calculus for Business & Social Science				
Course Description	This course includes the application of basic concepts of calculus. It includes sets, functions (linear, exponential, and logarithmic), applications of functions and graphs, limits, differentiation (derivatives and application of differentiation), definite and indefinite integrals, fundamental theorems of calculus, applications of integration, and selected topics from analytic geometry. Graphing calculators will be used in this class.				
	FY18	FY19	FY20	FY21	FY22
Number of Students Enrolled	6	7	2	3	0
Credit Hours Produced	24	28	8	12	0
Success Rate (% C or better) at the end of the course, excluding Withdrawals and Audit students	83.33%	100%	100%	66.67%	NA
IAI Status (list code) or Form 13 Status (list signature dates and institutions)	M1900-B	M1900-B	M1900-B	M1900-B	M1900-B
How does the data support the course goals? Elaborate.	This course was not offered in FY22 due to low demand. Low demand courses like MAT 215 are now being offered to students through the ILCCO consortium.				
What disaggregated data was reviewed?	Success rates disaggregated by age, gender, ethnicity and course delivery type were reviewed.				
Were there identifiable gaps in the data? Please explain.	This course is offered online (success rate 75%) or independent study (100%; N=4). Males (83.33%) were more successful than females (78.57%). Students aged 21-25 had the lowest success (40%; N=5). The students taking MAT 215 are mostly (85%) white and have an 82.35% success rate.				
Academic Course Review Results					
Intended Action Steps Please detail action steps to be completed in the future based on this review with a timeline and/or anticipated dates.	The math department had to pivot and develop MAT 0090 General Education Corequisite Lab (offered concurrently with MAT 110 General Education Math) this spring to serve as the gen ed math corequisite for Fall 2023. This was developed as a result of the IAI Math Panel not approving the original plan for the corequisite course, MAT 108 General Education Math with Review (5 credit hours). This course was approved by ICCB in hopes of offering it in Fall 2023; however, the IAI Math Panel did not approve the submission and requested more information for the course. As a result, the course could not be offered as originally scheduled and will be reviewed by IAI again at the October 2023 Math Panel meeting. If approved, the math department hopes to offer the course in Spring 2024.				

	Another corequisite course, MAT 208 General Elementary Statistics with Review (5 credit hours), will be offered for the first time in Fall 2023. MAT 120 College Algebra with Review (5 credit hours) was offered Spring 2023 and will continue to be offered in future semesters. Additionally, ALEKS-PPL is being used to supplement instruction in MAT 041 Introduction to Algebra, to meet the needs of students who are not college-ready based on all of the College's placement measures. The math faculty surveyed their students during the Fall 2022 semester. The survey contained questions such as: Future math course needs, whether or not the student had taken Algebra II in high school, preferred course modality, etc. Of 138 students who answered the question about course modality, 89.13% prefer in-person classes; however, many of our math courses (including developmental) are taught via the ITV system. Math faculty and College administration will need to brainstorm ways to offer courses in-person while still meeting the needs of our students who are distributed over a wide geographic area.
Program Objectives If program objectives are not being met, what action steps will be taken to achieve program objectives?	The math department is striving to improve retention rates and provide students with the skills needed to be successful. Course success rates will be analyzed along with placement data for corequisite courses (MAT 110/MAT 090, MAT 120 and MAT 208) to determine what, if any, modifications will need to be made as a result.
Performance and Equity To what extent are action steps being implemented to address equity gaps, including racial equity gaps?	Significant equity gaps have been identified in our district high schools with respect to college readiness scores on the Illinois Report Card. The implementation of multiple measures placement and corequisite math courses, combined with transitional math courses offered at some of our district high schools, will hopefully help close those equity gaps. Additionally, math instruction, particularly, should be offered in-person so faculty can identify at-risk students and provide them with help and resources they need to be successful.
Rationale Provide a brief summary of the review findings and a rationale for any future modifications.	The math department will review success rate data collected from the newly developed corequisite math courses to determine their effectiveness. Additional corequisite math courses or bridge programs may be developed in the future based on these findings and the needs of our student population. The College will also examine the indicators of multiple measures placement

	to determine if adjustments need to be made as a result.
Resources Needed	More math faculty will be needed if additional course sections are offered, particularly of more sections are offered in-person rather than ITV. The College also needs to recruit and maintain a diverse pool of qualified adjuncts. Funds to help students rent graphing and/or scientific calculators could also be included in the annual budget because many students do not have the financial means to purchase a calculator and often try to do without, which adversely impacts their ability to be successful in course that rely heavily on calculator usage.
Responsibility Who is responsible for completing or implementing the modifications?	Dean of Transfer & Adult Education Programs, Math/Science Department Chair, and full-time Math faculty