



**ACADEMIC
PROGRAM REVIEW
REPORT**

PROGRAM
AWARDS OFFERED

[Date:08/16/2021]



Signature Page and Archiving

Vice President of Instruction

Date

President

Date

Archiving:

Division Chair submits to Dean and then Vice President for Instructional Services.

1. A complete electronic version of the Academic Comprehensive Program Review
2. All documentation (electronic)
3. A signed signature page



Program Review Faculty and Dean Verification

By signing I verify I have been an active participant in the program review process and have read this Program Review Report to be submitted to the Program/Department Review Committee:

Program Lead [Type Name] Date _____

[Type Name] Date _____

[Type Name] Date _____

[Type Name] Date _____

[Type Name] Date _____

I verify that this program review report is ready to be reviewed for feedback and action by the Program/Department Review Committee.

Division Leader [Type Name] Date _____

As dean of the Academic or Technical Education and Workforce Development Division, I verify that this program review report is ready to be reviewed for feedback and action by the appropriate Program/Department Review Committee. If revisions to original submission of the report are requested (by the committee), I understand another signature by me will be required:

Dean Date _____

Adapted from Azusa Pacific University, Arizona State University, & Tyler Junior College, 2017.

Table of Contents

[Note: programs utilizing external accreditation documents must still complete this table of contents and should cut and paste material into report.]

Program Review Components

Component A - Mission and Context	5
<i>A.1 Program Mission and Purpose</i>	<i>5</i>
<i>A.2 Progress Since Last Review</i>	<i>5</i>
<i>B.1 Faculty Qualifications.....</i>	<i>6</i>
<i>B.2 Faculty Demographics.....</i>	<i>6</i>
<i>B.3 Faculty Scholarship/Service.....</i>	<i>7</i>
<i>B.4 Department Scholarship Analysis.....</i>	<i>Error! Bookmark not defined.</i>
<i>B.5 Analysis of Faculty Qualifications.....</i>	<i>7</i>
<i>B.6 Full-Time Faculty Workload.....</i>	<i>9</i>
<i>B.6.1 Analysis of Faculty Workload.....</i>	<i>9</i>
<i>B.7 Percentage of courses taught by each faculty classification.....</i>	<i>9</i>
<i>B.8 Student Faculty Ratio.....</i>	<i>10</i>
<i>B.8.1 Analysis of Faculty Distribution</i>	<i>10</i>
<i>B.9 Summary of Teaching Effectiveness.....</i>	<i>10</i>
<i>B.10 Other Evidence of Faculty Effectiveness.....</i>	<i>10</i>
<i>B.11 Analysis of Teaching Effectiveness</i>	<i>11</i>
<i>B.12 Faculty Summary Analysis.....</i>	<i>11</i>
Component C - Quality of Curriculum and Student Learning.....	12
<i>C.1 Curriculum Structure.....</i>	<i>12</i>
<i>C.2 Assessment of Student Learning.....</i>	<i>12</i>
<i>C.3 Curriculum Map of Program Student Learning Outcomes.....</i>	<i>12</i>
<i>C.4 Assessment of Curricular Effectiveness</i>	<i>12</i>
<i>C.5 Assessment of Diversity in the Curriculum.....</i>	<i>13</i>
<i>C.6 Use of Continuous Assessment for Educational Effectiveness.....</i>	<i>13</i>
Component D: Student Enrollment and Success	14
<i>D.1 Student Enrollment.....</i>	<i>14</i>
<i>D.2 Recruitment and Enrollment.....</i>	<i>14</i>
<i>D.3 Student Fit with Program Mission.....</i>	<i>15</i>
<i>D.4 Student Organizations</i>	<i>15</i>
<i>D.5 Student Assistance</i>	<i>15</i>
<i>D.6 Student and Alumni Achievement</i>	<i>15</i>
<i>D.7 GPA Trend Analysis by Ethnicity</i>	<i>16</i>
<i>D.8 Completions Analysis by Ethnicity</i>	<i>16</i>

<i>D.9 Evidence of Successful Completion</i>	18
<i>D-9a Retention Rates</i>	18
<i>D-9b Graduation Rate (150% of time)</i>	18
<i>D-9c Average semester credit hours for program graduates</i>	18
<i>D-9d Program Graduates Time to Degree</i>	18
<i>D.10 Retention and Student Success Analysis</i>	19
Component E: Academic Opportunities and Class Size	19
<i>E.1 Instruction Type</i>	19
<i>E.2 Class Size Analysis</i>	20
<i>E.3 Non-credit Courses</i>	21
<i>E.4 Academic Opportunities and Class Size Analysis</i>	21
Component F - Student and Constituent Feedback	22
<i>F.1 Student Feedback</i>	22
<i>F.2 Alumni Feedback</i>	22
<i>F.3 Employer/Supervisor Feedback</i>	22
<i>F.4 Constituent Feedback Analysis</i>	22
Component G - Resources and Institutional Capacities	24
<i>G.1 Information Literacy and Library Resources</i>	24
<i>G.2 Resource Analysis</i>	24
<i>G.3 Revenue and Expense Analysis</i>	24
<i>G.4 Analysis of Acquired Resources</i>	24
<i>G.5 Resource Allocation Relative to Capacity</i>	25
Summary Conclusions	27
Program Program Goals with Recommended Action Steps	28
<i>Template Appendix A</i>	30
<i>Template Appendix B</i>	40
<i>Template Appendix C</i>	42
<i>Template Appendix D</i>	45

Other Attachments (to be completed and sent under separate cover)
 Program Review Committee Report and Rubric
 Administrative Response

Adapted from Azusa Pacific University, Arizona State University, & Tyler Junior College, 2017.

Component A - Mission and Context

A.1 Program Mission and Purpose State your program's mission and purpose and how it helps to fulfill the broader mission of GCCC. Briefly describe where your program fits within the college's structure (e.g. division/dept.) and what credentials and/or areas of specialization it grants. Briefly, discuss the trends in higher education related to the need for your program and identify how the program is responsive to the needs of the region or broader society it intends to serve.

To provide students with the best possible education in the fundamental areas of modern chemistry while relating contents to other disciplines, society, and real-world chemical applications. The program seeks to assist students to be well-equipped for the job market in chemistry and related disciplines as well as successfully transfer to a four-year university. Graduates will be familiar with everyday applications of chemistry and be able to make positive contributions to society.

A.2 Progress Since Last Review Before commencing with this review, attach the Program Goals with Recommended Action Steps (or equivalent) ([Template Appendix A](#)), as well as the Administrative Response to those goals ([Template Appendix B](#)), and your Planning Documents (Appendix D) from your last review. Identify the original goals from your report as well as any new goals that emerged from your annual reports and in the planning process and provide evidence your progress toward accomplishing them. (If you don't have a copy, ask your Dean).

NOTE: The information for Data Tables required in Components B-E will be provided to the fullest extent possible by the Office of Institutional Effectiveness, Planning, and Research (IEPR). Data collection for faculty will be as of November 1st and student enrollment will be as of October 15th for students of the year prior to the submission of the report (follows IPEDS delineation). Programs *may* choose to update data beyond November 1st or October 15th of the year prior to the submission of the report. Data collection for student completion, GPA, and class size will end by June 30th of the year prior to the submission of the report. Programs may need to supplement the tables with information unavailable to IEPR. In such cases, programs *must* specify collection methods and dates (or date ranges). For example, faculty data are recorded at the department level and may not accurately reflect the program assignment. The program is encouraged to review faculty data and make adjustments according to program records. Please provide IEPR with any updated faculty data tables.

Data queries can be found in Earth Reports under Accreditation in the Program Review folder.

Component B - Faculty Characteristics and Qualifications

The following faculty classification definitions apply to the data exhibits in section B.

- Full-time faculty – faculty whose load is 100% of a full-time contract within the program/department
- Part-time faculty – faculty whose load is less than 100% of a full-time contract within the program/department

B.1 Faculty Qualifications: Faculty listed below are those who taught courses for the program within immediate previous academic year as well as those on the current academic year's faculty roster from the Dean's office as of November 1st. (Insert rows as needed).

