General Education Learning Outcomes (GELOs) Summary Report Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Introduction

The goals of the assessment of the General Education Learning Outcomes (GELOs) at Baton Rouge Community College (BRCC) are to inform (1) instruction in individual courses, and (2) curriculum and program development. To achieve these goals, a recurring three-semester, campus-wide, multi-disciplinary assessment project has been initiated.

The first GELO Assessment Cycle consisted of the SP12, FA12, and SP13 semesters. The second GELO Assessment Cycle consisted of FA13, SP14, and FA14. Cycle three consisted of SP15, FA15, and SP16.

In each cycle all ten of the GELOs are assessed, allowing for the complete assessment of the General Education curricula at BRCC. The General Education core curriculum is designed to ensure that graduates (1) develop the basic knowledge and skills essential to living productive and satisfying lives, (2) can be competitive in a global economic society, and (3) are lifelong learners. Courses included in the General Education core curriculum contribute to the acquisition of a basic core of knowledge, skills, and perspectives. General education learning outcomes are an instrument the college can use to assess the success of this program.

Methods

The following General Education Learning Outcomes (GELOs) were assessed for this assessment cycle:

- 1. communicate in standard edited English, write and speak with clarity, coherence, and persuasiveness;
- 2. understand, analyze, and evaluate readings from a variety of texts and apply that learning to academic, personal, and professional contexts;
- 3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;
- 4. comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;
- 5. comprehend and apply the basic principles of science and methods of scientific inquiry;
- 6. recognize when information is needed and have the ability to locate, evaluate, and use effectively and ethically the needed information through written, oral, visual, and technological media;

- 7. recognize and understand cultural diversity and have a global perspective grounded in the understanding of international cultures, issues, and trends linking communities around the world;
- 8. demonstrate an understanding of the creative process, the pleasures and challenges of artistic expression, and the role and value of the arts in society and culture;
- 9. demonstrate a deeper, more informed awareness and appreciation of the necessity for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity; and
- 10. demonstrate knowledge of American democracy, an awareness of the responsibilities of informed citizenship in a diverse and pluralistic society, and a willingness to contribute through participation and service.

To ensure uniformity in the process and participation, faculty were provided the GELO Master Course Matrix (Appendix A) to determine which courses were to be assessed each semester. In addition, faculty were emailed submission instructions, a report form template (Appendix B) and rubric to assess each GELO (Appendix C).

Reporting required the categorization of results into three categories: Fails to Meet Expectations, Meets Expectations, and Exceeds Expectations. Instructors of General Education courses completed the assessment and reported the results per CRN on the supplied form (Appendix B). Faculty were not mandated to conduct their assessment a

specific way or to use any particular assessment tool; rather, they were instructed to conduct an assessment that they felt would strengthen instruction and meet the general education needs of our students. If however, the department did utilize a common assessment tool in multiple sections of a course, the Department distributed that information to the Faculty. The types of assignments used for assessment ranged from exams, problem sets, speeches, quizzes, to short answers and essays (Appendices D-I). Examples of various assessment measures are included in each Department Assessment and Improvement Plan (Appendices D-I).

Once all reports were submitted, the General Education Committee compiled the GELO assessment data by GELO and by course into a spreadsheet organized by the three competency levels (Fails to Meet Expectations, Meets Expectations, and Exceeds Expectations) for each semester (Appendix J). Outcomes 1, 3, and 5 were assessed in the Spring 2015 semester. Outcomes 7, 8, 9, and 10 were assessed in the Fall 2015 semester. Outcomes 2, 4, and 6 were assessed in the Spring 2016 semester and concluded the cycle. The General Education Committee Chair sent the compiled data to the Departments in the General Education Summary Form Assessment and Improvement Plan template.

The Department Chairs, working with departmental faculty, reviewed the data and completed the Assessment and Improvement Plan for all courses that support a particular GELO outcome. The assessment portion documents course

level data (percentages that Fails to Meet, Meets, and Exceeds Expectations) whereas the improvement portion summarizes the redesign (assessment methodology, learning outcomes, course delivery, course content, and department/program role).

This report summarizes departmental findings and plans for improvement.

Results

Assessment of GELOs 1, 3, and 5 SP 2015.

		Falls Below	Meets	Exceeded	Total	
		Expectations	Expectations	Expectations	Assessed	
GELO	Division	(n)	(n)	(n)	(n)	
GELO 1	STEM	N/A	N/A	N/A	N/A	
GELO 1	Bus. & Social Science	N/A	N/A	N/A	N/A	
GELO 1	Liberal Arts	299	963	490	1750	
	GELO 1 assessments	299	963	490	1750	
	% by category	17%	55%	28%		
GELO 3	STEM	645	870	969	2467	
GELO 3	Bus. & Social Science	253	462	490	1205	
GELO 3	Liberal Arts	41	191	69	301	
	GELO 3 assessments	939	1523	1528	3973	
	% by category	23%	38%	38%		
GELO 5	STEM	417	643	490	1534	
GELO 5	Bus. & Social Science	127	261	367	757	
GELO 5	Liberal Arts	N/A	N/A	N/A	N/A	
	GELO 5 assessments	544	904	857	2291	
	% by category	23%	39%	37%		
grand	total, all GELOs combined	1782	3390	2875	8014	
-	% by category, all GELOs	22%	42%	35%		

Assessment of GELOs 7, 8, 9, and 10 FA 2015

		Falls Below Expectations	Meets Expectations	Exceeded Expectations	Total Assessed
GELO	Division	(n)	(n)	(n)	(n)
GELO 7	STEM	N/A	N/A	N/A	N/A
GELO 7	Bus. & Social Science	103	264	341	708
GELO 7	Liberal Arts	94	163	228	485
	GELO 7 assessments	197	427	569	1193
	% by category	16%	36%	48%	
GELO 8	STEM	N/A	N/A	N/A	N/A
GELO 8	Bus. & Social Science	N/A	N/A	N/A	N/A
GELO 8	Liberal Arts	30	18	19	67
	GELO 8 assessments	30	18	19	67
	% by category	45%	27%	28%	
GELO 9	STEM	10	14	0	24
GELO 9	Bus. & Social Science	52	123	61	236
GELO 9	Liberal Arts	4	13	3	20
	GELO 9 assessments	66	150	64	280
	% by category	24%	53%	23%	
GELO 10	STEM	N/A	N/A	N/A	N/A
GELO 10	Bus. & Social Science	90	70	376	536
GELO 10	Liberal Arts	N/A	N/A	N/A	N/A
	GELO 10 Assessments	90	70	376	536
	% by category	17%	13%	70%	
grand	total, all GELOs combined	383	665	1028	2076
	% by category, all GELOs	19%	32%	49%	

Assessment of GELOs 2, 4, and 6 SP 2016

		Falls Below	Meets	Exceeded	Total
		Expectations	Expectations	Expectations	Assessed
GELO	Division	(n)	(n)	(n)	(n)
GELO 2	STEM	N/A	N/A	N/A	N/A
GELO 2	Bus. & Social Science	159	380	287	826
GELO 2	Liberal Arts	73	166	177	416
	GELO 2 assessments	232	546	464	1242
	% by category	19%	44%	37%	
GELO 4	STEM	378	282	178	788
GELO 4	Bus & Social Science	216	405	135	756
GELO 4	Liberal Arts	66	44	5	115
	GELO 4 assessments	610	731	318	1659
	% by category	37%	44%	19%	
GELO 6	STEM	N/A	N/A	N/A	N/A
GELO 6	Bus. & Social Science	46	86	175	307
GELO 6	Liberal Arts	189	339	159	687
	GELO 6 assessments	235	425	334	994
	% by category	23%	43%	34%	
grand	total, all GELOs combined	1077	1702	1116	3895
-	% by category, all GELOs	28%	44%	28%	

A total of 13,985 general education assessments were conducted (Table 1, see pages 5-7). The total number of assessments is not equal to the total number of students assessed. Each student may have been assessed several times due to their enrollment in more than one General Education course. The number of assessments reflects the total number of times an assessment tools was administered to a student.

Cycle three indicates that the general education courses at BRCC are helping students meet the expectations in all ten GELOs. Faculty report 83% of students meet or exceed expectations in GELO 1, 81% in GELO 2, 76% in GELO 3, 63% in GELO 4, 76% in GELO 5, 77% in GELO 6, 84% in GELO 7, 55% in GELO 8, 76% in GELO 9, and 83% in GELO 10. GELOs 1, 2, 3, 5, 6, 7, 9, and 10 indicate at least 76% of the students assessed are meeting or exceeding expectations. GELOs 4 and 8 report lower levels of success; however, more students are meeting or exceeding expectations than failing to meet expectations. The findings are addressed in each individual report (Appendices D-I).

Appendix A

Baton Rouge Community College General Education Learning Outcomes (GELOs) Course Matrix												
General Education Learning Outcomes:	(GELO) Numbers	1	2	3	4	5	6	7	8	9	10	Dates
FORMER BRCC COURSE RUBRICS	COMMON COURSE RUBRICS	GELO 1: Communicat e in standard edited English, write and speak with clarity, coherence and persuasiven ess.	GELO 2: Understand, analyze, and evaluate readings from a variety of texts and apply that learning to academic, personal and professional contexts.	GELO 3: Think critically, independen tly, creatively, make informed and logical judgments of other arguments of others, arrive at reasoned, meaningful arguments, positions, formulate and apply ideas to new contexts.	GELO 4: Comprehe nd and apply quantitativ e concepts and methods to interpret and critically evaluate data and to problem- solve in a variety of contexts demandin g quantitativ e literacy.	GELO 5: Comprehen d and apply the basic principles of science and methods of scientific inquiry.	GELO 6: Recognize when informatio n is needed and have the ability to locate, evaluate and use effectively and ethically the needed informatio n through written, oral, visual and technologi cal media.	GELO 7: Recognize and understan d cultural diversity and have a global perspectiv e grounded in the understan ding of internation al cultures, issues and trends linking communiti es around the world.	GELO 8: Demonstra te an understan ding of the creative process, the pleasures and challenges of artistic expression and the role and value of the arts in society and culture.	GELO 9: Demonstr ate a deeper, more informed awarenes s and appreciat ion of the necessity for strong values, ethical conduct, social responsibi lity, especially the importanc e of personal, academic and profession al integrity.	GELO 10: Demonstrate knowledge of American democracy, an awareness of the responsibiliti es of informed citizenship in a diverse and pluralistic society and a willingness to contribute through participatio n and service.	ADDED TO MATRIX
ANTH 101	ANTH 1013			I		l I						
ANTH 103	ANTH 2013			l I		l I						
ARTS 101	ARTS 1023							l I	- I			
ARTS 102	ARTS 1003							R	R			
ARTS 103								R	R			
ARTS 241	ARTS 2103	R						E				
ARTS 242	ARTS 2113	R						E				

ASTR 101	ASTR 1103			I		E				
BIOL 101	BIOL 1013			I		E				
BIOL 101H				I		E				
BIOL 102	BIOL 1023			I		E				
BIOL 102H				I		E				
BIOL 120	BIOL 1033			I		E				
BIOL 121	BIOL 1043			I		E				
BIOL 210	BIOL 2104			I		E				
BIOL 241	BIOL 2413			I		E				
CHEM 100	CHEM 1003			I		I				FALL 2015
CHEM 101	CHEM 1123			I		E				
CHEM 102	CHEM 1133			I		E				
CJUS 101	CJUS 1013		I						R	
ECON 201	ECON 2213			I	R					
ECON 202	ECON 2223			I	R					
ECON 203	ECON 2113			I	R					
ECON 213	ECON 2133			I	R					
ENGL 101	ENGL 1013	E	I							
ENGL 101H		E					l.			
ENGL 102	ENGL 1023	E					R			
ENGL 102H		E					R			
ENGL 210	ENGL 2133		R					E		
ENGL 211	ENGL 2303		R	R						
ENGL 215	ENGL 2313		R	R						
ENGL 220	ENGL 2123		R	R						
ENGL 221	ENGL 2173		R	R						
ENGL 222	ENGL 2223		R	R						
ENGL 223	ENGL 2403		R	R						
ENGL 230	ENGL 2323		R	R						
ENGL 240	ENGL 2503		R					E		
ENGL 248	ENGL 2483		R	R						

ENSC 201	ENSC 1103		I				R		
FILM 200	FILM 2003	I	I						
FILM 201	FILM 2013	I	R						
FREN 101	FREN 1013	I				Е			
FREN 102	FREN 1023	I				Е			
FREN 201	FREN 2013	I				Е			
FREN 202	FREN 2023	I				Е			
GEOG 201	GEOG 2013		I			R			
GEOG 203	GEOG 2113		I			R			
GEOL 101	GEOL 1103		I		E				
GERM 101		I				Е			
HIST 101	HIST 1113	R				l.			
HIST 101H		R				l.			
HIST 102	HIST 1123	R				l.			
HIST 200	HIST 2003	R	I						
HIST 201	HIST 2013	R						l.	
HIST 202	HIST 2023	R						R	
HIST 221	HIST 2213	R				E			
HIST 222	HIST 2223	R				E			
HUMN 210	HUMN 2103	R				E			
HUMN 250	HUMN 2013		R			E			
HUMN 255	HUMN 2553	R				E			
HUMN 275	HUMN 2753		R			E			
ITAL 101		l I	l.			E			
MATH 101	MATH 1113		-	E					
MATH 110	MATH 1213		l.	E					
MATH 111	MATH 1223		I	E					
MATH 120	MATH 1235		I	E					
MATH 130	MATH 1103		I	E					
MATH 201	MATH 2103			E	l l				
MATH 202	MATH 2303	R	R	E					

MATH 203	MATH 2313		R	R	E						
MATH 204	MATH 1303		R	R	E						
MATH 208	MATH 2084		R	R	E						
MATH 210	MATH 2115			R	E						
MATH 211	MATH 2125			R	E						
MATH 212	MATH 2134			R	E						
MUSC 101	MUSC 1013	R		R							
MUSC 102	MUSC 1023	R		R							
PHIL 201	PHIL 1013			R					E		
PHIL 203	PHIL 2113			R	R						
PHIL 205	PHIL 2013			R					E		
PHIL 228	PHIL 2283			R				R			
PHSC 101	PHSC 1023			I		E					
PHSC 102	PHSC 1033			I		E					
PHYS 110	PHYS 1103			I		E					
PHYS 200	PHYS 1013			I		E					
PHYS 201	PHYS 2113			R		E					
PHYS 202	PHYS 2123			R		E					
PHYS 221	PHYS 2133			I		I					
PHYS 222	PHYS 2143			R		R					
PHYS 223	PHYS 2153			R		R					
POLI 202	POLI 2023			R				Е			
POLI 211	POLI 2113			R						E	
POLI 251	POLI 2013			I						Е	
POLI 253	POLI 2213							R		Е	
POLI 260	POLI 2603			R					R		
PSYC 200				I		-					
PSYC 201	PSYC 2013			I		L.					
PSYC 202	PSYC 2113			I		I					
RNRE 101	RNRE 1013					I	I				
RNRE 210	RNRE 2103				I	I					

PSYC 201H						l.	l.					
SOCL 200	SOCL 2013						l.	E				
SOCL 203	SOCL 2413							E		I		
SOCL 205	SOCL 2113							E		l.		
SPAN 101	SPAN 1013		I					E				
SPAN 102	SPAN 1023		I					E				
SPAN 201	SPAN 2013		I					E				
SPAN 202	SPAN 2023		-					E				
SPCH 101	SPCH 1013	I					R					
SPCH 120	SPCH 2013	R						R				
SPCH 210	SPCH 2213	R						R				
SPCH 220	SPCH 2313	R					E					
SPCH 240	SPCH 2403		R						E			
SPCH 263				R			E					
THTR 100	THTR 1013							L.	R			
		12	39	69	19	29	9	37	5	7	5	

Appendix B

General Education Assessment Course Summary Form

Please use this form to summarize what you are doing to assess the outcomes for a specific course and how well the students are achieving these outcomes. Describe any action you are planning based on the assessment findings.

Course Prefix and Number: Course Title: Instructor Name: Date of Assessment: Semester: Year:

GELO	Fall Below	Meets	Exceeds	n
	Expectations			
2 reading				
4 quantitative literacy				
6 information literacy				

Learning Outcomes: List all the General Education learning outcomes being assessed.

Assessments tools: Describe strategies/methods & rubric used to assess how well students achieved this outcome.

Summary of data collected: table, chart, description

Analysis of data: Your interpretation of the results.

Summary of redesign: actions taken in any of the following by the discipline/instructor

- 1. assessments methodology—no significant change warranted
- 2. learning outcomes—no change needed
- 3. course delivery—I will continue to focus on the steps of research and writing
- 4. course content
- 5. department/program

Reflection of any previous assessment cycles.

Appendix C

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Rubric to Assess General Education Leaning Objectives/ (GELOs)

		Rubric Used to Identify Student Mastery of GELOs						
		Falls Below Expectations	Meets Expectations	Exceeds Expectations				
	GELOs	X ≤ 69%	89% ≥X ≥ 70%	X ≥ 90%				
1.	Communicate in	Communication technique	Communication technique	Communication technique				
	standard edited	includes significant errors	includes few errors in the	contains no errors in				
	English, write and	in the use of standard	use of standard diction,	standard diction,				
	speak with clarity,	diction, grammar, and	grammar and mechanics;	grammar, and mechanics;				
	coherence, and	mechanics; writing lacks	writing contains few	writing contains no errors				
	persuasiveness.	clarity, coherence, and	errors in clarity,	in clarity, coherence, and				
		persuasiveness; oral	coherence, and	persuasiveness; oral				
		communication lacks	persuasiveness; oral	communication contains no				
		clarity, coherence and	communication contains	errors in clarity,				
		persuasiveness.	few errors in clarity,	coherence, and				
			coherence and	persuasiveness.				
			persuasiveness.					
2.	Understand, analyze,	Does not demonstrate the	Demonstrates some ability	Demonstrates the ability				
	and evaluate readings	ability to understand,	to understand, analyze	to understand, analyze				
	from a variety of texts	analyze and evaluate	and evaluate readings	and evaluate readings				
	and apply that learning	readings from a variety	from a variety of texts	from a variety of texts				
	to academic, personal	of texts and apply that	and apply that learning	and apply that learning				
	and professional	learning to academic,	to academic, personal	to academic, personal				
	contexts.	personal and professional	and professional contexts.	and professional contexts.				
		contexts.						
3.	Think critically,	Does not demonstrate	Demonstrates some ability	Consistently demonstrates				
	independently, and	independent thinking;	to think independently;	ability to think				
	creatively and make	does not demonstrate	demonstrates some ability	independently;				
	informed and logical	ability to analyze	to analyze arguments of	Consistently demonstrates				
	judgments of the	arguments of others; does	others; demonstrates some	ability to analyze				
	arguments of others,	not demonstrate ability to	ability to create	arguments of others;				
	arrive at reasoned and	create reasoned,	reasoned, meaningful	consistently demonstrates				
	meaningful arguments	meaningful arguments;	arguments; demonstrates	ability to create				
	and positions, and	does not demonstrate	some ability to apply	reasoned, meaningful				
	formulate and apply	ability to apply ideas to	ideas to new contexts.	demonstrates ability to				
	ideas to new contexts.	new contexts.		demonstrates ability to				
				apply ideas to new				
4	Comprohend and apply	Does not demonstrate the	Demonstrates some ability	Demonstrates the ability				
-	comprehend and apply	ability to comprehend	to comprehend and apply	to comprehend and apply				
	and methods to	and apply quantitative	quantitative concepts and	quantitative concepts and				
	interpret and critically	concepts and methods to	methods to interpret and	methods to interpret and				
	evaluate data and to	interpret and critically	critically evaluate data	critically evaluate data				
	problem-solve in a	evaluate data and to	and to problem-solve in a	and to problem-solve in a				
	variety of contexts	problem-solve in a	variety of contexts	variety of contexts				
	demanding	variety of contexts	demanding quantitative	demanding quantitative				
	quantitative literacy.	demanding quantitative	literacy.	literacy.				
		literacy.	-	-				
5.	Comprehend and apply	Significant lapses in the	Few errors in the	No errors in the				
	the basic principles of	understanding of	understanding of	understanding of				
	science and methods of	terminology, concepts,	terminology, concepts,	terminology, concepts,				
	scientific inquiry.	principles, and	principles, and	principles, and				
		fundamental theories;	fundamental theories; few	fundamental theories; no				
		unable to apply the basic	errors in the application	errors in the application				
		principles of science and	of the basic principles of	of the basic principles of				
		methods of scientific	science and methods of	science and methods of				
		inquiry.	scientific inquiry.	scientific inquiry.				