Faculty Qualifications			
Name of Faculty Member	Highest Degree Earned and Date of Acquisition (provided by dept.)	Institution of highest degree (provided by dept.)	Certifications, practices, specialties, etc. related to the discipline that illustrate qualifications
Wanda I. Rodriguez Rivera	Doctorate Degree 12/15	Western Michigan University	Medicinal Chemistry. Synthesis. Instrumentation.
Daniel Kyinakwa	Master 05/18	Illinois State University	Chemistry.
Praveen Vadapally	Doctorate degree	University of Northern Colorado	

B.2 Faculty Demographics

Faculty Demographics						
	Full-time		Part-time		Total	
	Female	Male	Female	Male	Female	Male
a.) Faculty who are						
Non-resident (International)						
Asian				X		1
Black, non-Hispanic		X				1
Hispanic	X				1	
American Indian or Alaska Native						
Native Hawaiian / Pacific Islander						
Two or more races						
Race/Ethnicity Unknown (Or Decline to Identify)						
White, non-Hispanic						

Totals						
c.) Number of faculty with doctorate or other terminal degree	1			1	1	1
d.) Number of faculty whose highest degree is a master's, but not a terminal master's		1				1
e.) Number of faculty whose highest degree is a bachelor's						

B.3 Faculty Scholarship/Service: Provide, in tabular or report format, a comprehensive record of faculty scholarship/service for the last 5 years. In addition to traditional scholarship, include faculty accomplishments that have enhanced the mission and quality of your program (e.g., discipline-related service, awards and recognitions, honors, significant leadership in the discipline, etc.).

Wanda Rodriguez- Chemistry Instructor. Support on After School Science program for Holcomb Schools.

Serves as a tutor in the Saffel Library since Fall of 2019.

Daniel Kyinawka -Chemistry Instructor, Advising, Faculty Recruitment, Outstanding Faculty Award (Student Support Services, Fall 2018).

B.4 Omitted

B.5 Analysis of Faculty Qualifications: From the evidence available, evaluate the qualifications and contributions of your faculty toward fulfilling the mission of the program. Comment on the composition of your faculty in terms of diversity. Identify gaps in preparation, expertise, or scholarly production that need to be filled.

Below is a summary of Dr. Rodriguez and Mr. Kyinawka qualifications. Dr. Rodriguez is of Hispanic descent and Mr. Kyinawka is from Africa, bringing a mix of diverse cultural backgrounds and experiences, thereby making them relatable to our student population.

Wanda Rodriguez

- PhD Medicinal Organic Chemistry.
- Eleven years of teaching experience at the higher education level.
- Experience teaching several chemistry courses.
- Ability to work with instruments and incorporating the instruments to the teaching in education.
- Expertise in Spectroscopy.
- Added a new Biochemistry course to the catalog.

Daniel Kyinakwa:

- Involving College Chemistry course students in basic research projects to expose them to scientific research methods and real-world applications of chemistry.
- Achieved some success on student persistence and retention.
- Need to work on getting more diverse student population in the chemistry program.
- Work on terminal degree.

B.6 Full-Time Faculty Workload: For each of the past 5 years, report full-time faculty workload distribution based on the categories identified below. Include units assigned as overload. (get from your Dean's office).

Faculty Workload (over past 5 years, ending Academic Year 2016-17)									
Name of Full-Time Faculty	Semester Credit Hours					Administrative and other types of assignments in dept. (e.g., Division Leader, program review, other dept. tasks)			
	Academic Year	2018-2019	2019-2020	2020-2021					
Wanda Rodriguez		15	15			Chemical Inventory, Tutoring, writing instrumentation grant, Organic Storage room.			
Daniel Kyinawka		15	14			Student advising (Program advisor), Faculty recruitment, and Science and Math Club activities			

B.6.1 Analysis of Faculty Workload: In what ways does faculty workload contribute to or detract from faculty ability to work effectively in the program?

Wanda Rodriguez- Contribute to – The additional responsibilities add for more experience and Ability to multitask.

Detracts from- Creating new original worksheets, tests, etc.

Daniel Kyinawka - Workload is appropriate and allows for adequate preparation to assist students to succeed.

B.7 Percentage of courses taught by full-time and part-time status: The following table includes the percentage of credit bearing courses taught by program faculty (by classification) during the five most recent years for which data are available.

Percentage of Courses Taught by Faculty					
Faculty Classification as of November 1	2019-2020	2020-2021	[XX-XX]	[XX-XX]	[XX-XX]
Full-Time- Wanda	33%	33%			
Full Time- Daniel	77%	77%			
Part Time- Praveen					
TOTAL	100%	100%	100%	100%	100%

B.8 Student Faculty Ratio: The following table includes student to faculty ratios for the 5 most recent years. The ratios provided are based on the number of students enrolled in the program and the faculty assigned to teach in the program. Programs that offer courses in which students from outside the program often enroll (e.g., general studies courses), may wish to include additional data such as the average number of students per course taught by program faculty.

Student: Faculty Ratio					
Academic Year	2018-2019	2019-2020	2020-2021	[XX-XX]	[XX-XX]
# of Full-Time Faculty		4:1	2:1		
# of Part-time					
FTE Faculty					
# of Full-Time Students					
# of Part-Time Students					
FTE Student					
FTE Student: FTE Faculty Ratio*					

*Full-time equivalent (FTE) is calculated using the following formula:

Total # Full-Time Faculty (or Students) + One-third Total # Part-Time Faculty (or Students)

B.8.1 Analysis of Faculty Distribution: Comment on the adequacy or number of full-time vs. part-time faculty and the ability to deliver quality education.

With the current load of students, two full-time faculty professors and one part time faculty professor is sufficient to deliver a high-quality education.

B.9 Summary of Teaching Effectiveness: The following figure includes data derived from student end of course evaluations for the program.

See appendix B.

B.10 Other Evidence of Faculty Effectiveness: Programs may provide additional evidence (not anecdote) of faculty effectiveness.

Implemented new labs related to the course being taught.
 Integrated more audiovisual material with real life examples.
 Successfully implemented a stream class while keeping social distance.
 Successfully implemented a Hybrid class for CHEM 105.

B.11 Analysis of Teaching Effectiveness: Using data from the information above, as well as other pieces of available evidence, evaluate the effectiveness of faculty in the classroom. When applicable, include an analysis of faculty effectiveness across delivery system (e.g., outreach locations, online, etc.).

Both faculty members were very effective with their teaching style, successfully engaging the students while maintaining social distancing requirements. The faculty members were able to integrate different teaching techniques.

B.12 Faculty Summary Analysis: Based on evidence and responses provided above, provide a summary analysis of the quality and quantity of faculty associated with the program. Discuss how workload, course distribution, or other considerations impact the ability of the program to deliver excellent teaching to students. Identify resources, mentoring programs, or other services provided or made available by the department to ensure that faculty are developed professionally (this may include release time or funds provided to faculty for curricular and professional development). What changes, if any, should be implemented to ensure faculty effectiveness? Identify any needs related to faculty that impact delivery of a high-quality program.

The current ratio of student per faculty is adequate to maintain- teaching effectiveness; it allows for personal guidance while teaching the class. With a large number of students, it would be difficult to identify the needs of each student and provide one-on-one guidance to adjust the class to their learning needs.

Acquisition of more analytical instruments will help the students to become more excited about learning and teaching materials and will be able to apply what they are learning in class.

Component C - Quality of Curriculum and Student Learning

C.1 Curriculum Structure: Provide a brief overview of the course offerings and degree requirements of your program. To what degree does the program curriculum align with other comparable programs at other institutions and exemplify best practices for the discipline? Describe the process used by faculty to ensure the program is current and competitive.

We look at the course offered by other community colleges in the chemistry program and keep an open communication with universities to learn about their expectations and adjust our course offering to meet their curriculum.

C.2 Assessment of Student Learning: Attach your program's most updated overall Annual Assessment Plans (Appendix C) and Annual Assessment Reports since your last program review (Appendix D). Briefly describe the direct and indirect measures your program uses to assess student learning. Analyze how well students are demonstrating each learning outcome within the program. If there is a culminating project in the program, include an objective evaluation of a sample of these products since undertaking the last program review. Use a rubric or other criteria to support your assessment of the culminating projects, and analyze the results of this evaluation. Specify the areas where students are not meeting expected levels of competency and provide an analysis of possible explanations for these results.