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Rubric to Assess General Education Leaning Objectives/ (GELOs)

Rubric Used to Identify Student Mastery of GELOs						
	GELOs	Falls Below Expectations X ≤ 69%	Meets Expectations 89% ≥X ≥ 70%	Exceeds Expectations X ≥ 90%		
6.	Recognize when information is needed and have the ability to locate evaluate, and use effectively and ethically the needed information through written, oral, visual, and technological media.	Does not demonstrate the ability to recognize when information is needed and have the ability to locate evaluate, and use effectively and ethically the needed information through written, oral, visual and technological.	Demonstrates some ability to recognize when information is needed and have the ability to locate evaluate, and use effectively and ethically the needed information through written, oral, visual and technological.	Demonstrates the ability to recognize when information is needed and have the ability to locate evaluate, and use effectively and ethically the needed information through written, oral, visual and technological.		
7.	Recognize and understand cultural diversity and have a global perspective grounded in the understanding of international cultures, issues and trends linking communities around the world.	Does not recognize and understand cultural diversity. Does not demonstrate a global perspective grounded in the understanding of international cultures, issues, and trends linking communities around the world.	Demonstrates some recognition and understanding of cultural diversity. Demonstrates a limited global perspective grounded in the understanding of international cultures, issues, and trends linking communities around the world.	Recognizes and understands cultural diversity. Demonstrates a global perspective grounded in the understanding of international cultures, issues, and trends linking communities around the world.		
8.	Demonstrate an understanding of the creative process, the pleasures and challenges of artistic expression, and the role and value of the arts in society and culture.	Does not demonstrate an understanding of the creative process, the pleasures and challenges of artistic expression, and the role and value of the arts in society and culture.	Demonstrates a limited understanding of the creative process, the pleasures and challenges of artistic expression, and the role and value of the arts in society and culture.	Demonstrates an understanding of the creative process, the pleasures and challenges of artistic expression, and the role and value of the arts in society and culture.		
9.	Demonstrate a deeper, more informed awareness and appreciation of the necessity for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity.	Does not demonstrate awareness and appreciation of the necessity for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity.	Demonstrates a limited awareness and appreciation of the necessity for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity.	Demonstrates a deeper, more informed awareness and appreciation of the necessity for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity.		
10.	Demonstrate knowledge of American democracy, an awareness of the responsibilities of informed citizenship in a diverse and pluralistic society, and a willingness to contribute through participation and service.	Does not demonstrate knowledge of American democracy or an awareness of the responsibilities of informed citizenship in a diverse and pluralistic society. Does not demonstrate a willingness to contribute through participation and service.	Demonstrates limited knowledge of American democracy, and a limited awareness of the responsibilities of informed citizenship in a diverse and pluralistic society. Demonstrates some willingness to contribute through participation and service.	Demonstrates knowledge of American democracy, an awareness of the responsibilities of informed citizenship in a diverse and pluralistic society and a willingness to contribute through participation and service.		

Appendix D

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Liberal Arts

Department: Fine Arts and Communication

GELO Outcome 1	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	SPCH 101	11%	48%	41%	179
	SPCH 120	11%	57%	32%	256

GELO Outcome 2	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	SPAN 101	12%	11%	77%	120
	SPAN 102	0%	5%	95%	21
	SPAN 201	20%	30%	50%	10
	SPAN 202	0%	0%	100%	1
	SPCH 240	19%	0%	81%	16

GELO Outcome 3	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	FILM 200	26%	48%	26%	73

GELO Outcome 7	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ARTS 101	23%	51%	26%	180
	ARTS 102	16%	44%	40%	25
	FREN 101	1%	2%	97%	110
	FREN 102	0%	7%	93%	15
	SPCH 210	33%	67%	0%	60

	THTR 100	39%	13%	48%	67
GELO Outcome 8	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	THTR 100	45%	27%	28%	67

Assessments tools: Describe strategies faculty used to assess how well students achieved this outcome. Provide evidence from each course.

GELO Outcome 1	Course	Assessment Tool(s)	Example(s)
	000130	7.5565511161111001(5)	
	SPCH 101	Delivery of a speech	All sections of SPCH 101 used an informative speech assignment as the GELO assessment tool. This assignment required students to develop a speech outline and give a public speech informing their audience on a topic of their choice. The rubric graded students on their clarity (utilizing organizational speech strategies discussed in class), writing (through the speech outline), and persuasiveness. Below is the assignment sheet and rubric utilized for the assignment. Points: 100 • Outline: 40 points • Note cards: 10 points • Speech: 50 points

		 Purpose: Increase what your listeners know about a topic Help your audience learn information that is useful to them Clarify complex issues Demonstrate a useful concept Arouse interest in topics Length: Between 5-6 minutes Required Materials: Formal outline (Sentence outline structure) Note cards Rehearsed speech
SPCH 120	Writing assignment that analyzes a public speech Delivery of a speech	All sections of SPCH 120 used a persuasive speech assignment as the GELO assessment tool. This assignment required students to develop a speech outline and give a public speech attempting to convince or actuate their audience through persuasion. The rubric graded students on their clarity (utilizing organizational speech strategies discussed in class), writing (through the speech outline), and persuasiveness (call to action present in the speech).

GELO Outcome 2 Course Assessment Tool(s) Example(s)	GELO Outcome 2	Course	Assessment Tool(s)	Example(s)

SPAN 101	Quizzes and oral interviews	A quiz that included five multiple choice reading questions used to assess the students' translation and interpretation skills.
	Written and oral	
	exercises from	A true-or-false quiz with which the students
	workbook and	demonstrated their knowledge about greeting
	textbook	behaviors in Hispanic countries.
SPAN 102	Quizzes and oral	A quiz that included five multiple
	interviews	choice reading questions used to assess the students' translation and interpretation skills.
	Written and oral	
	exercises from	
	workbook and	
	textbook	
SPAN 201	Quizzes and oral	A quiz that included five multiple
	interviews	choice reading questions used to assess the students' translation and interpretation skills.
	Written and oral	
	exercises from	
	workbook and	
	textbook.	
	Oral in-class	
	presentation	
SPAN 202	Quizzes and oral	A quiz that included five multiple
	interviews	choice reading questions used to assess the students' translation and interpretation skills.
	Written and oral	
	exercises from	
	workbook and	
	textbook.	
	Oral in-class	
	presentation	

SPCH 240	Delivery of oral performances/readings of literature	A performance of poetry that follows the dramatic analysis of Burke's Pentad.
	Analytical writing assignments	The assignment directed students to write an interpretation of a poem—an interpretation that also addressed why they consider the poem to be of interest as a performative piece.
		Student then recited their poems during 3- to 5- minute long performances.

GELO Outcome 3	Course	Assessment Tool (s)	Example(s)
	FILM 200	Analytical writing assignments	Part of an in-class assignment that was used as a final exam review was administered as a GELO assessment tool. Students were given three written-
		Oral presentations	response questions that asked them to argue their analytical points-of-view regarding the symbolism of films screened during class.
			Students answered multiple choice, true/false, and short essay questions on the concept of Mise-en- Scene—giving examples of how this concept appeared in films seen in and out of class.

GELO Outcome 7	Course	Assessment Tool(s)	Example(s)
	ARTS 101	Quizzes and exams.	A writing assignment that assessed student
			appreciation, recognition, and understanding of the
		Student presentations	creative process. Students had to reference linkages
		evaluated using	between style and content/meaning in a variety of
		instructor-designed	works created from various cultural perspectives with
		rubric	current and historical time periods.

		A quiz that tested student understanding of and appreciation for the cultural nuances of works of art from different genres, styles, periods, and geographies.
ARTS 102	Essays graded with a departmentally- designed rubric. Instructor-designed quizzes and exams	A writing assignment that assessed student appreciation, recognition, and understanding of the creative process. Students had to reference linkages between style and content/meaning in a variety of works created from various cultural perspectives with current and historical time periods.
FREN 101	Quizzes, pop quizzes, interviews, and other oral assignments	Students chose a Francophone country to research prior to reporting on the country during in-class oral presentations.
		The objective was to recognize and share their appreciation for global diversity: languages, cultures, food, clothing, etc.
FREN 102	Quizzes, pop quizzes, interviews, and other oral assignments	Student chose a Francophone country to research prior to reporting on the country during in-class oral presentations.
		The objective was to recognize and share their appreciation for global diversity: languages, cultures, food, clothing, etc.
SPCH 210	Objective-answer exams	An objective-answer exam that assessed student understanding of and appreciation for cultural diversity as expressed in the study of interpersonal communication.
THTR 100	Quizzes and exams	A quiz measured student understanding of the debt each generation owes to its predecessor's traditions, and how each successive school or genre of theatre is informed by and evolves beyond those traditions in a way which seeks intellectual, spiritual, and ethical

	higher ground; how humanity and social justice benefit from the continual spirit of inquiry that theatre
	encourages.

GELO Outcome 8	Course	Assessment Tool (s)	Example(s)
	THTR 100	Expressive assignments, such as delivering monologues and writing original scripts	A creative exercise—a monologues or scene work— tested the students' capacities to perform before an audience and face the daunting challenge of learning a piece of text, investing it with their own imaginations and experiences, and walking away with an enhanced appreciation of the challenge all theatre artists contend with every day of their lives.

Summary of analysis of data:

GELO Outcome 1	Course	Observations	Recommendations
	SPCH 101	Of the 179 students assessed, 48% met expectations with 41% exceeding expectations. The SPCH 101 faculty believe these percentages accurately represent the effectiveness of their common pedagogy. They noted that the 11% of students who did not meet expectations were likely students who had poor attendance and/or failed to complete a significant amount of coursework leading up to the assignment used for this assessment.	Recommendations were not deemed necessary.

SPCH 120	Of the 256 students assessed, 57% met expectations with 32% exceeding expectations. The SPCH 120 faculty believe these percentages accurately represent the effectiveness of their common pedgagay. They noted that the 11%	Recommendations were not deemed necessary.
	pedagogy. They noted that the 11% of students who did not meet expectations were likely students who had poor attendance and/or failed to complete a significant amount of coursework leading up	
	to the assignment used for this assessment.	

GELO Outcome 2	Course	Observations	Recommendations
	SPAN 101	Of the 120 students assessed, 98%	Department faculty recommended
		exceeded expectations. The SPAN	that SPAN faculty consider increasing
		101 faculty observed that this is a	the challenge of the assessment
		rather high success rate based on	measure(s) used to gauge student
		an assessment administered late in	learning.
		the semester—well after students	
		acquire the fundamental skills	
		needed to read and interpret	
		Spanish. The faculty also observed	
		that many of BRCC's Spanish	
		students study the language in high	
		school and enter the college	
		classroom with a sound foundation	
		for additional study. That said, some	
		departmental faculty feel as if SPAN	
		101 may need to rely upon a more	

	challenging assessment measure to	
	truly gauge student learning.	
SPAN 102	The SPAN 102 faculty observed that the 95% of students who exceeded	Department faculty recommended that SPAN faculty consider increasing
	101 students taught by those	measure(s) used to gauge student
	instructors who taught SPAN 101.	learnina.
	The consistency of pedagogical	č
	approaches from SPAN 101 to SPAN	
	102 likely facilitated student success	
	in SPAN 102. However, some	
	departmental faculty feel as it SPAN	
	102 may need to rely upon a more	
	challenging assessment measure to	
	truly gauge student learning.	
SPAN 201	The SPAN faculty observed that, as	Recommendations were not deemed
	compared to SPAN 101 and 102,	necessary.
	the lower percentage of student	
	who exceeded expectations (50%)	
	In addition to those students who	
	met expectations (30%) seems to	
	be an accurate measure of student	
	success as based on the increased	
	Spanish sources. The department	
	faculty observed that the	
	aforementioned percentages seem	
	to be more in line with what should	
	be expected from students in SPAN	
	101 and 102—more populous	
	classes with less experienced	
	students.	

SPAN 202	It was observed that SPAN 201 and SPAN 202 are "stacked" courses that run concurrently during the same class sessions. Therefore, the	Recommendations were not deemed necessary.
	single assessed student (one who exceeded expectations) should be considered among the students who met expectations in SPAN 201.	
SPCH 240	In light of the performative nature of the coursework, the SPCH faculty believe that the 81% of students who exceeded expectations performed favorably due to the oral/performative nature of the assessment tool—an assessment tool that is directed related to the courses curriculum.	Department faculty recommended that SPCH faculty consider increasing the challenge of the assessment measure(s) used to gauge student learning. However, it was noted that the high rate of student success was likely due to the extensive rehearsals by students prior to delivering their performative works.

GELO Outcome 3	Course	Observations	Recommendations
	FILM 200	Analytical/critical written	The FILM faculty believe that "Eligibility
		assessment tools was used to	for ENGL 1013: English Composition"
		evaluate student learning.	should be a prerequisite for FILM 200.
		Deficiencies in student writing likely	This would ensure that all students are
		led to 26% of students failing to	adequately prepared to write
		meet expectations.	analytical/critical papers as part of
			their coursework.

GELO Outcome 7	Course	Observations	Recommendations
	ARTS 101	The ARTS faculty are pleased with	The ARTS faculty recommended that
		the overall range of students who	the General Education Committee
		met and exceeded expectations.	considers creating a policy that
		With 51% of 180 students meeting	restricts faculty from reporting "0/Does
		expectations, the ARTS faculty	not meet expectations" for those

	consider their common pedagogical approach to be effective. However, with 23% of student not meeting expectations, the ARTS faculty are somewhat concerned that some of their colleagues assessed students who failed to complete the GELO assessment tool (but did regularly attend class and complete other assignments) and marked them as not meeting expectations.	students who fail to complete the assessment tool.
ARTS 102	ARTS faculty observed the favorable outcome of 44% of students meeting expectations and 40% exceeding expectations. They believe that these percentages are indicative of an adequate and accurate assessment of satisfactory student learning.	Recommendations were not deemed necessary.
FREN 101	Department faculty observed that, with 97% of 110 students exceeding expectations, the GELO assessment tool may not have been adequately challenging. However, FREN faculty argue that, as applied to a language arts class, GELO 7 (cultural diversity) likely would see a high exceeds expectations rate because the outcomes does not pertain to the main and more challenging content of the course—the learning of a second language.	Department faculty recommended that the FREN faculty consider increasing the challenge of the assessment tool used to measure GELO 7.

FREN 102	Department faculty observed that, with 93% of 15 students exceeding expectations, the GELO assessment tool may not have been adequately challenging. However, FREN faculty argue that, as applied to a language arts class, GELO 7 (cultural diversity) likely would see a high exceeds expectations rate because the outcomes does not pertain to the main and more challenging content of the course—the learning of a second language.	Department faculty recommended that the FREN faculty consider increasing the challenge of the assessment tool used to measure GELO 7.
SPCH 210	The SPCH faculty observed that the 33% of students who did not meet expectations stand in stark contrast to the 67% who met expectations. The SPCH faculty noted that there is likely a problem with the assessment tool they administered or a problem with GELO 7's relevance to the course content (interpersonal communication).	The SPCH faculty recommended that GELO 7 (cultural diversity) be replaced with GELOs 3 or 6—those that pertain to critical thinking, argument, and communication. They feel that GELOs 3 or 6 would allow for a better measure of student learning in a speech class devoted to interpersonal communication.
THTR 100	THTR faculty are concerned with the 39% of 67 students who did not meet expectations. They judged this percentage as too high when compared to the mere 13% who met expectations. Department faculty observed that, when compared to the aforementioned percentages, the 48% of students who exceeded expectations may	Department faculty recommend that the THTR faculty consider reevaluating the assessment tools used to gauge student success. Some feel as if the tools may have been too difficult when compared to the nature of GELO 7 (recognizing and understanding cultural diversity).

	reflect a slight inflation of grades by some members of the THTR faculty.	However, if the tool is judged as an adequate measure of student learning, the THTR faculty recommend that the General Education Committee considers creating a policy that restricts faculty from reporting "0/Does not meet expectations" for those students who failed to complete the assessment tool (but completed other assignment satisfactorily).
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GELO Outcome 8	Course	Observations	Recommendations
	THTR 100	Department faculty are concerned by the 45% out of 67 students who did not meet expectations— especially when compared to the 27% who met expectations and 28% who exceeded expectations. GELO 8 focuses on understanding the creative process and appreciation for artistic expression. It is a very apt gauge for student learning in a theatre appreciation course and one that should be met or exceeded by more than 27%/28% of students.	Department faculty recommend revision of the assessment tools. They feel that a quiz may be more suited to assessing GELO 8 as opposed to a creative exercise—an oral presentation/performance that may not suit all students in a general education theatre course.

Summary of redesign: actions taken in any of the following by the faculty of the department

1. assessments methodology

Department faculty agree that measures have to be taken to ensure that those students who failed to complete GELO assessment tools, but otherwise satisfactorily completed additional graded assignments, must not be evaluated as not meeting expectations. Department faculty will work to exclude these students from their GELO course reports.

Department faculty will urge the General Education committee to extend the GELO assessment deadline to the Friday or Saturday of final exam week. This would allow for the use of final exams/projects—the best examples of student attainment of knowledge—as GELO assessment tools.

2. learning outcomes

SPCH faculty will petition for the replacement of GELO 7 with GELOs 3 or 6—more appropriate outcomes for SPCH 210: Interpersonal Communication.

3. course delivery

Theatre faculty will focus on developing assessments that are more closely aligned with reasonable expectations of a general education theatre appreciation course. They will not focus on creative performance exercises (delivery of monologues, recitations of lines, etc.) as indicators of student success in THTR 100: Introduction to Theatre (Theatre Appreciation). More traditional assessments (quizzes, essays, etc.) will be administered to assess the GELOs.

4. course content

None.

5. department/program

None.

Appendix E

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Liberal Arts

Department: English and Humanities

GELO Outcome 1	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ENGL 101	20%	56%	24%	567
	ENGL 102	18%	55%	27%	749

GELO Outcome 2	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ENGL 210	12%	71%	17%	42
	ENGL 211	25%	60%	15%	20
	ENGL 215	18%	73%	14%	44
	ENGL 220	27%	59%	16%	56
	ENGL 221	17%	74%	9%	47
	ENGL 223	0%	80%	20%	5
	ENGL 230	44%	12%	44%	18
	HUMN 210	50%	31%	19%	16

GELO Outcome 3	Course Does Not Meet		Meets	Exceeds	Total Assessments
	ENGL 211	11%	73%	16%	74
	ENGL 215	4%	77%	19%	26
ENGL 220		23%	62%	15%	13
	ENGL 221	8%	71%	21%	48
	ENGL 223	11%	83%	6%	18

ENGL 230	18%	45%	36%	22
PHIL 203	0%	56%	44%	27

GELO Outcome 4	Course Does Not Meet		Meets	Exceeds	Total assessments
	PHIL 203	57%	38%	5%	115

GELO Outcome 6	Course	Does Not Meet	Meets	Exceeds	Total assessments
	ENGL 102	28%	49%	23%	687

GELO Outcome 7	Course Does Not Meet		Meets	Exceeds	Total Assessments
	ENGL 210	0%	10%	90%	21
	HUMN 275	14%	86%	0%	7

GELO Outcome 9	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	PHIL 201	20%	65%	15%	20

Assessments tools: Describe strategies faculty used to assess how well students achieved this outcome. Provide evidence from each course.

GELO Outcome 1	Course	Assessment Tools	Example
	ENGL 101	1. Essay	Students were asked to write a research paper using at least 4 outside sources to support their own argument.
	ENGL 102	 Essay Annotated Bibliography 	Example 1. Compose a balanced, insightful critical evaluation on a subject of your choice from one of the categories listed below. Your topic and your judgment must be well defined. Be

	3.	Oral Presentation	sure to only address relevant issues and use valid support for your argument. Be sure that your thesis is in the introduction. In addition, you need to give a minimum of THREE (3) reasons to support your judgment. This essay requires a minimum of two (2) credible sources (magazine article, newspaper article, statistical report, journal article, etc.) and cannot exceed four (4) sources, so you will need in-text citations and a works cited page.
			Example 2. Students had to write a position essay on Capital Punishment; a school wide Human Rights Issue that BRCC decided to address this semester. Students were told to take a position, conduct research and then make an argumentative thesis where they had to persuade an audience to see the issue from their standpoint. Before students wrote their essays; however, they had to make oral presentations in front of the class, informing us of how they went about their research and how the research would be used to create ethos, pathos and logs.

GELO Outcome 2	Course	Assessment Tools	Example
	ENGL 210	1. Essay	The students were required to write a coherent, grammatically correct literary analysis (600-750 words) of Frank Chin's Donald Duk. To complete this assignment, they needed to closely examine how Chin depicts the duality of living within as well as outside of the confines of "authentic" Chinese and "assimilated" American culture. They were provided with a list of three possible paper topics 1) How does Donald Duk view his Chinese heritage both before and after his surrealist dreams? 2) How is Donald Duk a didactic novel that teaches individuals outside of Asian culture the customs and traditions of the Chinese? 3) How does Chin challenge racial stereotypes and

			views throughout the novel (relationship between Arnold/Donald, Mr. Meanwright/Mr. Crocker/Mr. Durant, Uncle Donald Duk/Kwan Hunaetc.)?
	ENGL 211	 Weekly Writing Prompts Essay Multiple choice tests Essay tests 	I assigned a weekly response to Franz Kafka's short story "A Hunger Artist." The instructions asked students to extrapolate the definition of a "hunger artist" based on Kafka's fictional character (long-suffering, attention-hungry, etc.), and apply it to a contemporary "artist" (broadly-speaking) of their choosing. In doing so, they are analyzing a modern fictional text and searching for relevance in a personal context. The response was 250 words minimum and required specific, cited examples from Kafka's short story as evidence.
	ENGL 215	 Explication Essay Multiple Choice Tests Essay Tests 	Choose 1 poem at least fourteen lines in length. Explain in detail how one poetic element contributes to the overall meaning of the poem. Our textbook provides the following explanation of an Analysis: "An analysisusually examines only a single element and relates it to the entire work. An analytic topic separates the work into parts and focuses on a specific oneThe specific element must be related to the work as a whole or it will appear irrelevant." The elements we have discussed are in Chapters 3, 4, 5, 6, 9, and 10. (See "Type of Writing Assignments – Analysis," pp. 688-693.) (100 points) In your introduction, you should research and provide information about the author, the poem's date, and some historical context for the poem, if any. But, do not rely on someone else's critical analysis. Do your own work. No secondary sources for analysis should be used.
	ENGL 220	 Essay Tests/Quizzes 	I created a module for this online class that explained the assignment, provided explanations of MLA citations and how to incorporate quotes into a paper, and tools to check for plagiarism. Assignment Sheet: Requirements:

		 Choose one of the paper topics listed below. Construct a 4 to 5 page essay with at least 2 sources cited within the essay and on the Works Cited page. Paper must be formatted according to the MLA style guide Type paper in Microsoft Word document Due by 10pm on Sunday, March 27th.
ENGL 221	 Essay Quizzes/tests 	I used the results of the following reading test—I used the rubric below to score the test To complete this test, open a Word document and type your responses. Be sure to number your responses Please answer all questions in complete sentences. If you use any borrowed material, you must cite it in MLA format. Proof read your work. Short answer (1-2 sentences) 5 pts each 1. What kind of city is Sandburg's "Chicago?" Describe it. 2. How does the speaker feel about the city? Describe it. 3. What lines hint to a conflict between the city and country attitude/modes of behavior? 4. What type of America is described in McKay's "America?" Describe it. 5. How does the speaker feel about America? Describe it. 6. What is the attitude at the end of the poem in the lines "Time's unerring hand" (In 13)? Essay (3-5 paragraphs) 70 pts 1. Read the biographical infroductions to both authors. What about their history/biographical information could be related to the attitude or topic of their poems? What could have led them to these poems? In other words, create an argument about the
		authors and each of their texts.
ENGL 223	 Essay Tests/Quizzes 	Demonstrate literary analysis; read and discuss texts in the context of literary analysis. Assign essays requiring literary analysis.
ENGL 230	 Essay Tests/Quizzes 	Students were asked to write a research essay in which they compare and contrast three different versions, each one representing a different culture, of one fairytale.
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HUMN 210	1. Exam	I used a midterm exam that was graded using the
	2. Essay	departmental rubric.
	3. Project	

GELO Outcome 3	Course	Assessment Tools	Example
	ENGL 211	1. Essay	Students had to analyze the novel, "The secret life of bees"
		2. Tests/Quizzes	looking at elements of fictions (setting, themes, plot) and how
		3. Weekly	these elements help to inform of us of the text. They had to use
		Responses	the text as support for their thesis.
	ENGL 215	1. Essay 2. Tests/Quizzes 3. Weekly Responses	Write an essay of at least 750 words, in which you analyze one poem- at least fourteen lines in length to explain in detail how one poetic element contributes to the overall meaning of the poem. Our textbook provides the following explanation of an Analysis: "An analysisusually examines only a single element and relates it to the entire work. An analytic topic separates the work into parts and focuses on a specific oneThe specific element must be related to the work as a whole or it will appear irrelevant." The elements we have discussed are in Chapters 3, 4, 5, 6, 9, and 10. (See "Type of
	ENGL 220	 Essay Tests/Quizzes Weekly Responses 	Analysis, pp. 666-675.) Assignment: Write a clear, thoughtful, and well-developed essay (750 words min.) on one of the topics listed below. Do not use outside sources other than the editorial comments in the text, and of course, quotes from the works themselves. I want you to carefully explain and argue for your own reading, not research someone else's reading. The purpose of this paper is to discuss selected themes in these works and their importance in British literature, not to evaluate the relative merits of the works or authors.

ENGL 221	1 Essay	Essay Topics: Consider form (meter, rhyme, structure, or scene) where relevant, as well as content (images, comparisons, figures of speech) and theme. How do the different elements add to the overall effect? Support with quotes and examples! 1. Compare/Contrast a sonnet by two different authors (Shakespeare, Donne, Spenser, Sydney). Choose poems which share a similar theme, but treat that theme differently. 2. What does <i>The Tempest</i> say about the nature of parental and romantic love? Discuss the relationships between Prospero, Miranda, Ferdinand, and Alonso. 3. Contrast the tragic ending of <i>Romeo and Juliet</i> with the happy ending of <i>The Tempest</i> . What is the difference in these love stories? Could you see either story ending differently? Why don't they? 4. What does <i>The Tempest</i> say about the art of writing, especially for the stage? Consider the Epilogue and other passages in the play which make reference to Prospero's art, magic, and books. 5. Discuss Satan in <i>Paradise Lost</i> , Book 1. What does the poem say about the nature of good and evil? What admirable traits does Satan possess, if any? Is he "heroic" or is he a "monster?" Why? 6. Discuss the depiction of Adam and Eve in <i>Paradise Lost</i> , Book IX. What blame is apportioned to Eve? What blame is given to Adam? Why do they blame each other for the Fall? What attitudes or perceptions of the sexes are reflected in these scenes?
ENGL 221	 Essay Tests/Quizzes Weekly Responses 	analyzed a short story by a regional woman writer of the late nineteenth century, synthesizing elements of plot, character and symbolism with information from a source text on the cultural context. Students were given the option to use as a

			nonfiction text a critical essay discussed in class or a scientific or other credible source of their own choosing. The essay was a synthesis of story analysis and source material (students practiced viewing a story through the lens of another source).
	ENGL 223	 Essay Tests/Quizzes Weekly Responses 	Students had to analyze a literary text, formulate a thesis, and use terms germane to African American Literature in the analysis. The Critical Close Reading had to include a scholarly source.
	ENGL 230	 Essay Tests/Quizzes Weekly Responses 	Using the departmental rubric to grade, students were asked to write an essay in which they analyzed one or more of the cultural, historical, or literary elements within a chosen short story or stories and discuss the effects it/they have on the text itself.
	PHIL 203	 Tests/Quizzes Exams Essay Assignments 	The midterm exam evaluates students' initial understanding of formal and informal logic, and the process of identifying and analyzing each element of an argument. Because of the analytic demands of formalizing arguments, students may demonstrate the ability to apply these analyses to a variety of contexts.

GELO Outcome 4	Course	Assessment Tools	Example
	PHIL 203	 Tests/Quizzes Exams Essays Assignments 	Multiple in-class activities students completed individually.

GELO Outcome 6	Course	Assessment Tools	Example
	ENGL 102	1. Annotated	Example 1. Annotated Bibliography: This assignment was done
		Bibliography	in conjunction with a future research paper revolving around
		2. Essay	Agatha Christie's The Mysterious Affair at Styles. In order to
			39

properly complete the research paper, students were first asked to work mostly independently on locating, evaluating, and examining whether or not sources were of academic merit, and how they could be incorporated into a future assignment to build an argumentative thesis statement. Doing so gave all students the opportunity to use sources ethically, as well as decide how they could be used most effectively. Sources ranged from books to journal articles to interviews to film adaptations and more, relying heavily on students' use of academic databases.
Example 2. Students were given a prompt and instructed to write an essay in response:
 Select ONE of these three items: "A Delicious Revolution" by Alice Walters OR Wendell Berry's "The Pleasures of Eating" OR "But I Am a Child Who Does" by Sandra Steingraber. To find the Wendell Berry essay, copy and paste this link into your address bar: http://www.ecoliteracy.org/essays/pleasures- eating
Io find the Alice Waters article, copy and paste this link into your address bar: http://www.ecoliteracy.org/essays/delicious- revolution
To find Sandra Steingraber's essay, copy and paste this link into your address bar: http://www.ecoliteracy.org/essays/i-am- child-who-does
2. Write a clear, thoughtful, and well-drafted essay evaluating the rhetorical devices used by the writer of the
essay you have chosen. Discuss at least FOUR of the rhetorical devices you learned about from the lecture notes and sample
essays. Support your assertions with specific examples from the text and remember to EXPLAIN the examples. You may wish to include counterarguments; that is, parts of the essay that you

feel hinder its effectiveness, but be sure you also include rebuttals/responses. Your essay should be comprised of an introduction, body paragraphs that support your thesis, and a conclusion. Make sure you use transitions between paragraphs. Your thesis is your judgment of the overall effect and effectiveness of the essay as a whole. Your paper should be between three and five pages in length. 3. You must use at least THREE direct quotations with proper parenthetical citations from the essay you are writing about. Return to the MLA lecture notes if you do not remember how to do this. Remember that a quotation must never stand alone; it must always be part of your own sentence. Also remember that you must interpret or explain the quotation/example or show how it helps to prove the point you are trying to make. Include a works cited page with the essay cited properly. You must NOT use any additional outside sources for this assignment. If
NOT use any additional outside sources for this assignment. If you use additional outside sources for this assignment, you will receive a ZERO

GELO Outcome 7	Course	Assessment Tools	Example	
	ENGL 210	1. Essay	Their assignment was to write a coherent, grammatically	
			correct literary analysis (600-750 words) of Frank Chin's Donald	
			Duk. To complete this assignment, they needed to closely	
			examine how Chin depicts the duality of living within as well as	
			outside of the confines of "authentic" Chinese and	
			"assimilated" American culture. There was a list of three	
			possible paper topics 1) How does Donald Duk view his	
			Chinese heritage both before and after his surrealist dreams? 2)	
			How is Donald Duk a didactic novel that teaches individuals	
			outside of Asian culture the customs and traditions of the	
			Chinese? 3) How does Chin challenge racial stereotypes and	
			views throughout the novel (relationship between	

		Arnold/Donald, Mr. Meanwright/Mr. Crocker/Mr. Durant, Uncle Donald Duk/Kwan Kungetc.)?
HUMN 275	 Essay Project Annotated Bibliography Exams 	Write a short essay (750 words, double spaced) on one of the Native American myths or Fairy Tales listed below, or one of your own choosing (check with me), showing how it reflects some aspect of the heroic journey as described by Campbell in The Hero with a Thousand Faces (plot, character, conflicts, themes, etc.). This essay will count for 15% of the final grade. For in-text citations, please cite chapter, section, and page number from Campbell, as page numbers vary between editions and may not be that helpful alone (see example below). In your introduction, give the title of the story or tale, its ethnic origin, if known, and where you found it. Please give the character and context of quotes and comment on their relevance.

GELO Outcome 9	Course	Assessment Tools	Example
	PHIL 201	 Essays Quizzes/Exams Assignments 	The methods used to assess how well the students have achieved outcome 9 were graded assignments and qualitative assessments of participation in classroom discussions, all of which are reflected in the students' overall arade

Summary of analysis of data:

GELO Outcome 1	Course	Summary of Data	Observations	Recommendations
	ENGL 101	80% of students	This percentage does	We have been working on revising the
		reported met or	not match the course	ENGL 1013 and ENGL 1023 class.
		exceeded	completion rate (course	Implementation of a pilot began
		expectations	completion rate is	FA2017. This should enhance student
			lower); however, this	

		-	
		GELO does not encompass all SLO needed to pass the	learning and continue student GELO success.
		course.	Consider a consistent assessment method at the end of the semester.
		Faculty assess at different points in the semester and that may impact the results	
ENGL 102	82 % of students reported met or exceeded expectations	This percentage does not match the course completion rate (course completion rate is lower); however, this GELO does not encompass all SLO needed to pass the course.	We revised the ENGL 1013 and ENGL 1023 classes. Implementation of a pilot began FA2017. This should enhance student learning and continue student GELO success. Consider a consistent assessment method at the end of the semester.
		Faculty assess at different points in the semester and that may impact the results	

GELO Outcome 2	Course	Summary of Data	Observations	Recommendations
	ENGL 210	88 % of students	Students are meeting or	No changes in assessment
		reported met or	exceeding the	methodology, learning outcomes,
		exceeded	expectations.	course delivery, course content, or
		expectations		department/program are needed at
				this time.
	ENGL 211	75% of students	This percentage is from	No changes in assessment
		reported met or	one section only;	methodology, learning outcomes,

	exceeded expectations	however, it is similar to the course completion rate.	course delivery, course content, or department/program are needed at this time.
ENGL 215	88% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
ENGL 220	75% of students reported met or exceeded expectations	Faculty feel online and 7 wk sections may have negatively impacted this percentage. They report higher levels of success in face-to-face classes.	Continue to monitor online and 7 wk section retention and success rates.
ENGL 221	83% of students reported met or exceeded expectations	Faculty feel online and 7 wk sections may have negatively impacted this percentage. They report higher levels of success in face-to-face classes.	Continue to monitor online and 7 wk section retention and success rates.
ENGL 223	100% of students reported met or exceeded expectations	Only 5 students were assessed for this outcome. This cannot be used to accurately determine student success.	We need to continue to monitor the success rates of this course.
ENGL 230	56% of students reported met or exceeded expectations	Faculty believe these results are atypical. They report a higher level of student	We need to continue to monitor the success rates of this course.

		completion in this course.	
		They believe absences due to the flood may have negatively impacted this percentage in FA16. Plagiarism was also reported by the faculty as an issue on this assessment tool.	
HUMN 210	50% of students reported met or exceeded expectations	Faculty believe the results are atypical. They report a high rate of completion in the course. Faculty indicated that	Additional points of assessment are needed throughout the semester. More high stakes assignments should be used for GELO assessment.
		this percentage is the result of one quiz.	

GELO Outcome 3	Course	Summary of Data	Observations	Recommendations
	ENGL 211	89% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
	ENGL 215	96% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or

				department/program are needed at this time.
	ENGL 220	77% of students reported met or exceeded expectations	Faculty believe the results are atypical and result from one section. They report a high rate of completion in the course.	We need to continue to monitor the success rates of this course.
	ENGL 221	92% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
	ENGL 223	89% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
	ENGL 230	81% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
	PHIL 203	100% of students reported met or exceeded expectations	Students are meeting or exceeding the expectations.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.

GELO Outcome 4	Course	Summary of Data	Observations	Recommendations
	PHIL 203	43% of students	Faculty noted the course	We have added a prerequisite to
		reported met or	changed from a	the course—eligibility for ENGL 1013

exceeded expectations	Humanities to an Analytical Reasoning credit for those students seeking a Liberal Arts Degree. Due to this change, some students expect a course to replace an intimidating math class.	Change the prerequisite to ENGL 101 with a C or better.
	In addition, there was not a prerequisite on the course.	

GELO Outcome 6	Course	Summary of Data	Observations	Recommendations
	ENGL 102	72% of students reported met or exceeded expectations	Faculty assess at different points in the semester and that may impact the results.	Changes to ENGL 1013 will better prepare students to succeed in this outcome in ENGL 1023.
				We have moved the research component to ENGL 1023.

GELO Outcome 7	Course	Summary of Data	Observations	Recommendations
	ENGL 210	100% of students	The data is from one	No changes in assessment
		reported met or	section and may not be	methodology, learning outcomes,
		exceeded	indicative of student	course delivery, course content, or
		expectations	learning in all sections.	department/program are needed at
				this time.
	HUMN 275	86% of students	This data is from one	Utilize all submitted data in future
		reported met or	section and may not be	reports.

exceeded indicative of student expectations learning in all sections.	No changes in assessment methodology, learning outcomes, course delivery, course content, or department/program are needed at this time.
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GELO Outcome 9	Course	Summary of Data	Observations	Recommendations
	PHIL 201	80% of students	Students are meeting or	No changes in assessment
		reported met or	exceeding the	methodology, learning outcomes,
		exceeded	expectations.	course delivery, course content, or
		expectations		department/program are needed at
				this time.

- 1. assessments methodology
 - a. Faculty plan to use a consistent assessment tool in ENG 101 and ENGL 102 to more accurately gauge the rate of student success. Similarly, PHIL courses will utilize a consistent assessment tool.
 - b. One to three sections of each Literature course can be offered each semester and therefore faculty do not feel that mandating a common assessment methodology beyond "essay" is necessary at this time.
 - c. Faculty feel the listed assessment tools on the current master syllabi are sufficient and do not see the need to add or take away any of the current listed methods.
- 2. learning outcomes
 - a. Learning outcomes in all PHIL courses were revised SP17 after this cycle ended and PHIL faculty intend to compare the next cycle results to gauge the impact.
 - b. ENGL 101 and 102 student learning outcomes have been revised and will be sent to courses and curricula FA17.
 - c. At this time, faculty do not believe any other course learning outcomes need to be addressed.
 - d. Faculty will review the GELO Matrix and the current Master Syllabi on the BRCC website to correct any inconsistencies in listed GELO. This will provide more data in the next cycle.
- 3. course delivery

- a. Faculty expressed concern with overall success rates and GELO success rates in ENGL 221 and ENGL 220 with the introduction of online section offerings and 7 week section offerings. Faculty observed lower rates of success in these two types of sections.
- 4. course content
 - a. The course content in PHIL classes went through revision and approval with the courses and curricula committee SP17. PHIL faculty intend to compare the next cycle results to gauge the impact.
 - b. No other content recommendations were made.
- 5. department/program
 - a. Faculty encouraged the department chair to offer literature courses in the 15 week session and reduce the number of 7 week section offerings.
 - b. Faculty encouraged the department chair to monitor online success rates in all courses offered. We will review the information in the next cycle.