One of the main direct measures used to demonstrate learning was testing either in the form of quizzes or test. Indirect measures used were class participation, actively solving problems in the lab and students' self-evaluation surveys on their understanding of a subject matter.

The students have been able to meet the established objectives for the most part. It is important to mention that some classes only had two students, so if one student doesn't meet the objective, the percentage of students not meeting the criteria is 50%.

C.3 Curriculum Map of Program Student Learning Outcomes:

Curriculum map attached (Appendix B).

C.4 Assessment of Curricular Effectiveness: Using your program's curriculum map and the evidence collected from the assessment of student learning, outline your program's intended steps for improving student learning. Include any proposed changes to the curriculum that may be necessary.

For students who didn't meet one or more targets of the program learning outcome, we plan to provide more in class examples and encourage the students to seek for help during office hours or go to the tutoring center in the library.

Videos with real-life examples are planned to be presented in class for general chemistry to inspire them more and show them that chemistry is part of our everyday life.

C.5 Assessment of Diversity in the Curriculum: Describe and evaluate your program's efforts to create a culture of diversity through the curriculum. In what ways is your program being intentional about embedding diversity-related issues in the curriculum? Diversity may include, but is not limited to, differences in religion, race, ethnic origin, nationality, socioeconomic status, sexual orientation, gender identity and expression, disability and political ideology.

Our program is actively engaged in cultural diversity by having professors of different cultures and races that are able to bring their experiences and ideas to the program. Also, our diverse student body identifies with the professors that come from different backgrounds. Currently, we have a professor from Asia, Africa and an American Hispanic professor.

C.6 Use of Continuous Assessment for Educational Effectiveness: Describe and evaluate the process that your program uses to annually evaluate the quality of curriculum and to assess student learning. Document how your program has used its assessment findings to impact area decisions. In what ways is this process effective toward making effective educational decisions? In what ways should the process change?

Our program uses course, program, and essential skills assessments to evaluate the curriculum. For the general curriculum, we use the student learning objectives established by the Kansas Board Regents and program learning outcomes. At the end of the academic year, we assess the students' progress using a rubric system. Additionally, at the start of the semester, a test assessment is given and graded, this same assessment is provided at the end of the semester. With the new results, a comparative study is made to evaluate the students' learning and progress. The rubric helps us to assess specific objectives. Normally, we try to meet a goal of seventy five percent or more on meeting the goal.

Component D: Student Enrollment and Success

D.1 Student Enrollment: The following table includes fall enrollment data disaggregated by gender and ethnicity for the five most recent years. The ethnicity categories are based on IPEDS requirements. Therefore, International (non-resident alien) students will only be reported in this category regardless of their ethnicity.

As of Fall Census	[2015]		[2016]		[2017]		[2018]		[2019]		Totals
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
Non-resident (International)											
Asian											
Black, non-Hispanic											
Hispanic	1	1	1	0	0	1	1	1	2	0	8
American Indian or Alaska Native											
Native Hawaiian / Other Pacific Islander											
Two or more races											
Race/ethnicity Unknown											
White, non-Hispanic	2	1	1	0	1	2	2	1	2	0	12
<i>Totals</i>											

D.2 Recruitment and Enrollment: Using the evidence provided, discuss your program's enrollment trends over the past five years, including any trends related to diversity. What events are happening within the profession, local or broader community that might explain enrollment trends? What does evidence suggest might be future enrollment trends for your area over the next 3-5 years? What, if any, changes to recruitment strategies would benefit the program so that it attracts a sufficient number of students who are a good fit?

The enrollment trends of students majoring in chemistry have remained stable over the past five years according to the enrollment data. To increase the enrollment in Organic Chemistry class, we are actively encouraging professors and academic advisors to register incoming qualified freshman in college chemistry, this will allow those students meet the requirements to take Organic Chemistry during their sophomore year.

If the college receives the Title 5 grant and invest in more equipment, we can get more students majoring in chemistry or biochemistry.

An after-school science program in the area for middle school and high school students will be good to get them excited about studying sciences.

Another recruitment strategy would be to tell the students all the professions they can pursue with a degree in chemistry. For example: They can work with the police as forensic chemist,

or outside collecting and analyzing samples as an environmental chemist, developing new drugs in a pharmaceutical industry, becoming a medical doctor, etc.

Many students are not aware of the advantages and all of the alternative careers that they can pursue with a degree in chemistry.

D.3 Student Fit with Program Mission: Using the student data provided, analyze the quality of students typically enrolled in the program. What are the student qualities sought by the program and to what degree do students and graduates exemplify those qualities? What changes, if any, are desired in the type of student enrolled in the program?

Many students come with very low mathematical skills and a weak foundation in science but they are willing to work and learn.

Qualities that we see in a successful student are that they can accept constructive criticism and are able to work well under pressure. A student should also possess good analytical abilities and are able to do well and demonstrate competence in mathematics since chemistry requires many high-level mathematics courses.

D.4 Student Organizations: Identify and describe any national professional, honorary, other student organizations and/or activities sponsored by the department or faculty members in the program which enrich a student's educational experience.

We have the math and science club. This club provides scholarships to students in math and science. The students are able to fraternize through the club. They also develop their leadership skills by helping in the organization of fun science activities.

D.5 Student Assistance: Describe any special assistance or services provided by the department for your students (e.g., grants, scholarships, assistantships, tutorial help, job placement, advising and career planning, and awards), and in particular any services provided by the department for students with special needs, which facilitate student success.

Bridges and ALS program provide students with scholarships.

D.6 Student and Alumni Achievement: Since the last program review, how have current students and/or alumni exemplified the mission and purpose of the program? In addition to discussing data produced above, this may include achieving influential positions, engaging in service or practice, acquiring advanced degrees or other significant scholarly accomplishments.

Since we have been working at Garden City Community College, our chemistry students have been accepted into their programs of interest and are achieving their professional goals.

We currently don't have a formal Alumni page or program to reach out to our alumni. We propose to create a page for Alumni members in which they can share their positive experiences of their time at Garden City Community College and to create a funding program with the motto: "Give back to the college that made your fondest memories, made you a professional". We will have to interview former students to see what they remember the most about Garden City Community College.

D.7 GPA Trend Analysis by Ethnicity: Data in the following table reflect the cumulative GPAs of students in the program compared to the overall institution (excluding new students without a GPA), disaggregated by ethnicity, for the five most recent years of fall enrollment. Fall enrollment data is a snapshot of enrollment as of Fall census.

GPA Trend										
	[2015]		[2016]		[2017]		[2018]		[2019]	
	Average GPA in major/program	GCCC Avg	Average GPA in major/program	GCCC Avg	Average GPA in major/program	GCCC Avg	Average GPA in major/program	GCCC Avg	Average GPA in major/program	GCCC Avg
Non-resident (International)										
Asian										
Black, non-Hispanic										
Hispanic	3.516	2.812	3.227	2.779	3.000	2.837	3.010	2.785	3.241	2.737
American Indian or Alaska Native										
Native Hawaiian / Other Pacific Islander										
Two or more races										
Race/ethnicity Unknown										
White, non-Hispanic	3.774	3.175	N/A	N/A	3.601	3.143	3.367	3.097	N/A	N/A
Female	3.650	3.064	3.227	3.062	3.701	3.043	3.334	3.016	3.241	2.941
Male	3.507	2.857	N/A	N/A	3.250	2.787	2.719	2.677	N/A	N/A

D.8 Completions Analysis by Ethnicity: The completions table includes program completers disaggregated by gender and ethnicity for the five most recent completion cycles. A completion cycle includes graduates from the program between July 1st and June 30th of each year. The ethnicity categories are based on IPEDS requirements. Therefore, International (non-resident alien) students will only be reported in this category regardless of their ethnicity.

Student Diversity—Completions										
	[2015]		[2016]		[2017]		[2018]		[2019]	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Non-resident (International)										

Asian										
Black, non-Hispanic										
Hispanic	0	1	1	0	0	0	0	0	1	0
American Indian or Alaska Native										
Native Hawaiian / Other Pacific Islander										
Two or more races										
Race/ethnicity Unknown										
White, non-Hispanic	1	0	0	0	0	0	1	0	0	0

*Data are based on past federal IPEDS reports. Whenever possible, programs should rely on the official IPEDS data. Given past variations in data collection report dates (e.g., inclusion of summer graduations), however, programs may supplement and elaborate on this exhibit with data they have kept internally.