Appendix F

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Science, Technology, Engineering, and Mathematics

Department: Mathematics

Course Number: MATH 101 Course Title: College Algebra (5-Hr Format) Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessment Tool Used: The comprehensive, departmental final exam was used to assess the specific learning outcome for the course.

Summary of Analysis of Data:

GELO Outcome	Course	Does Not meet	Meets	Exceeds	Total Assessment
3	Math 101	124	82	137	343

- 6. assessments methodology
- 7. learning outcomes

course delivery
 course content
 department/program

A new textbook and homework delivery system where chosen to promote improvement of instruction in college algebra.

Course Number: MATH 101 Course Title: College Algebra (5-Hr Format) Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

4. comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;

Assessment Tool Used: The comprehensive, departmental final exam was used to assess the specific learning outcome for the course.

Summary of Analysis of Data:

GELO Outcome	Course	Does Not meet	Meets	Exceeds	Total Assessment
4	Math 101	145	108	108	361

Sixty percent (60%) of students taking College Algebra (5 – Hr Format) met or exceeded expectations for GELO 4.

- 1. assessments methodology
- **2.** learning outcomes
- 3. course delivery

- 4. course content
- 5. department/program

A new textbook and homework delivery system where chosen to promote improvement of instruction in college algebra.

Course Number: MATH 110 Course Title: College Algebra Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessment Tool Used: The comprehensive, departmental final exam was used to assess the specific learning outcome for the course.

Summary of Analysis of Data:

GELO Outcome	Course	Does Not meet	Meets	Exceeds	Total Assessment
3	Math 110	18	17	16	51

Sixty-five percent (65%) of students taking College Algebra met or exceeded expectations for GELO 3.

- 1. assessments methodology
- **2.** learning outcomes
- 3. course delivery

- 4. course content
- 5. department/program

A new textbook and homework delivery system where chosen to promote improvement of instruction in college algebra.

Course Number: MATH 110 Course Title: College Algebra Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

4. comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;

Assessment Tool Used: The comprehensive, departmental final exam was used to assess the specific learning outcome for the course.

Summary of Analysis of Data:

GELO Outcome	Course	Does Not meet	Meets	Exceeds	Total Assessment
4	Math 110	45	20	21	86

Forty-eight percent (48%) of students taking College Algebra met or exceeded expectations for GELO 4.

- 1. assessments methodology
- **2.** learning outcomes
- 3. course delivery
- 4. course content
- 5. department/program

A new textbook and homework delivery system where chosen to promote improvement of instruction in college algebra.

GELO Summary report for math 111 (Trigonometry) GELO 3 for Spr15/Fall16/Spr16 Semesters

<u>GELO3</u>: Think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessments tools: The committee for Trigonometry designed a cumulative final exam which was used by every section of the course. An example test has been provided below.

<u>Math 111 Final Exam</u> Show all work supporting your answer using correct notation in your 8.5 X 11 bluebook. <u>DO NOT WRITE ON THIS TEST</u>: Read each problem carefully. Full credit will not be given to false statements, sloppy work, or improper use of notation. Provide exact answers unless asked otherwise.

1) Find the exact values of the six trigonometric functions of the angle A.





3) Give the exact value of tan(210°) without the use of a calculator.

4) $f(x) = -\frac{1}{2} \sin\left(4x - \frac{\pi}{2}\right)$ (a.) Find the amplitude, period and phase shift, then (b.) Graph f(x).

(b.) cos (arccos (π))

 State the reciprocal function to f(x) from question (4) as g(x). Use the graph in the answer to question (4) to help graph g(x).

6) Calculate two consecutive vertical asymptotes of the graph of $h(x) = -2 \cot (4\pi x)$. Find an X-intercept for h(x), and then graph one period of the function.

7) Evaluate the following without the use of a calculator: (\Box_{n})

(a.) arctan
$$\left[-\frac{\sqrt{3}}{3}\right]$$

8) Find an equivalent algebraic expression to the trigonometric expression $\tan\left[\arccos\left(\frac{x}{7}\right)\right]$

Verify (prove) that the following two equations are trigonometric identiies.

9)
$$[\tan^{4}x + 1][\cos^{4}x - 1] = -\tan^{4}x$$

10) $\frac{1}{(x^{2})^{2}} + \frac{1}{(x^{2})^{2}} = -2 \cot(x) \csc(x)$

$$\frac{1}{\cos(x)+1} + \frac{1}{\cos(x)-1} = -2 \cot(x) \cos(x)$$

Solve the two following equations on the requested interval.

11) $2\cos^2(x) + 3\cos(x) = -1$ on the interval $x \in (-\infty, \infty)$ 12) tan(3x) - 1 = 0 on the interval $x \in [0, 2\pi)$ 13) Given $sin(u) = -\frac{5}{17}$ for $\pi < u < \frac{3\pi}{2}$, and $cos(a) = \frac{3}{5}$ for $\frac{3\pi}{2} < a < 2\pi$. Find the exact values of the following. (a.) sin (u - a) (b.) cos (2a) 14) Given the polar coordinate $(\mathbf{r}, \theta) = \left(5, \frac{5\pi}{3}\right)$ (a.) Find another polar coordinate for the same point location but where r < 0. (b.) Plot the point on a polar coordinate system. (c.) Convert the point into rectangular coordinates (x,y). 15) Convert the following point and function into polar coordinate form. (b.) $x^2 + y^2 = 36$ (a.) (-2, 1) 16) Given a vector's initial point is (-3,1) and terminal point is (7,2): (a.) Write the vector as \vec{V} in component form. (b.) Plot V in component form (c.) Calculate and plot on the same grid, a unit vector in the \vec{V} direction. 17) If $\vec{U} = 3\vec{i} + 5\vec{j}$ and $\vec{P} = 4\vec{i} - \vec{j}$ then find the following: (a.) $5\vec{U} - 3\vec{P}$ (Ь.) ∪ี.Р 18) Two ships leave the same port at 10 A.M. One travels at a bearing of N53°E at 12 miles per hour, and the other travels at a bearing 567°W at 16 miles per hour. Approximate how far apart they are at 2 P.M. that afternoon to one decimal place. 19) A water sprinkler sprays water on a lawn outward from itself up to 10 yards away. The sprinkler rotates through an angle of 167°. Find the area of the lawn that is watered. 20) Use Heron's formula to calculate the area of the triangle rounded to two decimal places.

The performance on this test was used to determine the learning outcome via this algorithm:

Test Score < 70%</th>means "Does not meet expectation"70% < Test Score < 90%</td>means "Meets expectation"

Test Score ≥ 90% means "Exceeds expectation"

Summary of analysis of data:

The results show that 45% did not meet expectations and 55% did meet or exceed expectations. These show that there is some room for improvement in the educational outcome of this course. It is recommended that instructors could use a different approach to the assessment process, in order to show that critical thinking <u>is</u> taking place. Also, possibly, to offer more motivations to study and practice outside the classroom. **Summary of redesign:**

- 6. Use a one or two question quiz in the middle of the semester which is focused on grading the construction of solutions rather than the answers to the problem itself.
- 7. The current learning outcomes are appropriate for this course.
- 8. Use more group work and hands on problems in class. Promote/provide/demonstrate working or practicing problems outside of class in order to hone a skill more effectively either in study groups, help sessions, or workshops.
- 9. Trigonometry content has been chosen to support subsequent math courses and should not be altered.

10. Mathematics Department provides the course on trigonometry, this cannot be changed.

GELO Summary report for math 111 (Trigonometry) GELO 4 for Spr15/Fall16/Spr16 Semesters

<u>GELO4</u>: Comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;

Assessments tools: The committee for Trigonometry designed a cumulative final exam which was used by every section of the course. An example test has been provided below.

<u>Math 111 Final Exam</u> Show all work supporting your answer using correct notation in your 8.5 X 11 bluebook. <u>DO NOT WRITE ON THIS TEST</u>: Read each problem carefully. Full credit will not be given to false statements, sloppy work, or improper use of notation. Provide exact answers unless asked otherwise.



Solve the two following equations on the requested interval. 11) $2\cos^2(x) + 3\cos(x) = -1$ on the interval $x \in (-\infty, \infty)$ 12) tan(3x) - 1 = 0 on the interval $x \in [0, 2\pi)$ 13) Given $\sin(u) = -\frac{5}{17}$ for $\pi < u < \frac{3\pi}{2}$, and $\cos(a) = \frac{3}{5}$ for $\frac{3\pi}{2} < a < 2\pi$, Find the exact values of the following. (a.) sin (u - a) (b.) cos (2a) 14) Given the polar coordinate $(r, \theta) = \left[5, \frac{5\pi}{3}\right]$ (a.) Find another polar coordinate for the same point location but where r < 0. (b.) Plot the point on a polar coordinate system. (c.) Convert the point into rectangular coordinates (x,y). 15) Convert the following point and function into polar coordinate form. (b.) $x^2 + y^2 = 36$ (a.) (-2, 1) 16) Given a vector's initial point is (-3,1) and terminal point is (7,2): (a.) Write the vector as \vec{V} in component form. (b.) Plot V in component form (c.) Calculate and plot on the same grid, a unit vector in the \vec{V} direction. 17) If $\vec{U} = 3\vec{i} + 5\vec{j}$ and $\vec{P} = 4\vec{i} - \vec{j}$ then find the following: (a.) $5\vec{U} - 3\vec{P}$ (b.) $\vec{U} \cdot \vec{P}$ 18) Two ships leave the same port at 10 A.M. One travels at a bearing of N53°E at 12 miles per hour, and the other travels at a bearing 567°W at 16 miles per hour. Approximate how far apart they are at 2 P.M. that afternoon to one decimal place.

19) A water sprinkler sprays water on a lawn outward from itself up to 10 yards away. The sprinkler rotates through an angle of 167°. Find the area of the lawn that is watered.

20) Use Heron's formula to calculate the area of the triangle rounded to two decimal places.



The performance on this test was used to determine the learning outcome via this algorithm:

Test Score < 70% means "Does not meet expectation"

70% < Test Score < 90% means "Meets expectation"

Test Score ≥ 90% means "Exceeds expectation"

Summary of analysis of data:

The results show that 35% did not meet expectations and 65% did meet or exceed expectations. These show that there is slight room for improvement in the educational outcome measurement of this course since 65% is within a small margin of the accepted 70%.

It is recommended that instructors could use a different approach to the assessment process.

Summary of redesign:

- 1. Use a one or two question quiz in the middle of the semester which is focused on grading the interpretation of data, graphs or charts to construct solutions rather than the answers to the problems.
- 2. The current learning outcomes are appropriate for this course.
- 3. The current design for organizing and conveying the course is acceptable.
- 4. Trigonometry content has been chosen to support subsequent math courses and should not be altered.
- 5. Mathematics Department provides the course on trigonometry, this cannot be changed.

GELO Summary report for math 120 (Pre-Calculus) GELO 3 for Spr15/Fall16/Spr16 Semesters

<u>GELO3</u>: Think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessments tools: The committee for Pre-Calculus designed a cumulative final exam which was used by every section of the course. An example test has been provided below.

DO N probl all se math Provi	NOT WRITE ON THIS TEST. Read each statement of problems carefully. Using an 8.5 x 11 Bluebook, put two cms on each side of each page. Please show all necessary work and make your final exsults clear. It is expected that alutions be accompanied by appropriate and supporting work that is logically presented using correct emailcal notation. Full credit will not be given for filse statements, sloppy work, and improper use of notation. de exact answers unless otherwise stated.
1	Given $f(x) = -2x^2 - 3x + 7$, determine $\frac{f(x+n)-f(x)}{h}$, $h \neq 0$ and simplify.
2	Find the slope-intercept form of the equation of the line passing through the points $(-2, -6)$ and $(-4, 3)$.
3	 Given g(x) = -√x + 4 - 2 a. Identify the parent function f(x). b. List all transformations by order of operations on f to obtain the graph of g(x).
4	 Determine the domain of each function. Write you answers in interval notation. a. f(x) = ln(5 − x) b. h(x) = √2x - 9
5	. Given $f(x) = 2x - 7$ and $g(x) = 2x^2 - 3x + 4$ evaluate the following: a. $(fg)(3)$ b. $(g \circ f)(x)$
6	. Does $f(x) = 3e^x$ have an inverse function? Explain. If f has an inverse function, find it.
7	 Given the quadratic function f(x) = 3x² - 18x - 11, complete the following. a. Write the function f in standard form. b. Identify the vertex and axis of symmetry. c. Find all intercepts, if any. d. Sketch a graph.
8	Use long division to divide $(2x^3 - 8x^2 + 3x - 9) \div (x^2 + 1)$.
9	 Given f(x) = -4x³ + 15x² - 8x - 3; a. List all possible rational zeros of f. b. Using synthetic division, detennine one actual rational zero of f. c. Use the quotient from part c to determine the remaining zeros.
1	 0. Given f(x) = x+2/x asswer the following. a. Determine the domain of f. b. trind all vertical asymptotes, if any. c. Find the horizontal asymptotes, if any.
1	 1. Solve each equation algebraically. Leave answers exact. Check solutions, if necessary. a. 2²⁴ = 8^{-2x+1} b. log x + log(x − 15) = 2
DOM	FT FORGET TO DO THE BACK!!!!!

Math 120 BRCC FINAL EXAMINATION

- 12. If someone invests \$1,000 continuously at an annual rate of 3.5%, find the amount of time it will take for the amount to double.
- 13. Write the standard form of the equation of the circle with endpoints of a diameter (2,7) and (14,2).
- 14. Evaluate the following without the use of a calculator. If the answer is undefined explain.
- a. $\cos \frac{3\pi}{4}$ b. $\arccos \left(-\frac{\sqrt{3}}{2}\right)$
- c. $\sin(\arcsin \pi)$

15. Find an algebraic expression that is equivalent to the expression $\tan\left(\arccos\frac{r}{\epsilon}\right)$.

```
16. Verify \frac{1}{\cos x - 1} + \frac{1}{\cos x - 1} = -2 \csc x \cot x.
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17. Solve $2\cos^2 x + 3\cos x = -1$.

18. Solve $2\sin(2x) - 1 = 0$ on the interval $[0, 2\pi)$.

19. Given the point $(5, 7\pi/4)$ in polar coordinates,

- a. Plot the point on a polar coordinate system.
- b. Find another polar representation for the point where $\tau \le 0$ and $0 \le 0 \le 2\pi$.

20. Convert the rectangular equation $(x - 3)^2 + y^2 = 9$ into a polar equation. Graph the equation on the polar plane.

21. a. Write vector \vec{v} in in component vector form if its initial point is (2, 7) and its terminal point is (-1.3).

- b. Plot \vec{v} in component vector form.
- c. Find a unit vector going in the same direction as \vec{v}_{*}

```
22. Given \vec{u} = 2\vec{t} - \vec{f} and \vec{v} = 3\vec{t} + 5\vec{f}, find the following:
a. 3\vec{u} - \vec{v}
b. \vec{u} \cdot \vec{v}
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23. Two ships leave the same port at 9 A.M. One travels at a bearing of N53°V/ at 15 miles per hour, and the other travels at a bearing of S67°V/ at 14 miles per hour. Approximate how far apart they are at noon that day to one decimal place.

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24. Determine the number of triangles given A = 110^{\circ} a = 125, and b = 200.
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25. A water sprinkler spays water on a lawn over a distance of 15 feet and rotates through an angle of 110°. Find the area of the lawn watered by the sprinkler to two decimal places.

The performance on this test was used to determine the learning outcome via this algorithm:

Test Score < 70% means "Does not meet expectation"

70% < Test Score < 90% means "Meets expectation"

Test Score ≥ 90% means "Exceeds expectation"

Summary of analysis of data:

The results show that 47% did not meet expectations and 53% did meet or exceed expectations. However the results are from a total of 19 students over two semesters, so the data could easily be misleading, or at the very least skewed noticeably from accuracy.

This shows that there is some room for improvement in the educational outcome measurement of this course, as well as possibly needing some improvement in the course approach.

It is recommended that instructors could use a different approach to the assessment process, in order to show that critical thinking is taking place. Also, possibly, to offer more motivations to study and practice outside the classroom.

Summary of redesign:

- 1. Use a one or two question quiz in the middle of the semester which is focused on grading the construction of solutions rather than the answers to the problem itself.
- 2. The current learning outcomes are appropriate for this course.
- 3. Use more group work and hands on problems in class. Promote/provide/demonstrate working or practicing problems outside of class in order to hone a skill more effectively either in study groups, help sessions, or workshops.
- 4. Pre-Calculus content has been chosen to support subsequent math courses and should not be altered.
- 5. Mathematics Department provides the course on Pre-Calculus, this cannot be changed.

Course Prefix and Number: MATH 130

Course Title: Intro to Contemporary mathematics

Date of Assessment: Cycle 3

Delivery Methods Lecture and Online

Sample Size: 37 respondents

Department: Mathematics

Learning Outcomes:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

GELO	Course	Does Not	Meets	Exceeds	Total Assessments
Outcome		Meet			
3	MATH 130	14%	46%	40%	37

Methods: Describe strategies/methods & rubric used to assess how well students achieved this outcome. Problem from Assessment 3 is used to assess how well students achieved the outcome. The learning outcome is to determine validity of a statement using a truth table. The result is then used to write an equivalent statement.

Grading Rubric For problems that do not contain multiple parts, use this rubric to assign partial credit. If the problem contains more than one part, grade each part accordingly to obtain the 5 possible points.						
0 pts.	The student left the problem blank or wrote nonsensical work					
1 pts.	The student demonstrates minimal knowledge of the concept, but makes					
	(At least one step is correct)					

	2 pts.	The student demonstrates minimal knowledge of the concept, but makes					
Conclusion		major errors					
		(Two or more steps are correct)					
	3 pts.	The student demonstrates partial mastery of the concept with minor errors					
	4 pts.	The student demonstrates mastery of the concept with a minor error.					
	5 pts.	The student demonstrates mastery of the concept with no errors (exact correct)					

analysis of data: 14% of the students tested fail below expectation. 46% of the students tested met expectation. 40% of the students tested exceeded expectation.

Course Prefix and Number: MATH 130

Course Title: Intro to Contemporary mathematics

Date of Assessment: Cycle 3

Delivery Methods Lecture and Online

Sample Size: 37 respondents

Department: Mathematics

Learning Outcomes:

4. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

GELO	Course	Does Not Meet	Meets	Exceeds	Total
Outcome					Assessments
3	MATH 130	14%	46%	40%	37

Methods: Describe strategies/methods & rubric used to assess how well students achieved this outcome. Problem from Assessment 3 is used to assess how well students achieved the outcome. The learning outcome is to determine validity of a statement using a truth table. The result is then used to write an equivalent statement.

For proble the proble	Grading Rubric For problems that do not contain multiple parts, use this rubric to assign partial credit. If the problem contains more than one part, grade each part accordingly to obtain the 5 possible points.						
0 pts.	The student left the problem blank or wrote nonsensical work						
1 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors. (At least one step is correct)						
2 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors (Two or more steps are correct)						
3 pts.	The student demonstrates partial mastery of the concept with minor errors						
4 pts.	The student demonstrates mastery of the concept with a minor error.						
5 pts.	The student demonstrates mastery of the concept with no errors (exactly correct)						

Grading Rubric For problems that do not contain multiple parts, use this rubric to assign partial credit. If the problem contains more than one part, grade each part accordingly to obtain the 5 possible points.						
0 pts.	The student left the problem blank or wrote nonsensical work					
1 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors. (At least one step is correct)					
2 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors					

	(Two or more steps are correct)	Conclusion - analysis of data:	
3 pts.	The student demonstrates partial mastery of the concept with minor errors	14% of the students tested fail below expectation. 46% of	
4 pts.	The student demonstrates mastery of the concept with a minor error.	the students tested met expectation, 40% of the	
5 pts.	The student demonstrates mastery of the concept with no errors (exactly correct)	students tested exceeded expectation.	

Course Prefix and Number: MATH 201 Course Title: CALCULUS FOR NON-SCI MAJORS Date of Assessment: Cycle 3 Delivery Methods Lecture and Online Sample Size: 38 respondents Department: Mathematics

Learning Outcomes:

5. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

GELO	Course	Does Not	Meets	Exceeds	Total
Outcome		Meet			Assessments
3	MATH 201	<mark>37%</mark>	<mark>5%</mark>	<mark>58%</mark>	<mark>38</mark>

Methods: Describe strategies/methods & rubric used to assess how well students achieved this outcome. Problem from Assessment 5 was used to assess how well students achieved the outcome. The learning outcome is to apply Reimann Sums to find the area under the curve of a non-negative continuous function bounded on a closed interval.

Grading Rubric For problems that do not contain multiple parts, use this rubric to assign partial credit. If the problem contains more than one part, grade each part accordingly to obtain the 5 possible points.						
0 pts.	The student left the problem blank or wrote nonsensical work					
1 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors. (At least one step is correct)					
2 pts.	The student demonstrates minimal knowledge of the concept, but makes major errors (Two or more steps are correct)					
3 pts.	The student demonstrates partial mastery of the concept with minor errors					
4 pts.	The student demonstrates mastery of the concept with a minor error.					
5 pts.	The student demonstrates mastery of the concept with no errors (exactly correct)					

Conclusion - analysis of data: 37% of the students tested fail below expectation. 5% of the students tested met expectation. 58% of the students tested exceeded expectation.

Course Number: MATH 202 Course Title: Basic Statistics I Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessment Tool Used: A question on the final exam was used to assess the specific learning outcome for the course

Summary of Analysis of Data:

GELO	Course	Does	Not	Meets	Exceeds	Total Assessment
Outcome		meet				
3	MATH 202	10%		32%	58%	50

Summary of redesign: actions taken in any of the following by the faculty of the department We believe that a better assessment would be to use the entire course grade not just one question as we feel that an entire test would give more of an understanding of whether or not students understand the material.

This course was delivered only in a face to face method. It will be taught as a Hybrid and online course in the future. We see a need to offer further the type of delivery to see if we can have the same amount of success in these methods.

Course Number: MATH 202 Course Title: Basic Statistics I Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

4. comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;

Assessment Tool Used: A question on the final exam was used to assess the specific learning outcome for the course

Summary of Analysis of Data:

GELO	Course	Does	Not	Meets	Exceeds	Total Assessment
Outcome		meet				
4	MATH 202	42%		48%	10%	103

Summary of redesign: actions taken in any of the following by the faculty of the department We believe that a better assessment would be to use the entire course grade not just one question as we feel that an entire test would give more of an understanding of whether or not students understand the material.

This course was delivered only in a face to face method. It will be taught as a Hybrid and online course in the future. We see a need to offer further the type of delivery to see if we can have the same amount of success in these methods.

Course Number: MATH 203 Course Title: Basic Statistics II Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessment Tool Used: A question on the final exam was used to assess the specific learning outcome for the course

Summary of Analysis of Data:

GELO	Course	Does	Not	Meets	Exceeds	Total Assessment
Outcome		meet				
3	MATH 203	0%		0%	100%	28

Summary of redesign: actions taken in any of the following by the faculty of the department We believe that a better assessment would be to use the entire course grade not just one question as we feel that an entire test would give more of an understanding of whether or not students understand the material.

This course has only one section per semester and therefore the sample size is small. A study over time would be more effective.

At this time the course delivery seems very good as 100% exceeds expectations.

Course Number: MATH 204 Course Title: Elementary Statistics Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Assessment Tool Used: A question on the final exam was used to assess the specific learning outcome for the course

Summary of Analysis of Data:

GELO	Course	Does	Not	Meets	Exceeds	Total Assessment
Outcome		meet				
3	MATH 204	21%		31%	48%	81

Summary of redesign: actions taken in any of the following by the faculty of the department We believe that a better assessment would be to use the entire course grade not just one question as we feel that an entire test would give more of an understanding of whether or not students understand the material.

This course will now also be delivered as an online and hybrid method. We would like to make comparisons to see the effectiveness of each type of delivery.
Course Number: MATH 204 Course Title: Basic Elementary Statistics Assessment Date: SP15, FA 15, and SP16

General Education Learning Outcome Assessed:

4. comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy;

Assessment Tool Used: A question on the final exam was used to assess the specific learning outcome for the course

Summary of Analysis of Data:

GELO	Course	Does	Not	Meets	Exceeds	Total Assessment
Outcome		meet				
4	MATH 204	50%		41%	9%	109

Summary of redesign: actions taken in any of the following by the faculty of the department We believe that a better assessment would be to use the entire course grade not just one question as we feel that an entire test would give more of an understanding of whether or not students understand the material.

This course was delivered as a face to face method and an online method. In the future we will also add a Hybrid method of teaching. It would be beneficial to assess each of these types of methods to see the effectiveness of each of them compared to each other.

Reflection of any previous assessment cycles. If previous assessments lead to any changes evaluate the success of changes made and determine if further changes need to be made.

Math 210 SP15, FA15, and SP16

The following is an assessment summary for MATH 210 (Calculus I) at Baton Rouge Community College regarding the General Education Learning Outcome listed below, referred hereafter as GELO 3;

3. Think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts.

Assessment Tools:

The instructors for Math 210 in the semesters listed above provided an assessment in the form of a comprehensive examination to each of their classes. A copy of one such exam is provided below. The results for these examinations were used to determine whether a satisfactory portion of the students in the course were meeting the GELO 3 requirement. Data was compiled using the rule: <70% score – does not meet expectations, 70%-89% - meets expectations, >90% - exceeds expectations.

Summary and Analysis of Data:

Across the semesters listed (76 assessments), 30% of students failed to meet expectations, 28% met expectations, and 42% of the students exceeded expectations. This provides a 70% portion of the student that either met or exceeded expectations. With such a high portion of students successfully meeting GELO 3, no recommendations for course redesign are suggested.

Summary of Redesign:

N/A Assessment Tool:



Assessments tools: Describe strategies faculty used to assess how well students achieved this outcome. Provide evidence from each course.

Math 211 (now Math 2125) Calculus II

Student scores on Exam 2 (Infinite Series) were used to assess the following General Education outcomes. Fall 2015 Math 211 Exam 2 is attached below for additional reference.

3. think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts;

Summary of analysis of data: GELO 3 had 74% of the students either met or exceeded expectations

Summary of redesign: actions taken in any of the following by the faculty of the department

- 1. assessments methodology: No changes
- 2. learning outcomes: No changes
- 3. course delivery: No changes
- 4. course content: No changes
- 5. department/program: No changes

Forrest Math 211 Calculus II Fall 2015 Exam 2 100 points Directions: Work at most two problems per page in your blue book. Be sure to show all your work logically and with correct notation. Full credit will not be given otherwise. You must state the name of the Convergence/Divergence test that you are using for series.

[20]

[10]

[30]

[10]

1. Given the series: $\sum_{n=1}^{\infty} \frac{4}{2^{n+2}}$

(a) Expand the series, showing at least the first three terms in your expansion.

(b) Find the first three partial sums.

(c) Does the series converge or diverge?

(d) If convergent, what's the sum?

Converge or diverge?

2.
$$\left\{\frac{4n^2}{n^2+9}\right\}$$

3. $\left\{\frac{n+2}{\sqrt[3]{n^2}}\right\}$
4. $\sum_{n=1}^{\infty} \frac{5n}{2n+7}$
5. $\sum_{n=1}^{\infty} (1.12)^n$
6. $\left\{\cos\left(\frac{\pi}{n}\right)\right\}$
7. $\sum_{n=1}^{\infty} n^{-3}$

8. Use the integral test to determine the convergence or divergence of the series:

[30]

$$\sum_{n=1}^{\infty} \frac{1}{n^2 + 1}$$

Converge or Diverge?

9.
$$\sum_{n=1}^{\infty} \frac{\sqrt{n}}{n^2 + 1}$$

10.
$$\sum_{n=2}^{\infty} \frac{n + 1}{n^3 - 1}$$

11.
$$\sum_{n=1}^{\infty} \frac{(-1)^{n+1} n^2}{n^2 + 4}$$

12.
$$\sum_{n=1}^{\infty} \frac{e^n}{n!}$$

13.
$$\sum_{n=1}^{\infty} \left(\frac{n^2}{n!}\right)^n$$

14.
$$\sum_{n=1}^{\infty} \frac{(-1)^n \left[2 \cdot 4 \cdot 6 \cdots (2n)\right]}{2 \cdot 5 \cdot 8 \cdots (3n-1)}$$

Determine if the given series converge absolutely, converge conditionally, or diverge. [10]

15.
$$\sum_{n=1}^{\infty} (-1)^{n(n+1)/2} \frac{1}{2^n}$$
 16. $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{\sqrt{n}}$

Bonus: Find the sum of the convergent series?

$$\sum_{n=1}^{\infty} \frac{4}{n^2 + 2n}$$

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Math 212 Multidimensional Calculus <u>SP15, FA15, and SP16</u>

The following is an assessment summary for MATH 212 Multidimensional Calculus at Baton Rouge Community College regarding the General Education Learning Outcome listed below, referred hereafter as GELO 3;

3. Think critically, independently, and creatively and make informed and logical judgments of the arguments of others, arrive at reasoned and meaningful arguments and positions, and formulate and apply ideas to new contexts.

Assessment Tools:

There is one section of MATH 2134 Multidimensional Calculus. The instructor provided an assessment in the form of a chapter examination to the class in the Spring 2015 semester. A copy of the exam is provided below. The results for these examinations were used to determine whether a satisfactory portion of the students in the course were meeting the GELO 3 requirement. Data was compiled using the rule: <70% score – does not meet expectations, 70%-89% - meets expectations, >90% - exceeds expectations.

Exam 4FMath 212 Multi-Dimensional CalculusFlandersCopy each problem into your bluebook. Work each problem and leave ample room between problems. For full
credit, all answers must be accompanied by appropriate and supporting work that is logically presented using
correct mathematical notation. Box your answer. Do NOT write on this test.

1. Evaluate the double integral given over the region R:
$$0 \le x \le 2, 0 \le y \le 3x$$
. (10 points)
$$\int_{0}^{2} \int_{0}^{3x} (x+y) \, dy \, dx$$

2. Change the order of integration of the double integral given in problem #1. Points are awarded for setting up the integral only. (10 points) (You can evaluate the integral to verify the answer in #1 if you want.)

3. Set up and evaluate a double integral to find the area between $f(x) = 6x - x^2$ and g(x) = -2x + 12. (15 points)

4. Find the average value of the function f(x, y) = 4xy over the region R: rectangle with the vertices (0,0), (3,0), (3,5), (0,5). (15 points)

5. Let R be the annular region lying between the two circles $x^2 + y^2 = 4$ and $x^2 + y^2 = 25$. Convert the integral

 $\iint_{R} (2xy + 3) dA$ into polar coordinates. You only need to set up the integral. (10 points)

- **6.** Evaluate the triple integral given over the solid region Q: $1 \le x \le 5, 0 \le y \le x, 0 \le z \le y$. (10 points)
 - $\int_{1}\int_{0}\int_{0}xyz\,dz\,dy\,dx$
- 7. Find the surface area of the paraboloid $z = 1 + x^2 + y^2$ that lies about the unit circle as shown in the figure. (15 points)

Set up a triple integral to represent the volume of the solid bounded $z = x^2 + y^2$ and bounded above by the sphere $x^2 + y^2 + z^2 = 6$ as up the integral only. (15 points)

Bonus:

a. What is the name of the mathematician in this exam's spotlight? (1 point)

- **b.** What is the title of the mini-movie for bonus points? (1 point)
- c. What is the name of the detective in the mini-movie? (1 point)
- d. What is the first riddle and its answer (you can use a drawing for the answer)? (1 point)
- e. What is the second riddle and its answer (you can use a drawing for the answer)? (1 point)

f. What is the third riddle and its answer (you can use a drawing for the answer)? (1 point)

Summary and Analysis of Data:

Across the semesters listed, Spring 2015 is the semester where GELO 3 was assessed. There were 22 assessments where 23% of students failed to meet expectations, 45% met expectations, 32% of the students exceeded expectations, and the average test score was 81.02%. This provides a 77% portion of the student that either met or exceeded expectations. With such a high percentage of students successfully meeting GELO 3, no recommendations for course redesign are suggested.

The table of test scores is below. The average score was 81.02%, which is in the meets expectations category.



68.00%
63.00%
83.00%
50.00%
86.00%
101.00%
70.50%
67.00%
95.00%
73.00%
75.00%
70.00%
84.50%
102.00%
87.50%
72.50%
90.00%
100.00%
89.00%
95.50%
64.00%
96.00%

Average = 81.02% Summary of Redesign:

With such a high percentage of students successfully meeting GELO 3, no recommendations for course redesign are suggested.

The following is an assessment summary for MATH 212 Multidimensional Calculus at Baton Rouge Community College regarding the General Education Learning Outcome listed below, referred hereafter as GELO 4;

4. Comprehend and apply quantitative concepts and methods to interpret and critically evaluate data and to problem-solve in a variety of contexts demanding quantitative literacy.

Assessment Tools:

There is one section of MATH 212 Multidimensional Calculus. The instructor provided an assessment in the form of a chapter examination to the class in the Spring 2016 semester. A copy of the exam is provided below. The results for these examinations were used to determine whether a satisfactory portion of the students in the course were meeting the GELO 4 requirement. Data was compiled using the rule: <70% score – does not meet expectations, 70%-89% - meets expectations, >90% - exceeds expectations.

Exam 1AMath 212 Multi-Dimensional CalculusFlandersCopy each problem into your bluebook. Work one problem per page using the front and back of the pages. For full
credit, all answers must be accompanied by appropriate and supporting work that is logically presented using
correct mathematical notation. Box your answer.

8. Find a set of parametric equations of the line that passes through the points (0, 4, 3) and (-1, 2, 5). (10 points)

9. Find the equation of the plane containing the points (1, 2, 3), (3, 2, 1), and (-1, -2, 2). (10 points)

10. Classify the surface given by $x - y^2 - 4z^2 = 0$. Then find the xy, yz, and xz traces and graph the surface. (15 points)

- **11.** Convert the point $(-\sqrt{3}, -1, 5)$ in the rectangular system to a point in the cylindrical system using r > 0 and $0 \le \theta < 2\pi$. (10 points)
- 12. Conversion the equation given by $x^2 + y^2 = 8x$ from the rectangular coordinate system into an equation in the cylindrical coordinate system. (10 points)

- **13.** Given $f(x,y) = \sqrt{100 4x^2 25y^2}$, answer each of the following. (15 points) **a.** State the domain in set notation. **b.** Graph the domain. **c.** State the range in set notation.
- 14. Given the hyperbolic paraboloid $z = y^2 x^2$ as shown in the map of this surface for c = -4, -2, 0, 2, 4. (10 points)
- 15. Show that the following limit does not exist. (10 points)

$$\lim_{(x,y)\to(0,0)} \left(\frac{x^2 - y^2}{x^2 + y^2}\right)^2$$

16. Discuss the continuity of $f(x, y) = \frac{2xy}{x^2 - y^2}$. (10 points)



figure, sketch a contour

Bonus:

a. Which of the mathematicians in this exam's spotlight was a professor at Cambridge University?

b. Which astronomer urged this mathematician and paid to publish his highly acclaimed Philosophiae Naturalis Principia Mathematica?

c. This book had three parts, the first part contained the Three Laws of What?

d. Which mathematician did he accuse of plagiarizing his discovery of calculus?

e. Most historians agree that both mathematicians discovered calculus independently of each other, however, this "Great Sulk" controversy proved disastrous for which country's future in mathematics and science for nearly two hundred years.

Summary and Analysis of Data:

Across the semesters listed, Spring 2016 is the semester where GELO 4 was assessed. There were 13 assessments where 23% of students failed to meet expectations, 31% met expectations, 46% of the students exceeded expectations, and the average test score was 83.00%. This provides a 77% portion of the student that either met or exceeded expectations. With such a high percentage of students successfully meeting GELO 4, no recommendations for course redesign are suggested.

The table of test scores is below. The average score was 83.00%, which is in the meets expectations category.

80.50%
101.00%
94.50%
61.50%
94.50%
76.00%
59.00%
61.00%
78.50%
92.50%

Average = 83.00%

Summary of Redesign:

With such a high percentage of students successfully meeting GELO 3, no recommendations for course redesign are suggested.

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Science, Technology, Engineering, and Mathematics

Department: Science

GEL Outcome 3	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	BIOL 101	29%	43%	28%	424
	BIOL 102	22%	37%	41%	183
	BIOL 120	32%	39%	29%	184
	BIOL 121	<mark>20%</mark>	<mark>23%</mark>	<mark>57%</mark>	<mark>75</mark>
	BIOL 210	9%	35%	56%	54
	BIOL 241	20%	80%	0%	25
	CHEM 101	27%	34%	39%	138
	CHEM 102	31%	13%	56%	68
	ENSC 201	14%	38%	48%	29
	PHSC 101	8%	80%	12%	138
	PHSC 102	8%	<mark>6%</mark>	86%	36
	PHYS 110	35%	41%	24%	17
	PHYS 200	17%	38%	45%	29
	PHYS 201	24%	48%	28%	25
	PHYS 202	0%	22%	78%	9
	PHYS 221	7%	49%	44%	90
	PHYS 222	18%	64%	18%	11
	PHYS 223	7%	40%	53%	15

Assessment of GELO 3 included 18 Science courses in 5 different areas of Science and 39% of the BRCC total of students assessed for this GELO. In all courses most students met or exceeded expectations. Individual course assessment descriptions follow.

BIOLOGY 101 (1013)- GELO 3

Assessments tools:

A total of 18 sections of BIOL 101 taught by eight different instructors assessed this outcome. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

- a) An on-line simulation of pollution effects on populations of Peppered Moth. Each student completed the assignment. Students used multiple scenarios. Then, based on the data analysis and discussion students drew conclusions and applied the information to alternate possible scenarios.
- b) Selected exam multiple choice questions from final exam
- c) A project where students used scientific method and genetic concepts to design a new fruit.
- d) In class group work to apply concepts of the scientific method by designing an experiment, followed by class presentations and guided-group discussion (critical thinking).
- e) A group of in-class activities, i.e. quiz, short answer questions, assignments of problems relating to critical thinking, were given at the end of a lecture on a chapter.

Summary of analysis of data:

Results for BIOL 101 indicates that in 83% of the sections assessed most students met or exceeded mastering GELO 3. This represented 71% of the total students assessed were capable of critical, independent and creative thinking across all sections of this course.

Summary of redesign: actions taken in any of the following by the faculty of the department Assessment for GELO 3 included formative and summative assessment tools. The sections that used formative assessment planned to continue using the assignments as these were engaging and interesting for the students, as well as allowing them to develop mastery in the concepts. However, concerns for the long-term mastery of the skills this outcome measures, directed the BIOL 101 course group to search for a different textbook and accompanying online resources. Chapter learning outcomes were worded to be consistent with the new text, the course and general education outcomes. In addition, instructors decided to include more active learning activities, anticipating these would engage students and improve student comprehension. New exams were written to assess chapter learning outcomes, which address the GELO.