D.9 Evidence of Successful Completion: The following tables provide year-to-year retention rates, graduation rates, and time-to-degree rates for the five most recent year's data. Retention and graduation rate tables include individual year counts and percentages as well as five-year averages of counts and percentages. The time-to-degree table includes the number of completers within the completion cycle and the median time to completion in years. A completion cycle includes graduates from the program between July 1st and June 30th of each year. Programs may provide other sources of data or evidence to demonstrate student success; please specify timeframes used in this analysis.

D-9a Retention Rates

One-year retention rates (Fall to Fall)											
5-year average		2015		2016		2017		2018		2019	
# in Cohort	% retained	# in Cohort	% retained	# in Cohort	% retained	# in Cohort	% retained	# in Cohort	% retained	# in Cohort	% retained
12	75	3	100	1	100	3	66.67	3	66.67	2	50

D-9b Graduation Rate (150% of time)

Program 3-year graduation rates												
5-year total			Entering cohorts Fall semester									
			2015		2016		2017		2018		2019	
% Graduated	# in cohort	# Graduated	% graduated	# in cohort	% graduated	# in cohort	% graduated	# in cohort	% graduated	# in cohort	% graduated	# in cohort
12	41.67		66.67	1	100	1	0.00	3	33.33	3	50.00	2

D-9c Average semester credit hours for program graduates

Program Average Semester Credit Hours at Graduation														
Academic Year Graduates – Average Institutional and Transfer In Hours														
2015			2016			2017			2018			2019		
# Grad	Avg Inst SCH	Avg Tsf SCH	# Grad	Avg Inst SCH	Avg Tsf SCH	# Grad	Avg Inst SCH	Avg Tsf SCH	# Grad	Avg Inst SCH	Avg Tsf SCH	# Grad	Avg Inst SCH	Avg Tsf SCH
2	64.50	13.00	1	88.00	0.00	0	N/A	N/A	1	79	0	1	69	0

D-9d Program Graduates Time to Degree

Time to degree (Exiting cohort) (July 1 – June 30)									
2015		2016		2017		2018		2019	
Median Time (years)	# Graduated	Median Time	# Graduated	Median Time	# Graduated	Median Time	# Graduated	Median Time	# Graduated
1	2	2	1	0	0	2	1	2	1

Note: The time to degree cohorts are established at the time of graduation and are based on the students that graduated from the program within the year specified.

D.10 Retention and Student Success Analysis: Summarize and evaluate the effectiveness of the program's recruitment and retention efforts as it relates to enrolling and graduating students who fit the mission of the program. Identify any areas in need of improvement for producing successful students. In the analysis, address the following elements:

- a. What does the evidence from above data suggest regarding how well your program is producing successful students?

The program is retaining fifty percent or more of the students and the graduation rate average is above fifty percent. It is important to consider that the program doesn't have many students per semester, therefore any slight drop significantly affects the success rate.

- b. List specific events/activities that the program uses to increase student retention and degree completion.

The department hosted its very first BRIDGES-LSAMP poster presentation of research projects, which the students were working on through the semester.

Additionally, a select group of students presented their work on a national conference. Due to COVID-19, the students and faculty have been unable to travel to national conferences.

- c. Provide your best practices for tracking students who leave the program (without completing) and any follow up you may do with these students to determine why they have left.

Currently, we have very few students majoring in Chemistry and fortunately all of them are completing the program.

- d. Identify any areas in need of improvement for producing successful students.

We need to focus on providing the students with a strong foundation before they take chemistry or any other class. One of our main challenges is to teach at the same rate when we have students who have a strong foundation and learn the materials quickly together with students that struggle with the basics.

Component E: Academic Opportunities and Class Size

E.1 Instruction Type: The following table includes the number of students enrolled by instruction types available through your department/program. Please add any additional data as applicable.

Special Study Option	Number of Students Who Participated/Number of SCH Generated for each Study Option Offered by the Program									
	Academic Year 2015		Academic Year 2016		Academic Year 2017		Academic Year 2018		Academic Year 2019	
	# of students	Total SCH	# of students	Total SCH	# of students	Total SCH	# of students	Total SCH	# of students	Total SCH
Outreach program (aggregate)	15	75	18	90	14	70	19	95	13	65
Concurrent Enrollment (Outreach-HS)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dual Credit Enrollment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5	25

(Outreach-HS)										
On-line courses-GCCC	76	380	37	185	52	260	90	450	65	325
On-line courses-EDUKAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
On-line courses-Contract	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Face to Face courses	88	440	128	640	143	715	66	330	94	470
Internships/practiced	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Independent study, tutorials, or private instruction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Developmental courses										

E.2 Class Size Analysis: Based on the definitions provided below, the following table includes student counts in each class-size category for the past 5 years. Data are reported for the number of *class sections* and *class subsections* offered in each class size category. For example, a lecture class with 100 students which also met at other times in 5 separate labs with 20 students each lab is counted once in the “100+” column in the Class Sections column and 5 times under the “20-29” column in the Class Subsections table

Class Sections: A class section is an organized course offered for credit, identified by discipline and number, meeting at a stated time or times in a classroom or similar setting, and not a subsection such as a laboratory or discussion session. Class sections are defined as any sections in which at least one degree-seeking student is enrolled for credit. The following class sections are excluded: distance learning classes and noncredit classes and individual instruction such as dissertation or thesis research, music instruction, independent studies, internships, tutoring sessions, practica, etc. Each class section is counted only once.

Class Subsections: A class subsection includes any subdivision of a course, such as laboratory, recitation, discussion, etc.; subsections that are supplementary in nature and are scheduled to meet separately from the lecture portion of the course. Subsections are defined further as any subdivision of courses in which degree-seeking students are enrolled for credit. The following class subsections are excluded: *noncredit* classes as well as individual instruction such as, music instruction, or one-to-one readings. Each class subsection is counted only once.

Class Size per Academic Year								
[Please fill in academic years, i.e. 15-16.]	9 or less	10-19	20-29	30-39	40-49	50-99	100+	Totals
2015 General Class Section	3	0	3	1	0	0	0	7
2016 General Class Section	3	2	4	0	0	0	0	9
2017 General Class Section	7	2	4	0	0	0	0	13
2018 General Class Section	3	3	4	0	0	0	0	10
2019 General Class Section	7	3	4	0	0	0	0	14
2015 Edukan	8	0	0	0	0	0	0	8
2016 Edukan	10	0	0	0	0	0	0	10

2017 Edukan	12	0	0	0	0	0	0	12
2015 High School Class Section	2	0	0	0	0	0	0	2
2016 High School Class Section	3	0	0	0	0	0	0	3
2017 High School Class Section	2	0	0	0	0	0	0	2
2018 High School Class Section	1	1	0	0	0	0	0	2
2019 High School Class Section	1	1	0	0	0	0	0	2
Totals Across 5 Years	62	12	19	1	0	0	0	

E.3 Non-credit Courses: Complete only if your department offered non-credit courses. If your department offered non-credit courses during the past 5 academic years, please use the chart below to list the course(s) and the number of students who *completed* the course.

Non-credit Courses					
Academic Year	[Please fill in academic years, i.e. 15-16.]				
Course	# of students completing	# of students completing	# of students completing	# of students completing	# of students completing

E.4

Academic Opportunities and Class Size Analysis: Using the evidence provided in all exhibits above, discuss the trends in the program's class sizes and, if relevant, the impact on student learning and program effectiveness. Note, in particular, downward or upward trends in class size and provide justification for those trends. When possible, identify the impact of special study options and individualized instruction on program quality. Make certain you address, if appropriate, all off-campus and on-line courses and/or programs.

The average class size of 20-29 remained stable from years 2016-2019. The class year of 2015 had a one group of over 30 students. Even though the college enrollment had dropped

Individualized attention is provided to the students which helps student retention and success in the program. Every academic year, the program faculty members recommend students to become chemistry tutors at the Comprehensive Learning Center (CLC). Many students do take advantage of this opportunity to complete their homework.