BIOLOGY 102 (1023)- GELO 3

Assessments tools:

A total of eight sections of BIOL 102 taught by five different instructors assessed this outcome. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

- a) In-class activities including quizzes and short-answer questions,
- b) Assignments of problems relating to critical thinking from the end of textbook chapter.
- c) On-line resource
- d) Exam questions.

Summary of analysis of data:

Results indicate that all eight BIOL 102 sections assessed met or exceeded mastering this outcome. This indicates 78% of the total students assessed were capable of critical, independent and creative thinking across all sections of this course. Student performance appears to be above average with less than one fifth falling below expectations.

Summary of redesign: actions taken in any of the following by the faculty of the department

Assessment for GELO 3 included formative and summative assessment tools. Faculty who used formative assessment indicated students were engaged in class. Although most students met or exceeded expectations, faculty suggested that students falling in this category need special attention to improve their concept of science and their ability to think critically.

The faculty team for BIOL 102 met with the faculty team for BIOL 101 and searched for a new book and on-line resource that would serve the students in both courses. New tests were written for this course to better assess the concepts and therefore this GELO.

BIOLOGY 120 (1033)- GELO 3

Assessments tools:

A total of 12 sections of BIOL 120 taught by five different instructors assessed this outcome. Instructors used a diversity of assessment tools. All instructors determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

- a) Assignment to solve a problem using scientific method
- b) On-line resource questions
- c) Inquiry assignments
- d) A genetics worksheet which included diverse activities, problems, and questions that addressed the outcome

Summary of analysis of data:

Results indicate that ten of the twelve BIOL 120 sections assessed met or exceeded mastering this outcome. This indicates 68% of the total students assessed were capable of critical, independent and creative thinking across all sections of this course. Students who were involved in formative assessment completed the assignments on time whether these were on-line or written assessments.

Two sections had a higher number of students failing to meet the expectations and the instructor perceived this was affected by a lack of interest of the students in completing the work.

Most students who completed the genetics worksheet met or exceeded expectations. The guide successfully helped these students to think critically, creatively and apply concepts in new contexts by using a variety of problems and solution of a pedigree.

Summary of redesign: actions taken in any of the following by the faculty of the department Most redesign will involve making slight changes to the tools used, but faculty will continue to use formative assessment tools they did in this cycle. Specific course plans follow. The use of the online resources suggested some students may need closer follow up with completing tasks, and perhaps more guidance. Therefore, will identify students with low or no performance earlier in the semester to help identify the reason why they struggle and provide support for completion. One instructor identified timing of the assessment is important, and earlier in the semester may is better to get most students participating in the activity. The hybrid section helped to identify use of the classroom time as important in guiding students through work and supporting their development of critical thinking. Therefore, flipping the classroom was adopted as a classroom management technique for some sections thus releasing more face-to-face time for helping students with most difficult concepts and skills.

The number of students who fail to meet expectations when the genetics worksheet was used suggested still many students (though not most of them) do struggle with applying concepts to novel situations and solving genetics problems. The team of instructors redistributed the number of chapters per unit. Along with implementing other course management this will increase time in classroom to help students in development of critical thinking and practicing application of concepts learned (see also discussion for GELO 5).

BIOLOGY 121 (1043)- GELO 3

Assessments tools:

A total of three sections of BIOL 121 taught by two instructors assessed this outcome. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

a) Written discussion and critical evaluation of concepts and information presented in a series of assigned videos on the theme of protection of the ocean

b) Worksheet for circulatory system, which included activities for students to think critically how can systems relate to one another and if why they cannot work alone.

Summary of analysis of data:

Results indicate that all three BIOL 121 sections assessed met or exceeded mastering this outcome. This is 80% of the total students assessed were capable of critical, independent and creative thinking across all sections of this course.

Of the students who watched the videos, 90% exceed expectations in effectively communicating an interest in realworld problem, identifying opposing opinions on an environmental issue, reflected on the information and reached reasoned personal positions at the exceed expectations level.

Two sections focused on worksheets of the circulatory system. A selection of activities indicated most students meet or exceed the expected performance using reasoned arguments and applying information.

Summary of redesign: actions taken in any of the following by the faculty of the department

Instructors will keep using the activities since these were effective in assessing this GELO. The worksheets were a good indicative of how students can apply concepts related to the understanding of the human body, specifically about the circulatory system, and ability to think critically about relevant topics. The written video-based assignment exposed students to real-world issues and allowed students to evaluate arguments, develop their own opinions and critically reach to a conclusion.

BIOLOGY 210 (2104)- GELO 3

Assessments tools:

Four sections of BIOL 210 taught by three different instructors assessed this outcome. These instructors used a common assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

The assessment in this lecture-lab course was done in the laboratory component. Students completed a scientific inquiry project and shared the information by writing an individual scientific report.

Summary of analysis of data:

Results indicate that all BIOL 210 sections assessed met or exceeded mastering this outcome. This indicates 91% of the total students assessed were capable of critical, independent and creative thinking across all sections of this course. Most students exceeded expectations. Student performance appears to be above average with less than one fifth falling below expectations.

Summary of redesign: actions taken in any of the following by the faculty of the department

The same activity will continue to be used to assess this outcome. Recognizing that 9% of the students falling in this category and need attention to improve, more attention will be provided in lab to reinforce concepts and use formative assessment (i.e. quizzes).

BIOLOGY 241 (2413)- GELO 3

Assessments tools:

The only section for this course used two partial exams to assess this outcome.

Summary of analysis of data:

Exam results indicated most students met expectations for this GELO.

Summary of redesign: actions taken in any of the following by the faculty of the department The instructor planned to continue using same assessment and change the GELO from 3 for this class to the global GELO.

CHEMISTRY 101 (1123) - GELO 3

Assessments tools:

A total of six sections of CHEM 101 taught by three different instructors assessed this outcome. All instructors used the same multiple choice questions of the final exam as the assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Summary of analysis of data:

Results indicate that all six sections of CHEM 101 assessed met or exceeded mastering this outcome. This is 73% of the total students assessed were capable of critical, independent and creative thinking and applying ideas in a new context. The overall result of 37% who fail to meet this GELO was of concern to the instructors. Students tend to miss questions that assessed critical thinking and logical thinking.

The course team will continue to use same assessment tool. There were no changes in the course content delivery. The instructors identified lack of using the textbook for reading and completing homework as a challenge to the students in learning and mastering of concepts that can help in improving critical thinking. In an effort to increase the use of course resources, the instructors would explore other resources for the course. The group recommended mandatory homework to be included as part of the class assessment.

CHEMISTRY 102 (1133) - GELO 3

Assessments tools:

Three sections of CHEM 102 taught by two instructors assessed this outcome. The instructors used the same assessment tool, an open-response quiz administered towards the end of the semester. Students were asked to explain: "In the hit TV series "Breaking Bad", the main characters of the film often used hydrofluoric acid to dissolve dead bodies, metals, and other things they did not want anyone to find. Hydrofluoric acid is a very corrosive acid, yet it is not considered a strong acid. Explain". Students resolved the situation based on their chemistry-knowledge.

Summary of analysis of data:

Only one section of three reported a higher percent of students who met or exceeded expectations for this GELO. However, out of the total number of students assessed in this course, there was a 69% who met or exceeded compared to 31% of students who did not meet the expectation (mostly from the other two sections).

Summary of redesign:

The quiz was administered towards the end of the semester and most students were able to apply concepts taught earlier to everyday life. No major changes on assessment or course format was done.

ENVIRONMENTAL SCIENCE 201 (1103) - GELO 3

Assessments tools:

For this course the instructor used a Human Population Growth assignment. Students visited the <u>www.census.gov</u> website and collected information on current rate of growth for the world and the U.S. They explored the population projection charts for 2025 vs 2050 for the US and a country of their choice. Then students met in small groups in class to share information and considered questions related to quality of life at present vs. future. Finally, students followed with an independent reflection were they analyze 1) quality of life for them under the light of demographics in the

year 2050 and their needs then, and 2) examine the idea of population growth control based on practices in other countries and what was their critical view to legislate in favor of this in the US.

Summary of analysis of data:

Homework was graded with a rubric, then students who obtained points >90% (exceeds); >70%-90% (meets) and <70% (below). Although part of the work is collective (group), each student did an individual critical evaluation of the information presented by other classmates as well as that collected by themselves. Most students, 86% met or exceeded the expectations.

Summary of redesign:

Instructor will continue to use this activity to assess this outcome. There was no course re-design.

PHYSICAL SCIENCE 101 (1023) - GELO 3

Assessments tools:

All four sections of PHSC 101 are taught by same instructor. He used the first 30 questions of the final exam to assess this GELO and calculated for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Summary of analysis of data:

Results indicate that 92% of the students assessed over all four sections of PHSC 101 met or exceeded mastering this outcome

Summary of redesign:

The instructor will continue to use the same assessment tool. However, the course has been modified by adding videos from different Internet sources to allow help students reinforce course content.

PHYSICAL SCIENCE 102 (1033) - GELO 3

Assessments tools:

In two sections of PHSC 102 taught by same instructor she used one problem in the first partial exam to assess this GELO and calculated for each section the percentage of students that answered incorrectly as "does not meet" and the ones that answered correctly as "exceeds" expectations

Summary of analysis of data:

Results indicate that 92% of the students assessed in the two sections of PHSC 101 met or exceeded mastering this outcome

Summary of redesign:

The instructor will continue to use the same assessment tool and made no changes to the classroom instruction.

PHYSICS 110 (1103) - GELO 3

Assessments tools:

There was only one section of this course. The instructor used the second exam, which included 10 problems and each problem was weighted differently. Four out of ten problems (37% after weighting) were used for GELO. The students who scored more than 90% for the total weight were counted as 'Exceeds Expectation', and 70%-90% as 'Meets Expectations', and below 70% as 'Fall Below Expectations.

Summary of analysis of data:

Results indicate 65% of the students assessed met or exceeded the expectations for this outcome.

Summary of redesign:

In this course, applying physics principles is done by using mathematical techniques, including calculus. Most students enrolled in this course were simultaneously enrolled in Calculus I. Therefore it is expected that these students would have some difficulties in using calculus skills they just learned. The data shown above reflects that.

BRCC has not offered this course after the curriculum changed to "Engineering Physics". This change was made to follow a similar change in the Louisiana State University Physics program. There is a Memorandum of Understanding between the two institutions and most Engineering Program students at BRCC transfer to LSU.

PHYSICS 200 (1013) - GELO 3

Assessments tools:

There were two sections of this course, taught by two instructors. One course was assessed using six of fifteen problems in the second exam (45% of weight). The student who scores more than 90% for the total weight is counted as 'Exceeds Expectation', and 70%-90% for 'Meets Expectations', and below 70% is for 'Fall Below Expectations. The second section was assessed using ten tracer questions in exam two. Students were assessed according to the number of correct answers, nine or more questions as "Exceeds", four to eight as "Meets" and three or less as "Below".

Summary of analysis of data:

Results indicate that most students over the two sections, 83%, met or exceeded expectations for this outcome.

Summary of redesign:

The conceptual understanding in this course can be emphasized to help the students who fail to meeting this outcome. More active learning activities should be used in the course.

PHYSICS 201 (2113) - GELO 3

Assessments tools:

The instructor in the only section for this course used exam two of the course for the assessment. Scores at or above 90% were considered as "Exceeds", scores 70%-89% were "Meets", and below 70% were considered "Below" expectations.

Summary of analysis of data:

Most students in this course, 76% met or exceeded expectations.

Instructor will continue to use same assessment tool. No course redesign was planned.

PHYSICS 202 (2123) - GELO 3

Assessments tools:

The instructor in the only section for this course used four tracer questions in exam three. Students answering four questions were considered as "Exceeds", students answering three questions were considered "Meets", and below three questions were considered "Below" expectations.

Summary of analysis of data:

Results for this course indicate 100% of the students met or exceeded expectations.

Summary of redesign:

Instructor will continue to use same assessment tool. No course redesign was planned.

PHYSICS 221 (2133) - GELO 3

Assessments tools:

There were two sections of this course taught by same instructor. The instructor used the second exam, which included ten problems. Each section had a different set of problems. Two out of ten problems (24%) were used in one section and three out of ten (33%) were used in the other section. The student who scores more than 90% for the total weight is counted as 'Exceeds Expectation', and 70%-90% for 'Meets Expectations', and below 70% is for 'Fall Below Expectations.

Summary of analysis of data:

Results indicate that 93% of the students in the course met or exceeded expectations. This physics course is the first course they utilize advanced math skills including Calculus I and some skills of Calculus II (a co-requisite of the course). A lot of emphasis has been on developing students' ability to utilize their math skills into physics, which is critical for engineering students.

Summary of redesign:

The students in this course will benefit from more exercises both in and out of classroom with examples chosen carefully. One approach was adding Supplementary Instruction (SI) sessions as a resource for the students. The instructor of the course works closely providing appropriate material to the SI leaders.

PHYSICS 222 (2143) - GELO 3

Assessments tools:

The instructor for the only section for this course used exam two to assess the course. The student who scores more than 90% was considered as 'Exceeds Expectation', and 70%-89% was considered for 'Meets Expectations', and below 70% was considered as Fall Below Expectations.

Summary of analysis of data:

Results show 82% of the students met or exceeded expectations for this outcome.

Summary of redesign:

The instructor for this course will continue to use the same assessment and no course changes were planned.

PHYSICS 223 (2153) - GELO 3

Assessments tools:

The instructor for the only section for this course used exam two to assess this outcome for the course. One out of nine problems (20% weight) was used to assess GELO 3. The student who scores more than 90% was considered as 'Exceeds Expectation', and 70%-89% was considered for 'Meets Expectations', and below 70% was considered as Fall Below Expectations.

Summary of analysis of data:

Results indicate that 93% of the students assessed were successful in applying their understanding of concepts into the problems in the level this course requires.

Summary of redesign:

The instructor of this course may change the assessment tool. When exam averages were compared across the semester, student performance on this exam was lower, average of 50%, compared to other tests where the average

sores were all around 70%. As with PHYS 221 (2133), the Supplemental Instruction program can offer support to students in developing critical thinking skills. Furthermore, a curriculum change was also submitted for this course to add one more hour to use for problem solving.

GEL Outcome 5	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	BIOL 101	31%	49%	20%	399
	BIOL 102	23%	40%	37%	180
	BIOL 120	35%	38%	27%	208
	BIOL 121	20%	23%	57%	75
	BIOL 210	10%	46%	44%	58
	BIOL 241	48%	44%	8%	25
	CHEM 101	19%	33%	48%	138
	CHEM 102	15%	13%	<mark>72%</mark>	<mark>67</mark>
	PHSC 101	13%	71%	16%	145
	PHSC 102	13%	5%	82%	38
	PHYS 110	59%	35%	6%	17
	PHYS 200	21%	38%	41%	29
	PHYS 201	24%	48%	<mark>28%</mark>	25
	PHYS 202	11%	33%	<mark>56%</mark>	9
	PHYS 221	51%	33%	16%	86
	PHYS 222	18%	64%	18%	11
	PHYS 223	94%	6%	0%	15
	RNRE 101	12%	48%	40%	25

Assessment of GELO 5 included 18 Science courses and 70% of the BRCC total of students assessed. In 15 of the courses most students met or exceeded expectations for this GELO. Individual course assessment descriptions follow.

BIOLOGY 101 (1013) - GELO 5

Assessments tools:

GELO 5 was assessed for 18 sections of BIOL 101, taught by eight different instructors. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Instructors used the same assessment tools as for GELO 3. However, the questions specifically used for assessing GELO 5 both in exams or the in-class activities as well as sections of the project used to gather the data were different from those used to assess GELO 3. Some examples of strategies used for assessment included:

- a) An on-line simulation of pollution effects on populations of Peppered Moth. Each student applied the scientific method by gathering general information about the model organism and its environment, making observations, and establishing hypothesis about expected effect of pollution. Then students collected and analyzed data. They drew conclusions based on their results.
- b) Selected exam multiple choice questions
- c) A project where students used scientific method and genetic concepts to design a new fruit.
- d) In class group work to apply concepts of the scientific method by designing an experiment, followed by class presentations and guided-group discussion.
- e) In-class assignment and quiz.

Summary of analysis of data:

Overall for BIOL 101 94% of the sections assessed indicated most students met or exceeded mastering this outcome. A total of 69% of the students meet or exceed the expectations for the assessment, suggesting most students comprehend the basic principles of science and can apply the scientific method.

Summary of redesign: actions taken in any of the following by the faculty of the department The redesign of the course for this outcome follow the same process as explained above for GELO #3. While formative assessment as in-class assignments continued, the resources (textbook and on-line resource) and summative assessment were revised with the goal of helping students comprehend course material and better assess their understanding.

BIOLOGY 102 (1023)- GELO 5

Assessments tools:

A total of eight sections of BIOL 102 taught by five different instructors assessed this outcome. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Instructors used the same assessment tools as for GELO 3. Examples of strategies used for assessment included:

- a) In-class activities including quizzes and short-answer questions,
- b) Assignments of problems relating to scientific inquiry from the end of textbook chapter.
- c) On-line resource
- d) Exam questions.

Summary of analysis of data:

Results indicate that all eight BIOL 102 sections assessed met or exceeded mastering this outcome. This indicates 77% of the total students assessed can comprehend and apply the basic principles of science and methods of scientific inquiry. Student performance appears to be above average with less than one fifth falling below expectations. Faculty suggested that students falling in this category need special attention to improve their understanding of concepts and the process of inquiry.

Summary of redesign: actions taken in any of the following by the faculty of the department

Assessment for GELO 5 included formative and summative assessment tools. Faculty who used formative assessment will continue to do so since it reinforces student learning and students were engaged in class. The faculty team for BIOL 102 met with the faculty team for BIOL 101 and searched for a new book and on-line resource that would serve the students in both courses. New tests were written for this course to better assess the understanding and ability to apply science concepts.

BIOLOGY 120 (1033)- GELO 5

Assessments tools:

A total of 12 sections of BIOL 120 taught by five different instructors assessed this outcome. Instructors used a diversity of assessment tools, most of them were the same used for GELO 3, but a different section or set of questions was

analyzed. All instructors determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

- a) Assignment to solve a problem using scientific method
- b) On-line resource questions
- c) Inquiry assignments
- d) A molecular biology and cell division worksheet which included diverse activities, problems, and questions that addressed the outcome
- e) Exam questions

Summary of analysis of data:

Results indicate that ten of the twelve BIOL 120 sections assessed met or exceeded mastering this outcome. This indicates 65% of the total students assessed were capable of comprehending and applying basic science principles and methods of scientific inquiry. Students who were involved in formative assessment completed the assignments on time whether these were on-line or written assessments.

Two sections had a higher number of students failing to meet the expectations and the instructor perceived this was affected by a lack of interest of the students in completing the work. The instructor established a positive correlation between inability to think critically and lack of ability to apply the scientific method.

Summary of redesign: actions taken in any of the following by the faculty of the department As with GELO 3, instructors identified that the timing of assessment and monitoring the progress of completion (for both on line and essay assignments) should be addressed in the future.

For sections were a positive correlation was found between lack of critical thinking and applying the scientific method, the instructor identified providing more support, i.e. available examples and increasing the point value of the assignment.

Using the exam questions indicated that even though most students met the expectations, there is a high number of students who fail to meet, suggesting implementing more formative assessment in the future will help to identify when students struggle with science concepts and application of the scientific method. Also, rather than total score per score section, individual performance in the questions will give a better idea of variations among students.

Comparing to the results obtained for the hybrid course and face-to-face, students in the hybrid class were only ones who exceeded (from 3 sections assessed with same too). This may suggest flipping the classroom for face-to-face sections may release class time to address most difficult concepts and do in-class formative assessment.

Some sections will be using more videos, i.e Khan Academy, Boseman Science, the Amoeba Sisters, etc. outside of class to expose and reinforce learning of some difficult concepts.

Use of the worksheets help identify the concepts in molecular biology and cell division (amongst others) as challenging for a small number of students. This was addressed by eliminating some chapters and redesign of the chapters covered in each unit. Still covering all important concepts, but not all in the same depth. This helps in moving away from the "mile long-inch deep" paradigm that affects most areas of science education. Now, for example more time can be spent in solving in class genetics problems, reinforcing difficult concepts in class with active learning followed by formative assessment and providing timely feedback as students build on the concepts.

The team recognizes the challenge posed by BIOL 120 as the first real science class many students take in college. In addition to the redesign of units and modifying formative assessment, we have encouraged students to get more individual help through Supplemental Instruction opportunities, tutoring in the Academic Learning Center, and individual tutoring with students by the instructor.

BIOLOGY 121 (1043)- GELO 5

Assessments tools:

A total of three sections of BIOL 121 taught by two instructors assessed this outcome. Each instructor chose his or her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Examples of strategies used for assessment included:

- a) Written assignment where students evaluated based on a given list of criteria the scientific merit of filtering method to clean plastic from the oceans proposed by Boyan Slat.
- b) Worksheet for circulatory system, which included activities for students to categorize, label, draw, make sense of sentences with gaps, apply concepts to their lives, interpret graphs.

Summary of analysis of data:

Results indicate that all three BIOL 121 sections assessed met or exceeded mastering this outcome. Over half of the students in this course, 57% exceed expectations of understanding and applying the science principles addressed in this course and applying methods of scientific inquiry.

Summary of redesign: actions taken in any of the following by the faculty of the department

Instructors will continue to use the activities for assessment, as they were effective in identifying student performance. It was identified that the tremendous amount of information in this course is still a challenge to some students, regardless that students have already experienced a course with similar amount of material (BIOL 121 is sequence to BIOL120) and that most students meet or exceed expectations. To address the need of those who do not meet expectations, some course content was moved to the lab, i.e. the senses chapter (BIOL 121L). In fact this move allows also for more active learning with that portion of the content.

The instructors are convinced of the importance of students learning more about their bodies. The course covers animal anatomy and physiology with emphasis on the human. It is evident that there are gaps in their knowledge. For example, there are students who do not meet expectations. These gaps must be identified and addressed. A strategy used was adding videos to the course. By modeling this strategy in class, instructors hope that students will use it independently to review difficult concepts.

BIOLOGY 210 (1023)- GELO 5

Four sections of BIOL 210 taught by three different instructors assessed this outcome. These instructors used a common assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

The assessment in this lecture-lab course was done in the laboratory component. Students completed a scientific inquiry project and shared the information by writing an individual scientific report.

Summary of analysis of data:

Results indicate that all BIOL 210 sections assessed met or exceeded mastering this outcome. This indicates 90% of the total students assessed comprehend basic principles of science and the process of inquiry.

Summary of redesign: actions taken in any of the following by the faculty of the department Faculty infers previous exposure to biology concepts allows students to build up and reinforce concepts, therefore performing better in this course.

The same activity will continue to be used to assess this outcome. Recognizing that 10% of the students falling in this category and need attention to improve, more attention will be provided in lab to reinforce concepts and use formative assessment (i.e. quizzes).

BIOLOGY 241 (2413)- GELO 5

Assessments tools:

One section of this course assessed this GELO using two exam questions.

Summary of analysis of data:

Slightly most students met and exceeded expectations, close to half of the students did not meet expectations.

Summary of redesign: actions taken in any of the following by the faculty of the department The instructor will increase the number of questions used to assess this GELO.

CHEMISTRY 101 (1123) - GELO 5

Assessments tools:

A total of six sections of CHEM 101 taught by three different instructors assessed this outcome. All instructors used the same multiple choice question of the final exam as the assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Summary of analysis of data:

Results indicate that all six sections of CHEM 101 assessed met or exceeded mastering this outcome. This is 81% of the total students assessed comprehend and apply basic principles of science and methods of scientific inquiry.

The course team will continue to use same assessment tool. There were no changes in the course content delivery. As stated earlier, the instructors identified lack of using the textbook for reading and completing homework as a challenge to the students. Instructors will explore adding homework and additional resources that can be used to reinforce concepts.

CHEMISTRY 102 (1133) - GELO 5

Assessments tools:

Three sections of CHEM 102 taught by two instructors assessed this outcome. The instructors used the same assessment tool, an open-response quiz administered towards the end of the semester. Students were asked to explain: "Often when making homemade ice cream, it is advisable to use rock salt. Why?" Students resolved the situation based on their chemistry-knowledge.

Summary of analysis of data:

Overall the three sections show that 84% of the total students assessed comprehend and apply the basic principles of science and methods of scientific inquiry at the meet or exceed expectations.

Summary of redesign:

The course team will continue to use same assessment tool. There were no changes in the course content delivery.

PHYSICAL SCIENCE 101 (1023) - GELO 5

Assessments tools: .

All four sections of PHSC 101 are taught by same instructor. He used the last 18 questions of the final exam to assess this GELO and calculated for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

Summary of analysis of data:

Results indicate that 87% of the students assessed over all four sections of PHSC 101 met or exceeded mastering this outcome

The instructor will continue to use the same assessment tool. However, the course has been modified to increase active learning and formative assessment by asking short-questions during lecture to review and reinforce difficult concepts.

PHYSICAL SCIENCE 102 (1033) - GELO 5

Assessments tools:

In two sections of PHSC 102 taught by same instructor she used one problem in the first partial exam to assess this GELO and calculated for each section the percentage of students that answered incorrectly as "does not meet" and the ones that answered correctly as "exceeds" expectations

Summary of analysis of data:

Results indicate that 87% of the students assessed in the two sections of PHSC 101 met or exceeded mastering this outcome

Summary of redesign:

The instructor will continue to use the same assessment tool and made no changes to the classroom instruction.

PHYSICS 110 (1103) - GELO 5

Assessments tools:

There was only one section of this course. The instructor used the second exam, which included 10 problems and each problem was weighted differently. Six out of ten problems (63% after weighting) were used for assessing GELO 5. The student who scores more than 90% for the total weight is counted as 'Exceeds Expectation', and 70%-90% for 'Meets Expectations', and below 70% is for 'Fall Below Expectations.

Summary of analysis of data:

Results indicate most students in this course, 59% fell below the expected for this outcome.

In this course, applying physics principles is done by using mathematical techniques, including Calculus I. Most students enrolled in this course were simultaneously enrolled in Calculus I. Therefore it is expected that these students would have some difficulties in using calculus concepts and skills they just learned and may not have a strong foundation yet. While not a large effect on GELO 3, it has a negative impact on student's comprehension assessed for GELO 5.

BRCC has not offered this course after the curriculum changed to "Engineering Physics". This change was made to follow a similar change in the Louisiana State University Physics program. There is a Memorandum of Understanding between the two institutions and most Engineering Program students at BRCC transfer to LSU. If the course was to be offered again, making Calculus I should be made a prerequisite for the course instead of a co-requisite.

PHYSICS 200 (1013) - GELO 5

Assessments tools:

There were two sections of this course, taught by two instructors. One course was assessed using nine of fifteen problems in the second exam (55% of weight). The student who scores more than 90% for the total weight is counted as 'Exceeds Expectation', and 70%-90% for 'Meets Expectations', and below 70% is for 'Fall Below Expectations. The second section was assessed using ten tracer questions in exam two. Students were assessed according to the number of correct answers, nine or more questions as "Exceeds", four to eight as "Meets" and three or less as "below".

Summary of analysis of data:

Results for this course indicate 79% of the students assessed met or exceeded expectations for this outcome.

Summary of redesign:

In this course, applying physics principles is done by using elementary algebra. The results show this level of math skills provides the appropriate foundation for this course. To help the students identify which concepts are more challenging active learning can be added to the course.

PHYSICS 201 (2113) - GELO 5

Assessments tools:

The instructor in the only section for this course used exam two of the course for the assessment. The diversity of questions used granted use of the same tool to assess GELO 5. Scores at or above 90% were considered as "Exceeds", scores 70%-89% were "Meets", and below 70% were considered "Below" expectations.

Summary of analysis of data:

Most students in this course, 76% met or exceeded expectations.

Summary of redesign:

Instructor will continue to use same assessment tool. No course redesign was planned.

PHYSICS 202 (2123) - GELO 5

Assessments tools:

The instructor in the only section for this course used four tracer questions in exam three. Students answering four questions were considered as "Exceeds", students answering three questions were considered "Meets", and below three questions were considered "Below" expectations.

Summary of analysis of data:

Results for this course indicate 89% of the students met or exceeded expectations for this outcome.

Summary of redesign:

Instructor will continue to use same assessment tool. No course redesign was planned.

PHYSICS 221 (2133) - GELO 5

Assessments tools:

There were two sections of this course taught by same instructor. The instructor used the second exam, which included ten problems. Each section had a different set of problems. Eight out of ten problems (76%) were used in one section and seven out of ten (67%) were used in the other section. The student who scores more than 90% for the

total weight is counted as 'Exceeds Expectation', and 70%-90% for 'Meets Expectations', and below 70% is for 'Fall Below Expectations.

Summary of analysis of data:

Results indicate that 49% of the students in the course met or exceeded expectations. Although some students are very good at the conceptual understanding using, slightly more than half of the students assessed struggled significantly with the application of physics principles (51%).

This physics course is the first course they utilize advanced math skills including Calculus I and some skills of Calculus I (a co-requisite of the course). A lot of emphasis has been on developing students' ability to utilize their math skills into physics, which is critical for engineering students. However, it takes a while to understand the proper approach to use advanced math in science and engineering fields.

Summary of redesign:

The instructor will continue to use the same assessment. However, realizing students need help in understanding of physics concepts several interventions have been added in the course or will be added. The instructor has been working closely with the Supplementary Instruction (SI) sessions developing appropriate materials to use with the students who attend these. Furthermore, weekly homework sets are assigned to help students practice concepts learned and skills. A future plan is to adopt the publisher resource, which may help as another efficient resource students can use with immediate feedback. Last, we are proposing a curriculum modification for this course to add one more class hour. This time will be used as a problem solving session. This will help students to developing their skills and understanding concepts.

PHYSICS 222 (2143) - GELO 5

Assessments tools:

The instructor in the only section for this course used exam two to assess the course. The instructor used the same criteria as for GELO 3, overall test grade. The student who scores more than 90% was considered as 'Exceeds Expectation', and 70%-89% was considered for 'Meets Expectations', and below 70% was considered as Fall Below Expectations.
Summary of analysis of data:

Results show 82% of the students met or exceeded expectations for this outcome.

Summary of redesign:

The instructor for this course will continue to use the same assessment and no course changes were planned

PHYSICS 223 (2153) - GELO 5

Assessments tools:

The instructor for this course used exam two. Eight out of nine test problems (80% weight) were used to assess GELO 5. The student who scores more than 90% was considered as 'Exceeds Expectation', and 70%-89% was considered for 'Meets Expectations', and below 70% was considered as Fall Below Expectations.

Summary of analysis of data:

Results indicate that 94% of the students assessed did not meet the expectations for this outcome. Students were not successful in understanding and applying their understanding of concepts into the problems in the level this course requires.

This last physics course for pre-engineering students is very challenging in both understanding concepts and learning the right skill to apply the principle with highly advanced math techniques.

Summary of redesign:

The instructor of this course may change the assessment tool. When exam averages were compared across the semester, student performance on this exam was lower, average of 50%, compared to other tests where the average sores were all around 70%. As with PHYS 221 (2133), the Supplemental Instruction program can offer support to students in developing much needed understanding of concepts. It is especially important for this course the proposed curriculum change to add one more hour to use for problem solving. Exposing students to more formative assessment through exercises both in and out of classroom with examples chosen carefully should help in supporting the conceptual understanding. Other important resources mentioned in the discussion for GELO 3 are the use of

Supplementary Instruction (SI) sessions for this course, and adding publisher resources that can provide immediate feedback as the students work in developing understanding.

RENEWABLE NATURAL RESOURCES 101 (1013) - GELO 5

Assessments tools:

The instructor used a project. Timely submission of the introduction section of the project was assessed.

Summary of analysis of data:

Most students, 88% met or exceeded the expectations. These students pursued an inquiry through their research and explore more in depth some of the concepts presented through the course.

Summary of redesign:

The instructor will continue to use this efficient assessment tool.

increase participation and quality of the project, the instructor will request submission of the introduction earlier in the semester.

GEL Outcome 6	Course	Does Not Meet	<mark>Meets</mark>	Exceeds	Total Assessments
	RNRE 101	<mark>9%</mark>	<mark>61%</mark>	<mark>30%</mark>	<mark>33</mark>

One Science course assessed this GELO, which represents 3% of all students assessed.

RENEWABLE NATURAL RESOURCES 101 (1013) - GELO 6

Assessments tools:

The instructor used a project. Timely submission of the introduction section of the project was assessed.

Summary of analysis of data:

Most students, 91% met or exceeded the expectations for recognizing when information is needed and the ability to locate, evaluate, and use information ethically and effectively.

Summary of redesign:

To increase participation and quality of the project, the instructor will request submission of the introduction earlier in the semester.

GEL Outcome 9	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ENSC 101	42%	58%	0%	24
	ENSC 101	<mark>16%</mark>	<mark>81%</mark>	<mark>3%</mark>	<mark>32</mark>

One Science course assessed this GELO, representing 18% of the BRCC students assessed.

ENVIRONMENTAL SCIENCE 201 (1103) - GELO 9

Assessments tools:

Two sections of this course assessed GELO 9. Each instructor chose his/ her assessment tool and determined for each section the percentage of students that "does not meet," "meets," or "exceeds" expectations.

One instructor used a project and assessed students based on timely submission of a section of the project. Second instructor showed video "Plan B: Mobilizing to Save Civilization" and students had to submit an essay. Percentage of points from the value of the assignment were used to assess level of achieving this objective.

Summary of analysis of data:

Overall, most students met exceeded the expectations, with 58% and 84% in each section. Students demonstrate a deeper more informed awareness and appreciation for strong values, ethical conduct, and social responsibility, especially the importance of personal, academic, and professional integrity.

Summary of redesign:

To increase participation and quality of the project, one instructor will request submission of the introduction earlier in the semester. Second instructor will continue to use the same or similar video and assess with an essay. One thing that will be change is to break the question up into more focused questions

EVIDENCE ASSESSMENT TOOLS FOR GELO 3 AND GELO 5 SPRING 2015 – SCIENCE

This is organized per course with subtitles identifying the samples as per the instructor who did the assessment. **BIOL 101 (1013) GELO 3 AND 5 ASSESSMENT TOOLS**

Instructor: G. Aluko

Methods:

GELO 3. Seven multiple choice questions (**see below**) were used to assess GELO 3. For each student, the number and percent of correct responses were determined. Students that earned 100% were placed in the "Exceeds Expectations" category. Students earning between 70% and 99% were placed in the "Meet Expectations" category. Students that earned less than 70% were placed in the "Falls Below Expectations" category.

GELO 5. Twenty-one multiple choice questions (**see below**) were used to assess GELO 5. For each student, the number and percent of correct responses were determined. Students that earned 100% were placed in the "Exceeds Expectations" category. Students earning between 70% and 99% were placed in the "Meet Expectations" category. Students that earned less than 70% were placed in the "Falls Below Expectations" category.

Seven GELO 3 assessment questions:

- 1. The three main types of bonds that hold multiple atoms together are:
 - a) hydrogen bonds, ionic bonds, and glycosidic linkages.
 - b) covalent bonds, ionic bonds, and hydrogen bonds.
 - c) covalent bonds, ionic bonds, and disulfide bonds.
 - d) ionic bonds, hydrogen bonds, and ester bonds.
 - e) phosphate bonds, disulfide bonds, and hydrogen bonds.
- 2. A solution's pH value is:
 - a) a measure of its negativity.
 - b) a measure of the number of nucleotide bases in the solution.
 - c) a measure of how buffered the solution is.
 - d) a measure of the number of all dissolved molecules in the solution.
 - e) a measure of the concentration of H^+ (hydrogen ions) in the solution.
- 3. Which statement about cell theory is CORRECT?
 - a) All living organisms are made up of one or more cells.
 - b) All cells arise from pre-existing cells.
 - c) All cells have nuclei.
 - d) All of the above are correct.

- e) Answers a) and b) are correct.
- 4. You placed a raisin in a glass of water. The raisin swelled to twice its original size. Compared to the water in the glass, the contents of the raisin must have been:
 - a) unsaturated.
 - b) hypotonic.
 - c) isotonic.
 - d) hypertonic.
 - e) saturated.
- 5. Certain molecules act like bank accounts for H^+ ions because they can absorb excess H^+ ions to keep a solution from becoming too acidic and release H^+ ions to keep the solution from becoming too basic. Such molecules are called:
 - a) catalysts.
 - b) buffers.
 - c) reducing agents.
 - d) oxidating agents.
 - e) enzymes.
- 6. Kinetic energy is associated with each of the following examples except:
 - a) a ball rolling down a hill.
 - b) flowing water turning a turbine.
 - c) a chameleon tongue catching a bug.
 - d) a covalent bond between phosphate molecules.
 - e) a pitcher throwing a baseball.



7. Leaf color changes from green in the spring to orange-yellow in the fall. Considering the data presented above, which is the most reasonable explanation for why the leaf color changes to orange-yellow in the fall?

a) In the fall, the leaves produce more carotenoids.

- b) In the fall, the amounts of chlorophyll *a* and chlorophyll *b* in the leaves declines while the amount of carotenoids remains the same.
- c) In the fall, the carotenoids absorb much more orange-yellow light for photosynthesis.
- d) In the fall, there is an increase in the amount of chlorophyll *a* but a decrease in the amount of chlorophyll *b*.
- e) In the fall, branches send more carotenoids to the leaves.
- 8. Consider the data shown in the figure on the right. Which cell type would you expect to have the highest metabolic activity and the greatest utilization of ATP?
 - a) liver cell
 - b) fat cell
 - c) skin cell
 - d) red blood cell
 - e) skeletal muscle cell

Iver cell	~2,500
Skeletal muscle cell ~1,200	
White blood cell in lung	
Dermal cell (just under the skin) -200	
White adipose cell (fat storage) ~100	
Red blood cell	

- 9. Which of the following statements best represents the relationship between respiration and photosynthesis?
 - a) Respiration occurs only in animals and photosynthesis occurs only in plants.
 - b) Photosynthesis occurs only in the night and respiration occurs only in the day.
 - c) Photosynthesis stores energy in complex organic molecules, while respiration releases energy from the molecules.
 - d) Respiration destroys the energy in complex organic molecules, while photosynthesis creates the energy.
 - e) Photosynthesis exactly reverses the biochemical pathways of respiration.
- 10. The energy within ourselves and within our food was originally energy associated with:
 - a) water.
 - b) carbohydrate molecules.
 - c) sunlight.
 - d) oxygen.
 - e) carbon dioxide

Twenty GELO 5 assessment questions:

1. In a "controlled" experiment:

a) all variables are manipulated.

- b) all variables are independent of each other.
- c) all variables are held constant.
- d) all variables are dependent on each other.
- e) one variable is manipulated while others are held constant.