A chemistry Snap Chat group is created to provide assistance at all times to the students.

Component F - Student and Constituent Feedback

F.1 Student Feedback: Summarize available findings that relate to program quality from student surveys, focus groups, exit interviews or other student sources. Include their perceptions of how well the program met their needs, the program's strengths and weaknesses, and suggestions for improving the program. Describe the ongoing mechanisms that are in place to acquire and utilize student feedback regarding program quality. What changes need to be made to meaningfully incorporate students into the program review process?

No formal tool is in place as an exit interview. Currently our knowledge of such opinions is based on casual conversations with students.

Overall, no concerns have been brought to our attention. Students have seemingly been prepared for transfer to a four-year school.

Having an exit system in place for Chemistry and Health graduates is something we will need to develop in the near future.

F.2 Alumni Feedback: Summarize the results from available alumni surveys, focus groups, or advisory committees as it relates to program quality. When possible, include data indicating how well the program met the alums' goals and expectations, how well they think the program prepared them for next steps professionally and academically, and any program changes they recommend.

See F.1 for similar answer. This is not a tool we have in place, so we do not have formal feedback from alumni.

F.3 Employer/Supervisor Feedback: Summarize the results from available surveys, job performance appraisals, intern or clinical supervisor evaluations, or other relevant data as it relates to student preparation or competence or program quality. Comment on the level of preparation given to students as a result of the program.

Our department does not have internships or clinical opportunities. We also do not have a system in place for job performance appraisals or surveys.

F.4 Constituent Feedback Analysis: Analyze the program's overall effectiveness at utilizing student, alumni, and supervisor feedback as part of the assessment process. How well does the program solicit and respond to feedback, as well as communicate results of program review to its constituents, especially its current students?

We do not do well with this part of the assessment process. We have no formal tools or processes in place to assess if students are successful once they leave GCCC. This lack of a process makes it hard to communicate the information and results to our current students and to use for recruitment efforts.

Component G - Resources and Institutional Capacities

G.1 Information Literacy and Library Resources: Information literacy can be understood as the ability to “recognize when information is needed and...to locate, evaluate, and use effectively the needed information” (from the Association of College and Research Libraries). Describe the degree to which library and information resources are adequate and available for students and faculty members in your department (onsite and remotely). What level of support and instruction is available to students and faculty in the areas of technology and information literacy? Provide examples of how students are meeting information literacy competencies and discuss the level of competency exhibited by students in the program. What resources are needed for your program in this area?

- The college has a relatively good sized and well-stocked library onsite. Students and Faculty receive the needed assistance in the library. Faculty members receive training and support from the IT department and the Director of Instructional Design/Canvas Administrator.
- The college has partnered with Cengage to provide a digital library for students and faculty. With a reasonable fee, students have access to a wide variety of electronic books, eliminating high cost and inconvenience of requiring students to buy physical books.
- In addition, students and faculty have remote access to Finney County Public Library, Kansas Library, and Research databases such as EBSCOhost and ProQuest.

G.2 Resource Analysis: Discuss the process used by program faculty to secure needed resources for the program. Include innovative strategies that have resulted in successful resource acquisition. Evaluate the program’s effectiveness at securing necessary resources to ensure program quality. What systems or processes are working well, and what improvements could be made to make non-budgeted resource acquisition successful?

- Program faculty submits yearly requisitions for the purchase of needed glassware, chemicals, and other equipment.
- Partnering with management to secure grants for the purchase of relatively expensive instruments.

G.3 Revenue and Expense Analysis: Insert program data from at least five academic years.

Academic Year	Revenue: Tuition/Fees, State	Change from Prior Year	Expenses	Change from Prior Year	Profit/Loss	Change in P/L from prior year
2014-15	142985	n/a	211843	n/a	-68858	n/a
2015-16	116889	-18.25%	184850	-12.74%	-67961	-1.30%
2016-17	131261	12.30%	214590	16.09%	-83329	22.61%
2017-18	148665	13.26%	237589	10.72%	-88924	6.71%
2018-19	124621	-16.17%	199819	-15.90%	-75198	-15.44%

G.4 Analysis of Acquired Resources: Since the last program review, identify each major program resource acquisition and its direct or indirect impact on program growth or improved quality. Discussions of impact should include the measurable effect of acquisitions such as new faculty, staff, equipment, designated classroom/office space, non-budgeted monies, awarded grants, scholarships, and other acquisitions by the program or faculty on

student learning, enrollment, retention, revenue or other program indicators of educational effectiveness. Justify the program's use of resources through this analysis. When appropriate, discuss resource acquisitions that did not positively impact the program.

- The program currently has two Full-Time Chemistry Instructors, enough to take up the required program chemistry courses.
- Program instruments such as UV-Vis Spectrophotometer, Infrared Spectrophotometer, and Gas Chromatograph with hydrogen generator were purchased through department funding and grants.
- Stable program faculty potentially has had a positive impact on a slight increase in the number of students who have declared chemistry as their major (currently 5, compared with the highest being 2 in previous years).
- The acquisition of the needed materials and instruments has the potential of having a positive impact on the quality of teaching and learning and therefore an increase in student enrollment in most of the program courses. Also, there have been generally positive student feedback on program course evaluations.

G.5 Resource Allocation Relative to Capacity: Analyze trends in the program's operational budget as it relates to program enrollment, emerging needs, and program goals. Has the budget increased or decreased in proportionate response to program growth? Using evidence obtained from this review and other data, discuss your program's enrollment trends and/or revenue streams as it relates to non-budgetary resource allocation. In other words, if the program has reduced enrollment or income, what steps have been taken to correct resource allocations or expenses; if the program has increased in size or income, what resources or capacities are needed to meet new demand? What is the impact of budget changes on educational effectiveness? For each necessary capacity, rank order its importance relative to other needs and estimate its cost. Describe planned efforts to obtain funding for these needed capacities.

- There have been fluctuations in both program's enrollment trends and revenue streams. However, it is observed that the program's expenses exceeded the total revenue generated, resulting in net losses ranging from 48% to 60%. This could be due to low enrollments in specific program courses and the acquisition of the needed resources to ensure the program's success. Each program is working on ways of increasing enrollment in all program courses and considering other sources of funding for the purchase of relatively expensive required program equipment.

Summary Conclusions

Summarize the major findings of the program review as it relates to both the strengths of the program and areas in need of improvement. Include in this discussion any “intangibles” or assessments that you wish to discuss that were not requested in the Program Review Report. Make sure your conclusions are based on evidence.

-Possesiing stability in program faculty has had a potentially positive impact on our enrollment with a slight increase in the number of students who have declared chemistry as their major (currently 5, compared with the highest being 2 in previous years). The program offers quality, carefully selected transferrable courses which students could use to successfully transfer to four-year universities. The program faculty seek to improve the quality of teaching and learning through technology integration, professional development, student assessments, and course evaluations. To increase students' knowledge in instrumental methods of chemical analysis and real-world applications of chemistry, the program faculty will continue to collaborate with administration to work on funding for the purchase of more instruments for the program. To increase the number of chemistry major students, faculty will need to create more awareness and other means of incentives such as scholarships need to be considered.

Program Goals with Recommended Action Steps

Program Name: Chemistry Date: 08/13/2021

Include this document with your Program Review Report. Considering the totality of the program review report, use the table to set goals that, if met, would result in improved student learning, increased enrollment, retention, revenue, or other program indicators of success. Set reasonable, measurable, and achievable goals and identify clear action steps needed to obtain the goal. **This information serves as the basis for the Dean's Administrative Response, as well as ongoing strategic planning processes.**

(Attach **this** year's "Program Goals with Recommended Action Steps" as Template Appendix A in your program's **next** program review. See "Schedule for Academic Programs", Appendix A in the Academic Program Review Manual for dates of your next review. You may add rows to this table as needed.)

Component Area	Specific Goal or Desired Outcome to Maintain or Improve Program Quality.	Activity or Strategies to Achieve Goal (include responsible person)	Proposed start and end dates	Progress Metrics and timeframe for measurement	Resource requirement (in-kind & direct)	Priority of Resource Allocation (High, Medium, Low.)	Anticipated Impact on Educational Effectiveness & relation to GCCC Skills
A - Mission and Context	Graduates will be prepared with the conceptual and technical skills to increase successful transfer to other colleges and universities and succeed in their fields of study	Apply the best teaching practices to assist students develop competence in theoretical and practical applications of chemistry – All program faculty members	Continuing	Measured in Fall and Spring	All available program resources	High	Increase in students' preparedness for academic advancement.
B - Faculty Characteristics and Qualifications	Faculty members will be knowledgeable and apply best practices that promote student success	Involve in professional development activities geared towards improving student learning and success	Continuing	As needed	Individual funding and funding for conferences through Faculty senate	Medium	Will help increase faculty professional capabilities and students' learning and retention
C - Quality of Curriculum and Student Learning	Achieve high level of consistency of course offerings	Contents and learning outcomes of courses will be monitored to ensure consistent levels of	Continuing	Start and end of every semester	N/A	High	High level of students' preparedness for transfer

		academic rigor.					
D - Student Enrollment and Success	Increase student enrollment by at least 10% in the low-enrollment classes and at least 80% are retained and able to progress to the next courses or successfully transfer	Find and use efficient enrollment tool or strategies and closely monitor the progress of enrolled students	Ongoing for 2021-2022 school year	Recruitment at the beginning of Fall and continue through discovery day.	Recruiting materials from admissions and advising center.	Medium	Increase in student enrollment and retention
E - Academic Opportunities and Class Size	Intensify individualized student support to provide learning opportunities for all students	Identify students' needs and accommodate individual's needs	Continuing	Documentation of daily office hours	Faculty office hours	Medium	Will increase student persistence and success
F - Student and Constituent Feedback	Results of student and alumni feedback will be utilized to meet the needs of program students and graduates	Conduct yearly online surveys of graduating students, alumni and their employers/supervisors	Start: Spring 2021. Continuing.	Means of contacting alumni should be established by the end of Spring 2021	Possible survey/letter	Medium	Will increase meeting students' needs for future academic success and work preparedness after graduation
G - Resources and Institutional Capacities	Increase the number of program instruments	Work on sources of funding such as grants for the purchase of instruments	Continuing	Needed program instruments will be acquired on priority based and as funds become available	Funds from department and grants	Medium	Increase students' knowledge in instrumental methods of chemical analysis, work preparedness, and academic advancement
Summary Conclusions	The chemistry program needs to prioritize working on increasing chemistry major students, student retention and success.	Program faculty can implement most strategies with some assistance from Division members and administration	Current academic year and continuing	Varies	Expensive instruments would need grant funding and other resource could be department funded	Varies	All these goals will increase program success as well as college success

Template Appendix A

End of Course Evaluation

Garden City Community College

EOC Eval 2019-20 Summer Terms: Main, 3, 4, 5, non-standard

Course: CollegeChemistryI: CHEM-109-50

Instructor: Daniel Kyinakwa *

Response Rate: 2/7 (28.57 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Daniel Kyinakwa	n	0	0	0	1	1	4.50	0.71	4.50
	%	0.00%	0.00%	0.00%	50.00%	50.00%			
The instructor explained the subject matter clearly.: Daniel Kyinakwa	n	0	0	0	1	1	4.50	0.71	4.50
	%	0.00%	0.00%	0.00%	50.00%	50.00%			
The instructor managed class time effectively.: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor offered help outside of class either in-person or electronically to students.: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Daniel Kyinakwa	n	0	0	0	0	2	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Daniel Kyinakwa	n	0	0	0	1	1	4.50	0.71	4.50
	%	0.00%	0.00%	0.00%	50.00%	50.00%			
Please rate your performance in this course.	n	0	0	1	1	0	3.50	0.71	3.50
	%	0.00%	0.00%	50.00%	50.00%	0.00%			

Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Garden City Community College
EOC Eval 2020-21 Fall Term: Main Session 1 (16 wk)

Course: CollegeChemistryI: CHEM-109-01 20FA : Kynakwa Daniel
Instructor: Daniel Kynakwa *
Response Rate: 3/14 (21.43 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Daniel Kynakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor explained the subject matter clearly.: Daniel Kynakwa	n	0	1	1	1	0	3.00	1.00	3.00
	%	0.00%	33.33%	33.33%	33.33%	0.00%			
The instructor managed class time effectively.: Daniel Kynakwa	n	0	1	2	0	0	2.67	0.58	3.00
	%	0.00%	33.33%	66.67%	0.00%	0.00%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Daniel Kynakwa	n	0	1	0	2	0	3.33	1.15	4.00
	%	0.00%	33.33%	0.00%	66.67%	0.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Daniel Kynakwa	n	0	0	2	0	1	3.67	1.15	3.00
	%	0.00%	0.00%	66.67%	0.00%	33.33%			
The instructor offered help outside of class either in-person or electronically to students.: Daniel Kynakwa	n	0	0	0	2	1	4.33	0.58	4.00
	%	0.00%	0.00%	0.00%	66.67%	33.33%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Daniel Kynakwa	n	0	0	1	1	1	4.00	1.00	4.00
	%	0.00%	0.00%	33.33%	33.33%	33.33%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Daniel Kynakwa	n	0	0	0	2	1	4.33	0.58	4.00
	%	0.00%	0.00%	0.00%	66.67%	33.33%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Daniel Kynakwa	n	0	0	0	1	2	4.67	0.58	5.00
	%	0.00%	0.00%	0.00%	33.33%	66.67%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Daniel Kynakwa	n	0	0	1	1	1	4.00	1.00	4.00
	%	0.00%	0.00%	33.33%	33.33%	33.33%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Daniel Kynakwa	n	0	0	2	1	0	3.33	0.58	3.00
	%	0.00%	0.00%	66.67%	33.33%	0.00%			
Please rate your performance in this course.	n	0	1	0	1	1	3.67	1.53	4.00
	%	0.00%	33.33%	0.00%	33.33%	33.33%			

Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Garden City Community College
EOC Eval 2020-21 Fall Term: Main Session 1 (16 wk)

Course: CollegeChemistryl: CHEM-109-02 20FA : Kyinakwa Daniel

Instructor: Daniel Kyinakwa *

Response Rate: 5/23 (21.74 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Daniel Kyinakwa	n	0	0	0	2	3	4.60	0.55	5.00
	%	0.00%	0.00%	0.00%	40.00%	60.00%			
The instructor explained the subject matter clearly.: Daniel Kyinakwa	n	0	1	0	2	2	4.00	1.22	4.00
	%	0.00%	20.00%	0.00%	40.00%	40.00%			
The instructor managed class time effectively.: Daniel Kyinakwa	n	0	0	0	2	3	4.60	0.55	5.00
	%	0.00%	0.00%	0.00%	40.00%	60.00%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Daniel Kyinakwa	n	0	0	0	2	3	4.60	0.55	5.00
	%	0.00%	0.00%	0.00%	40.00%	60.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Daniel Kyinakwa	n	0	0	1	1	3	4.40	0.89	5.00
	%	0.00%	0.00%	20.00%	20.00%	60.00%			
The instructor offered help outside of class either in-person or electronically to students.: Daniel Kyinakwa	n	0	0	1	0	4	4.60	0.89	5.00
	%	0.00%	0.00%	20.00%	0.00%	80.00%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Daniel Kyinakwa	n	0	0	0	1	4	4.80	0.45	5.00
	%	0.00%	0.00%	0.00%	20.00%	80.00%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Daniel Kyinakwa	n	0	0	0	2	3	4.60	0.55	5.00
	%	0.00%	0.00%	0.00%	40.00%	60.00%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Daniel Kyinakwa	n	0	0	0	0	5	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Daniel Kyinakwa	n	0	0	0	2	3	4.60	0.55	5.00
	%	0.00%	0.00%	0.00%	40.00%	60.00%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Daniel Kyinakwa	n	0	0	1	1	3	4.40	0.89	5.00
	%	0.00%	0.00%	20.00%	20.00%	60.00%			
Please rate your performance in this course.	n	0	0	1	3	1	4.00	0.71	4.00
	%	0.00%	0.00%	20.00%	60.00%	20.00%			

Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Garden City Community College
EOC Eval 2019-20 Spring Session Main (17wk)

Course: CollegeChemistryII: CHEM-110-01 : Kyinakwa

Instructor: Daniel Kyinakwa *

Response Rate: 3/10 (30.00 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor explained the subject matter clearly.: Daniel Kyinakwa	n	0	0	0	2	1	4.33	0.58	4.00
	%	0.00%	0.00%	0.00%	66.67%	33.33%			
The instructor managed class time effectively.: Daniel Kyinakwa	n	0	0	0	1	2	4.67	0.58	5.00
	%	0.00%	0.00%	0.00%	33.33%	66.67%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor offered help outside of class either in-person or electronically to students.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
Please rate your performance in this course.	n	0	0	0	1	2	4.67	0.58	5.00
	%	0.00%	0.00%	0.00%	33.33%	66.67%			

Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Garden City Community College
EOC Eval 2019-20 Spring Session Main (17wk)

Course: CollegeChemistryII: CHEM-110-02 : Kyinakwa
Instructor: Daniel Kyinakwa *
Response Rate: 3/9 (33.33 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor explained the subject matter clearly.: Daniel Kyinakwa	n	0	1	1	1	0	3.00	1.00	3.00
	%	0.00%	33.33%	33.33%	33.33%	0.00%			
The instructor managed class time effectively.: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Daniel Kyinakwa	n	0	0	0	2	1	4.33	0.58	4.00
	%	0.00%	0.00%	0.00%	66.67%	33.33%			
The instructor offered help outside of class either in-person or electronically to students.: Daniel Kyinakwa	n	0	0	0	0	3	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Daniel Kyinakwa	n	0	0	1	2	0	3.67	0.58	4.00
	%	0.00%	0.00%	33.33%	66.67%	0.00%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Daniel Kyinakwa	n	0	0	0	3	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Daniel Kyinakwa	n	0	0	2	0	1	3.67	1.15	3.00
	%	0.00%	0.00%	66.67%	0.00%	33.33%			
Please rate your performance in this course.	n	0	1	1	0	1	3.33	1.53	3.00
	%	0.00%	33.33%	33.33%	0.00%	33.33%			

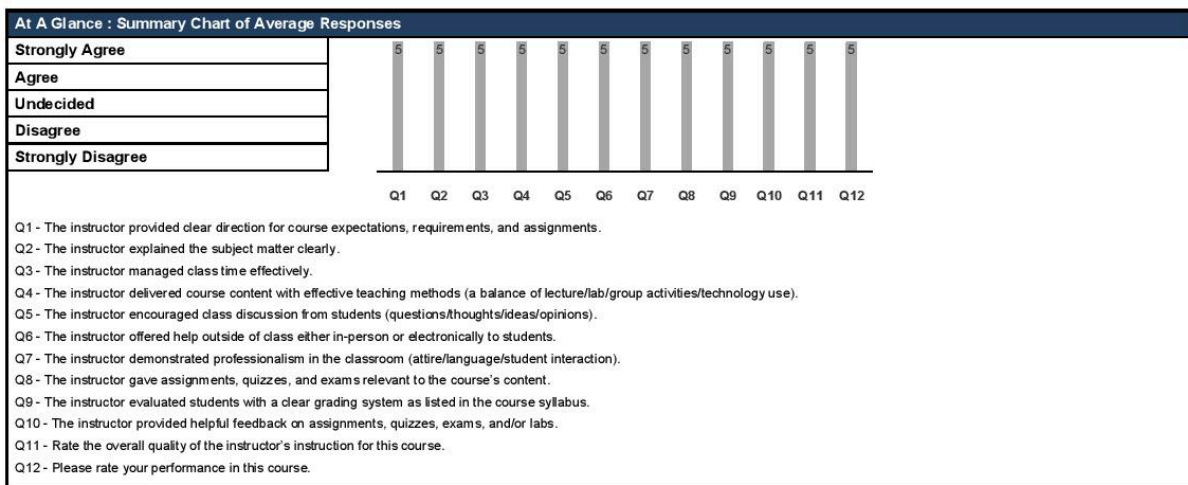
Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Garden City Community College
EOC Eval 2019-20 Fall

Course: OrganicChemistry: CHEM-206-01

Instructor: Wanda Rodriguez Rivera *

Response Rate: 1/4 (25.00 %)



1 - The instructor provided clear direction for course expectations, requirements, and assignments.

Wanda Rodriguez Rivera

Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%			
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%	100		
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

2 - The instructor explained the subject matter clearly.

Wanda Rodriguez Rivera

Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%			
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%	100		
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

Garden City Community College
EOC Eval 2019-20 Fall

Course: OrganicChemistryI: CHEM-206-01

Instructor: Wanda Rodriguez Rivera *

Response Rate: 1/4 (25.00%)

3 - The instructor managed class time effectively.						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

4 - The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

5 - The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

6 - The instructor offered help outside of class either in-person or electronically to students.						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

Garden City Community College
EOC Eval 2019-20 Fall

Course: OrganicChemistryI: CHEM-206-01

Instructor: Wanda Rodriguez Rivera *

Response Rate: 1/4 (25.00%)

7 - The instructor demonstrated professionalism in the classroom (attire/language/student interaction).						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

8 - The instructor gave assignments, quizzes, and exams relevant to the course's content.						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

9 - The instructor evaluated students with a clear grading system as listed in the course syllabus.						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

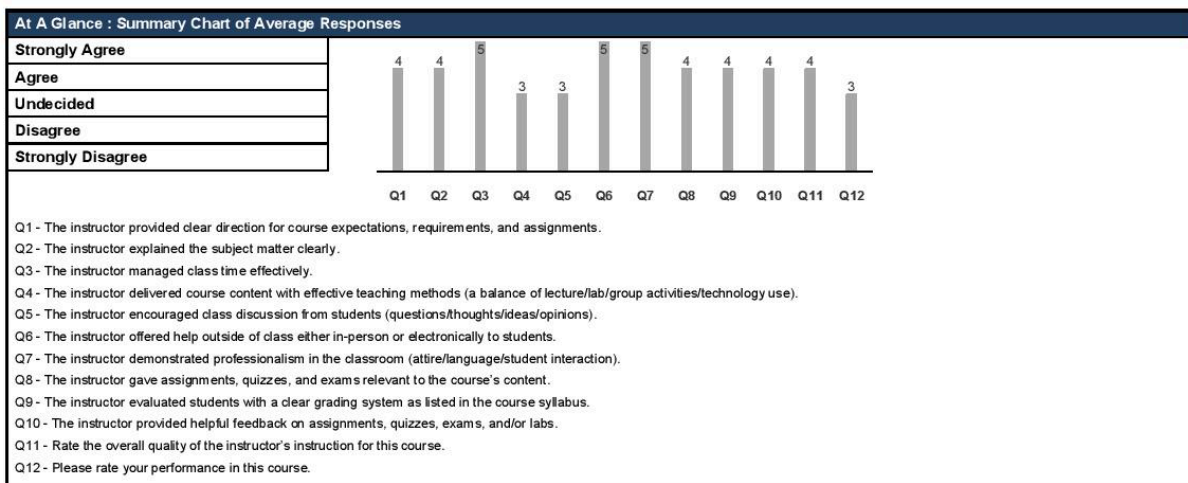
10 - The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.						
Wanda Rodriguez Rivera						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Disagree	(1)	0	0.00%		5.00	
Disagree	(2)	0	0.00%			
Undecided	(3)	0	0.00%			
Agree	(4)	0	0.00%			
Strongly Agree	(5)	1	100.00%			
Response Rate				Mean	STD	Median
1/4 (25.00%)				5.00	0.00	5.00

Garden City Community College
EOC Eval 2019-20 Fall

Course: GeneralChemistry: CHEM-105-01

Instructor: Wanda Rodriguez Rivera *

Response Rate: 1/4 (25.00 %)



1 - The instructor provided clear direction for course expectations, requirements, and assignments.

Wanda Rodriguez Rivera

Response Option	Weight	Frequency	Percent	Percent Responses	Means		
Strongly Disagree	(1)	0	0.00%				
Disagree	(2)	0	0.00%				
Undecided	(3)	0	0.00%				
Agree	(4)	1	100.00%				
Strongly Agree	(5)	0	0.00%				
Response Rate					Mean	STD	Median
1/4 (25.00%)					4.00	0.00	4.00

2 - The instructor explained the subject matter clearly.

Wanda Rodriguez Rivera

Response Option	Weight	Frequency	Percent	Percent Responses	Means		
Strongly Disagree	(1)	0	0.00%				
Disagree	(2)	0	0.00%				
Undecided	(3)	0	0.00%				
Agree	(4)	1	100.00%				
Strongly Agree	(5)	0	0.00%				
Response Rate					Mean	STD	Median
1/4 (25.00%)					4.00	0.00	4.00

Garden City Community College
EOC Eval 2019-20 Spring Session Main (17wk)

Course: OrganicChemistryII: CHEM-207-01 : Rodriguez Rivera
Instructor: Wanda Rodriguez Rivera *
Response Rate: 1/4 (25.00 %)

Question		1	2	3	4	5	Mean	Std	Median
The instructor provided clear direction for course expectations, requirements, and assignments.: Wanda Rodriguez Rivera	n	0	0	0	1	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor explained the subject matter clearly.: Wanda Rodriguez Rivera	n	0	0	0	1	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor managed class time effectively.: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			
The instructor delivered course content with effective teaching methods (a balance of lecture/lab/group activities/technology use).: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			
The instructor encouraged class discussion from students (questions/thoughts/ideas/opinions).: Wanda Rodriguez Rivera	n	0	0	0	1	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor offered help outside of class either in-person or electronically to students.: Wanda Rodriguez Rivera	n	0	0	0	0	1	5.00	0.00	5.00
	%	0.00%	0.00%	0.00%	0.00%	100.00%			
The instructor demonstrated professionalism in the classroom (attire/language/student interaction).: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			
The instructor gave assignments, quizzes, and exams relevant to the course's content.: Wanda Rodriguez Rivera	n	0	0	0	1	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			
The instructor evaluated students with a clear grading system as listed in the course syllabus.: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			
The instructor provided helpful feedback on assignments, quizzes, exams, and/or labs.: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Question		1	2	3	4	5	Mean	Std	Median
Rate the overall quality of the instructor's instruction for this course.: Wanda Rodriguez Rivera	n	0	0	1	0	0	3.00	0.00	3.00
	%	0.00%	0.00%	100.00%	0.00%	0.00%			
Please rate your performance in this course.	n	0	0	0	1	0	4.00	0.00	4.00
	%	0.00%	0.00%	0.00%	100.00%	0.00%			

Scale: 1 = Ineffective, 2 = Somewhat Ineffective, 3 = Moderately Effective, 4 = Effective, 5 = Very Effective

Template Appendix B
Chemistry Curriculum Map

CHEM 109 College Chemistry I	Curriculum Map						
Program Outcomes	Properly use of ionic, molecular & organic nomenclature.	Analyze chemical problems and demonstrate problem solving skills.	Describe atomic structure and the nature of chemical bonding.	Properly use laboratory techniques, follow safety practices and effectively communicate laboratory findings.	Recognize energy considerations in chemical reactions.	Propose the products of chemical reactions.	Adequately use of chemical vocabulary.
Course SLO: Students will be able to							
demonstrate proficiency in the Metric System, significant figures, and density.		IR	I	IR		IR	I
demonstrate proficiency in formula writing and balancing equations.	I	IR	I	IRMA	I	IRMA	I
demonstrate proficiency in chemical structure and bonding.	I	MA	IM	IR	I	IR	
demonstrate proficiency in using the gas laws.						RM	I
demonstrate proficiency in acid and base chemistry.		MA		MA	MA	R	R
demonstrate proficiency in understanding the energy of reactions.		R		IR			
demonstrate proficiency in dealing with solutions and two-phase systems.			R				
demonstrate an understanding of redox reactions and electrochemistry			R	IR			IR

CHEM-110 College Chemistry II	Curriculum Map							
Program Outcomes	properly use of ionic, molecular, & organic chemical nomenclature.	Analyze chemical problems and demonstrate problem solving skills.	Describe atomic structure and the nature of chemical bonding	Properly use laboratory techniques, follow safety practices and effectively communicate laboratory findings.	Recognize energy considerations in chemical reactions.	Propose the products of chemical reactions.	Adequately use chemical vocabulary.	
Course SLO: Students will be able to								
describe the basic (colligative) properties of solutions	IR	IR	I	IR	I			
describe the fundamentals of acid/base equilibria, including pH calculations, buffer behavior, acid/base titrations, and their relationship to electrophiles and nucleophiles	IR		IR	IRMA	I			
describe the thermodynamic and kinetic forces involved in chemical reactions which determine how much and how soon products are formed	IR		IR	IR	IRMA	IRMA		
describe the basics of electrochemistry, and the relationship of electrical parameters to thermodynamic and stoichiometric parameters			IR		IR	IR		
describe current bonding models for simple inorganic and organic molecules in order to predict structures and important bonding parameters			I	MA	IR	IRMA	IR	
describe general periodicity patterns of (organic/inorganic) molecules, and the ability to design synthetic approaches to such species	IR		IR	IR	IR	IR		
describe solubility and complex ion equilibria	I	IR	IR			IRMA		
describe the basic aspects of nuclear chemistry		IR	IR	IR	IR	IR	IR	

CHEM-206 Organic Chemistry I		Curriculum Map				
Program Outcomes	Properly use of ionic, molecular, & organic chemical nomenclature.	Analyze chemical problems and demonstrate problem solving skills.	Properly use laboratory techniques, follow safety practices and communicate laboratory.	Recognize energy considerations in chemical reactions.	Describe atomic structure and the nature of chemical bonding.	Adequately use of chemical vocabulary.
Course SLO: Students will be able to						
use VSEPR theory to draw Lewis Structure		M	M	M	M	M
Proficiency in drawing resonance structures		M	RM	M	M	RM
Develop an understanding in the reactions of alkanes, alkene and alkynes	M	M	R	M	R	RM
Demonstrate knowledge on how stereochemistry determines a molecule's stability		R	R	M	R	RM
To be able to predict products of reactions with free radicals		M	RM	M		M
Demonstrate understanding on the reactivity of alcohols	M	M	R	M	R	RM
Proficiency in understanding SN1, SN2, E1 and E2 reactions.		M	R	M	R	RM
Explain how electron delocalization can influence reactions			R	M	R	RM
Being able to read spectras of NMR, IR and MS to identify organic compounds		I	I			I
Effectively draw mechanism of reactions	M	I	R			RM

CHEM-207 Organic Chemistry II	Curriculum Map						
Program Outcomes	Properly use of ionic, molecular, & organic chemical nomenclature.	Analyze chemical problems and demonstrate problem solving skills.	Properly use laboratory techniques, follow safety practices and effectively communicate laboratory findings.	Recognize energy considerations in chemical reactions.	Propose the products of chemical reactions.	Adequately use of chemical vocabulary.	Describe the structure and nature of chemical bonding.
Course SLO: Students will be able to							
Being able to read spectras of NMR, IR and MS to identify organic compounds		I	RM	M	M		M
Develop an understanding of the fundamentals of electronic structure and bonding in conjugated and aromatic systems	M	M	RM	M	M	M	M
Demonstrate knowledge on the fundamental electronic structure and bonding in carbonyl compounds		IMR	RM	M	M	M	M
understand how substituents effect on pK_a (in the case of carboxylic acids)		A	R	M			
Fundamental knowledge on reactivity of carbonyl compounds with both hard and soft nucleophiles (carboxylic acids, aldehydes and ketones)		M	IRM	M	M	I	IR
To have knowledge on how kinetics and thermodynamics affect carbonyl condensation reactions		M	RM	M	M	M	M
Develop an understanding of the fundamental properties and reactivity of biologically important molecules (e.g. carbohydrates, amines and amino-acids)	MA	M	R	M	M		R
Effectively predict products on reactions with organometallics		M	R	M		M	IR
Effectively draw mechanism of reactions	M	R				M	M

Template Appendix C

Annual Assessment Reports—Since Last Program Review

Attach the program's Annual Reports for the last 5 years or since the last program review.

Template Appendix D

Strategic Plan and Status Reports Since Last Review

Attach the program's Strategic Plan and Status Reports for the last 5 years or since the last program review.