2. The statement, "Engaging in aerobic activity three times per week will reduce cholesterol levels" is an example of a:

- A) critical experiment.
- b) scientific control.
- c) control group.
- d) testable hypothesis.
- e) All of the above are correct.
- 3. Which answer below would strengthen your experimental design?
- a. Use a large sample size with equal numbers of males and females and a broad range of ethnicities.
- b. Use a small sample size and only look at the affects on men.
- c. Use a large sample size and look at the affects on college-age people (18-25 years old).
- d. Use a large sample size and look at the affects on African Americans.

4. From the graph on the right, what is the average range of scores for students who use textbooks while studying?

a. 90 to 100%
b. 95%
c. 55-65%
d. 65%



5. A useful scientific hypothesis is one that is: accurate.

b) abstract.

c) testable.

d) conclusive.

e) proven

- 6. Which of the following is MOST correct?
- a) Accepting a hypothesis is the same as proving the hypothesis to be true.
- b After you accept a hypothesis multiple times, it automatically becomes a scientific theory.
- c) You can prove a hypothesis to be absolutely true.
- d) You can accept or reject a hypothesis, but never prove it to be true.
- e) You can prove a hypothesis to be false.
- 7. A well-designed experiment will:
- a. have a control group that is not exposed to the experimental treatment.
- b. have an experimental group which is exposed to a experimental treatment.
- c. test a falsifiable hypothesis.
- d. have a large sample population.
- e. All of the above are possible reasons; the sample group is not large enough to make any reliable claims.
- 11. Science is self-correcting. This means that:
 - a) scientists always correct their own biases before engaging in scientific study.
 - b) scientists have impeccable manners.
 - c) science is incapable of producing mistaken beliefs if its studies are carefully done.
 - d) when scientists make mistakes in their data analyses, their statistical software always catches those mistakes.
 - e) science actively seeks to disprove its own theories and hypotheses.



- scientific method? b) Make observations. d) Conduct a critical e) Formulate a hypothesis.
- carrying out when you

- 13. Which step of the scientific method are you
 - notice a fuzzy growth on the leaves of the tomato plants in your garden?
 - a) Devising a testable prediction
 - b) Making observations
 - c) Drawing conclusions and making revisions
 - d) Conducting a critical experiment
 - e) Forming a hypothesis

14. Scientific data:

- a) must be collected in laboratories.
- b) cannot be collected in a completely unbiased way.
- c) are used to support or refute a hypothesis.
- d) are always true.
- e) All of the above are true.
- **15.** A _______ is a pill that looks identical to a pill that contains the active ingredient in a scientific trial, but contains no active ingredient itself.
 - a) tablet
 - b) barbiturate
 - c) placebo
 - d) capsule
 - e) treatment
- 16. If the results of an experiment turn out to be different from what you expected, then:
 - a) you didn't follow the scientific method.
 - b) your instruments were probably at fault.
 - c) you need to redo your experiment until you get the expected result.
 - d) you should describe possible reasons for this in the "conclusions" section of your experimental write-up.
 - e) your experiment was a failure.
- 17. In science, theories tend to be ______ than hypotheses.
 - a) more experimental
 - b) more empirical
 - c) less scientific
 - d) more speculative
 - e) broader in scope
- **18.** Scientific theories are not guesses about the natural world. They are hypotheses—proposed explanations for natural phenomena—that have been:
 - a) found to be statistically significant.
 - b) used to support the political stances of the scientists that have developed them.
 - c) validated by the International Board of Scientific Theories.

d) verified by at least one critical experiment.

e) so strongly and persuasively supported by empirical observation that the scientific community views them as unlikely to be altered by new evidence.

- **19.** In a randomized, controlled, double-blind study:
 - a) experimental subjects are blind-folded when given the experimental treatment.
 - b) individuals will be assigned to an experimental or control group depending on whether they took part in a pilot study.
 - c) all experimental variables are held constant.
 - d) neither the experimenter nor the subject know whether the subject is in a control group or an experimental group.
 - e) All of the above.

You measured the height of a woman and a man. The woman was 5 feet 10 inches tall. The man was 5 feet 6 inches tall. An appropriate conclusion based on your two measurements is:

- a) Some men are taller than some women.
- b) Men are taller than women.
- c) Some women are taller than some men.
- d) The tallest woman is 5 feet 10 inches tall.
- e) Women are taller than men.

Instructor: D. D'Abundo

Methods:

GELO 3. Seven multiple choice questions (**see below**) were used to assess GELO 3. For each student, the number and percent of correct responses were determined. Students that earned 100% were placed in the "Exceeds Expectations" category. Students earning between 70% and 99% were placed in the "Meet Expectations" category. Students that earned less than 70% were placed in the "Falls Below Expectations" category.

GELO 5. Twenty-one multiple choice questions (**see below**) were used to assess GELO 5. For each student, the number and percent of correct responses were determined. Students that earned 100% were placed in the "Exceeds Expectations" category. Students earning between 70% and 99% were placed in the "Meet Expectations" category. Students that earned less than 70% were placed in the "Falls Below Expectations" category.

Note: Not all questions used were the same as those used by G. Aluko

Seven GELO 3 assessment questions:

- 1. Which statement about cell theory is CORRECT?
 - a) All living organisms are made up of one or more cells.
 - b) All cells arise from pre-existing cells.
 - c) All cells have nuclei.
 - d) All of the above are correct.
 - e) Answers a) and b) are correct.

2. You placed a raisin in a glass of water. The raisin swelled to twice its original size. Compared to the water in the glass, the contents of the raisin must have been: a) unsaturated.

- b) hypotonic.
- c) isotonic.
- d) hypertonic.
- e) saturated.
- 3. Kinetic energy is associated with each of the following examples except:
 - a) a ball rolling down a hill.
 - b) flowing water turning a turbine.
 - c) a chameleon tongue catching a bug.
 - d) a covalent bond between phosphate molecules.
 - e) a pitcher throwing a baseball.



4. Leaf color changes from green in the spring to orange-yellow in the fall. Considering the data presented above, which is the most reasonable explanation for why the leaf color changes to orange-yellow in the fall?

a) In the fall, the leaves produce more carotenoids.

b) In the fall, the amounts of chlorophyll a and chlorophyll b in the leaves declines while the amount of carotenoids

remains the same.

c) In the fall, the carotenoids absorb much more orange-yellow light for photosynthesis.

d) In the fall, there is an increase in the amount of chlorophyll *a* but a decrease in the amount of chlorophyll *b*.

e) In the fall, branches send more carotenoids to the leaves.

Skeletal muscle cell ~1,200	
White blood cell in lung	
Dermal cell (just under the skin) ~200	
White adipose cell (fat storage) ~100	
Red blood cell	
0	

- 5. Consider the data shown in the figure above. Which cell type would you expect to have the highest metabolic activity and the greatest utilization of ATP? a) liver cell
 - b) fat cell
 - c) skin cell
 - d) red blood cell
 - e) skeletal muscle cell
- 6. Which of the following statements best represents the relationship between respiration and photosynthesis?
 - a) Respiration occurs only in animals and photosynthesis occurs only in plants.
 - b) Photosynthesis occurs only in the night and respiration occurs only in the day.

c) Photosynthesis stores energy in complex organic molecules, while respiration releases energy from the molecules.

d) Respiration destroys the energy in complex organic molecules, while photosynthesis creates the energy.

e) Photosynthesis exactly reverses the biochemical pathways of respiration.

- 7. The energy within ourselves and within our food was originally energy associated with:
 - a) water.
 - b) carbohydrate molecules.
 - c) sunlight.
 - d) oxygen.
 - e) carbon dioxide

Twenty-one GELO 5 assessment questions:

20. Biology is ____

a) mostly a collection of facts that can be ordered and memorized

b) the study of living things

c) a separate branch of science from the study of how organisms interact with each other and with their environment

d) always used responsibly in advertising claims

- e) Both a) and b) are true.
- 21. Science is self-correcting. This means that:
 - a) scientists always correct their own biases before engaging in scientific study.
 - b) scientists have impeccable manners.
 - c) science is incapable of producing mistaken beliefs if its studies are carefully done.
 - d) when scientists make mistakes in their data analyses, their statistical software always catches those mistakes.
 - e) science actively seeks to disprove its own theories and hypotheses.
- 22. View the figure to the right. What is Step 4 in the scientific a) Devise a testable prediction.
 - c) Draw conclusions and make revisions.
 - e) Formulate a hypothesis.
- **23.** Which step of the scientific method are you carrying out when leaves of the tomato plants in your garden?
 - b) Making observations
 - making revisions
 - d) Conducting a critical experiment
 - e) Forming a hypothesis

THE SCIENTIFIC METHOD



method?

b) Make observations.

d) Conduct a critical experiment.

you *notice* a fuzzy growth on the a) Devising a testable prediction

c) Drawing conclusions and

24. Scientific data:

- a) must be collected in laboratories.
- b) cannot be collected in a completely unbiased way.
- c) are used to support or refute a hypothesis.
- d) are always true.
- e) All of the above are true.

25. The statement "Engaging in aerobic activity three times each week will reduce blood cholesterol levels" is a:

- a) testable hypothesis.
- b) control group.
- c) scientific control.
- d) critical experiment.
- e) All of the above are correct.

26. Which of the following is MOST correct?

- a) Accepting a hypothesis is the same as proving the hypothesis to be true.
- b After you accept a hypothesis multiple times, it automatically becomes a scientifc theory.
- c) You can prove a hypothesis to be absolutely true.
- d) You can accept or reject a hypothesis, but never prove it to be true.
- e) You can prove a hypothesis to be false.
- 27. A ________ is a pill that looks identical to a pill that contains the active ingredient in a scientific trial, but contains no active ingredient itself.
 - a) tablet
 - b) barbiturate
 - c) placebo
 - d) capsule
 - e) treatment
- 28. If the results of an experiment turn out to be different from what you expected, then:
 - a) you didn't follow the scientific method.
 - b) your instruments were probably at fault.
 - c) you need to redo your experiment until you get the expected result.
 - d) you should describe possible reasons for this in the "conclusions" section of your experimental write-up.
 - e) your experiment was a failure.
- 29. In science, theories tend to be ______ than hypotheses.
 - a) more experimental
 - b) more empirical
 - c) less scientific
 - d) more speculative
 - e) broader in scope

- **30.** Scientific theories are not guesses about the natural world. They are hypotheses—proposed explanations for natural phenomena—that have been: a) found to be statistically significant.
 - b) used to support the political stances of the scientists that have developed them.
 - c) validated by the International Board of Scientific Theories.
 - d) verified by at least one critical experiment.
 - e) so strongly and persuasively supported by empirical observation that the scientific community views them as unlikely to be altered by new evidence.
- **31.** In a randomized, controlled, double-blind study:
 - a) experimental subjects are blind-folded when given the experimental treatment.
 - b) individuals will be assigned to an experimental or control group depending on whether they took part in a pilot study.
 - c) all experimental variables are held constant.
 - d) neither the experimenter nor the subject know whether the subject is in a control group or an experimental group.
 - e) All of the above.
- **32.** The placebo effect:
 - a) demonstrates that most scientific studies cannot be replicated.
 - b) reveals that experimental treatments cannot be proven to be effective.
 - c) reveals that sugar pills are generally as effective as actual medications in fighting illness.
 - d) is an urban legend.
 - e) is the frequently observed, poorly understood, phenomenon that people tend to respond favorably to any treatment.
- **33.** In a scientific experiment, a control group:
 - a) is less important than an experimental group.
 - b) can be compared with an experimental group to determine if the experimental treatment caused a change in the experimental group.
 - c) must be kept in a laboratory.
 - d) makes the experiment better, but is not essential.
 - e) All of the above are correct.

- **34.** To further demonstrate that a treatment truly caused the differences between an experimental group and a control group, researchers should: a) get their study published in a scientific journal.
 - b) make more observations.
 - c) conduct the experiment again.
 - d) formulate more hypotheses.
 - e) use a variety of statistical tests until one shows statistical significance.
- 35. To the right is an example of a line graph. The independent variable is:
 - a) represented by the line that connects the points.
 - b) represented on the *x*-axis.
 - c) represented on the *y*-axis.
 - d) represented by a single point.
 - e) represented by the vertical axis.
- **36.** The analytical and mathematical tools that researchers use to gain understanding of data sets are called:
 - a) experimentation.
 - b) statistics.
 - c) geometry.
 - d) genetics.
 - e) biology.



- **37.** You measured the height of a woman and a man. The woman was 5 feet 10 inches tall. The man was 5 feet 6 inches tall. An appropriate conclusion based on your two measurements is:
 - a) Some men are taller than some women.
 - b) Men are taller than women.
 - c) Some women are taller than some men.
 - d) The tallest woman is 5 feet 10 inches tall.
 - e) Women are taller than men.
- **38.** When a chewing gum manufacturer makes the claim, "Four out of five dentists surveyed recommend sugarless gum for their patients that chew gum," how many dentists need to have been surveyed for the statement to be factually accurate?
 - a) five
 - b) at least 100
 - c) at least 500
 - d) 10
 - e) four
- **39.** Pseudoscience takes advantage of the fact that most people believe that:
 - a) the evidence for scientific claims is often confusing.
 - b) scientific claims can be evaluated through the political process.
 - c) science is a powerful tool for learning about the world.
 - d) the scientific process is unreliable.

e) science is intimidating.

- **40.** Which of the following questions CANNOT be answered by the scientific method? a) Is evewitness testimony in criminal proceedings reliable?
 - b) Does chemical runoff give rise to hermaphrodite fish?
 - c) Does hair that is shaved grow back coarser?
 - d) Does taking echinacea reduce the intensity or duration of the common cold?
 - e) Did the United States act appropriately when it invaded Iraq?

Instructor: J. Davis

Peppered Moth Activity

You will follow the link provided below. Copy and paste it into your browser above. It will take you to a worksheet. Save the worksheet that the link opens to. The worksheet includes a link to the Peppered Moth Story and Simulation. Use this information and simulation to answer the worksheet. Save your answers and submit the completed worksheet to this link above. This assignment is part of your instructor determined points.

http://www.biologycorner.com/worksheets/pepperedmoth.html (Links to an external site.)

Instructor: L. Laynes

Project:

Students were asked to cross two fruits or vegetables of their choice and apply the steps of the scientific method as a means of genetically engineering a new product.

New Produce Instructions

To complete this project read chapter 11 "how traits are inherited" and Mendel's Garden pages 248-254. You will create a new produce with two traits. Use infographic M4.4 as a guide for creating your new produce and its two traits. Assign keys to your alleles for the two traits your produce will possess. Your traits can be Color, texture, taste, etc. Remember dominant alleles for a trait is represented with a capital letter and recessive alleles are represented with a lower case letter. Infographic M4.2 and M4.3 will help with your understanding of inherited traits from parents to offspring. Your new produce is cross between two vegetables and/or fruits selected. For instance, I am crossing a banana and a cucumber, which I named "Cubana". I selected the traits I wanted my fruit to possess. Traits: a lime color and sweet taste. Two

alleles for color were assigned and two for taste. Select two fruits and/ or Vegetable describe your traits of the two you chose. You should answer the steps of the scientific method refer to chapter 1 as it relates to your new produce. Make complete statements for each step. You should select a name for your new produce. Your experiment will be a Dihybrid cross (two traits cross) Punnett square with 16 grids (pg. 241, Infographic 11.9 and M4.4). This should contain the alleles (genotype) for each hybrid (offspring) traits per grid (pg. 241, 11.9). The capital letters are written first and grouped with the same letters for a given trait (pg. 241, 11.9). The phenotype should be mentioned in your conclusion, which traits are expressed in your new produce. See infographic M4.4. The final project should be submitted type with an illustration of your new produce.

- 1. Select fruits or vegetables.
- 2. Name and giver observations of traits from the above.
- 3. Select traits and alleles for your new produce. Traits key
- 4. Steps of the scientific method.
- 5. Dihybrid cross (Punnett square -16 grids). Experiment step
- 6. Conclusion summary of cross phenotype
- 7. Illustration or model of new produce dominant or recessive trait.
- 8. Submit one typed document with all group members name.

Instructor: A. Shahjahan

BIOL 101 Quiz (Ch 1) Name: ______ sec: 17

- 1. Empirical results :
 - a. Rely on intuitionb. are based on observationc. Are generated by theoriesd. Cannot be replicated

2. Superstitions are

- a. Held by humans and not by any nonhuman species
- b. Just one of many possible forms of scientific thinking
- c. True beliefs that have yet to be fully understood
- d. Irrational beliefs that actions not logically to a course of events influence its outcome

3. In controlled experiments

- a. All variables are kept constant except one c. All variables are dependent on each other
- b. All variables are held constant d. All variables are independent of each other

4. Statistical methods make it possible to

- a. Prove any hypothesis is true b. Determine if the results have occurred by chance
- c. Reject any hypothesis d. Test non-falsifiable hypothesis

5. Which step of scientific method are you carrying out when you note different type of growth among colonies of *E. coli* in petri dishes?

- a. conclusion b. hypothesis c. observations d. prediction
- 6. The statement "Engaging in aerobic activity three times per week will reduce cholesterol levels" is an example of a:
 - a. Critical experiment b. Scientific control c. Control group d. Testable hypothesis

7. A well designed experiment will have all of the following except

- a. As little experimenter bias as possible
- b. A large sample population
- c. A control group that is handled the same as the experimental group
- d. An experimental group which is exposed to a particular treatment
- 8. Suppose you measure the height of two people. One is women who is 5 feet 10 inches tall. The other is a man who is 5 feet 6 inches tall. Which of the following is an appropriate conclusion to draw from these measurements?
 - a. Some women are taller than some men c. Women are taller than men
 - b. The tallest women is 5 feet 10 inches tall d. Women are taller than men by 4 inches

9. Anecdotal evidence

- a. Is a more efficient method for understanding the world than the scientific method
- b. Tends to be more reliable than data based on large number of observations
- c. Is often the only way to prove important causal links between two phenomena
- d. Can seem to reveal links between two phenomena but the links do not exist.

10. A phenomenon that has been established based on large numbers of observational and experimental data is referred to as :

a. A theory b. a fact c. a hypothesis d. an assumption

Instructor: A. Shahjahan

CLASS ACTIVITY: Scientific Method

- 1. What is science?
- 2. What are the steps in scientific method?

3. Conduct a scientific experiment to see the "effect of miracle grow on tomatoes"

(Include: the hypothesis, prediction, experimentation (design, selection of experimental materials, treatments, collection of data, and analysis) and

Instructor: T. Toulmon

Scientific Method In Class Activity

The class was divided into groups of 3-4 students. Each group had to work together in class to develop a hypothesis based upon observations that they have made in their personal lives. They then had to use the scientific method to design an experiment that would test their hypothesis. Each group presented their topic to the rest of the class, allowing others to critique the validity of their hypothesis and their proposed experimental design.

Each presentation was followed by discussion of these questions: Is this a valid hypothesis? Why or why not? What is wrong (or right) about the proposed experimental design? What would you do if this hypothesis was disproved?

BIOL 102 (1023) GELO 3 AND 5 ASSESSMENT TOOLS

Instructor: G. Aluko

- 1. Which of the following is **not** one of the four distinctions used to divide animals into groups?
- a) defined or undefined tissues
- b) radial or bilateral symmetry
- c) prokaryotic or eukaryotic cells
- d) protostome or deuterostome

2. Identify the life stage, the animal and the Phylum of the animal shown on the right.a) polyp, jelly fish, Cnidariab) medusa, jelly fish, Cnidariac) polyp, sponge, Poriferad) medusa, sponge, Porifera



- 3. What distinguishes a protostome from a deuterostome?
- a) sequence or order of gut development
- b) whether an animal has tissues or not
- c) whether the body can be divided into two or more symmetrical units
- d) the way the skeleton grows
- 4. Most species of animals are:
- a) marine dwelling.
- b) carnivores.
- c) invertebrates.
- d) radially symmetrical.

5. A sea urchin is bilaterally symmetrical as a larva, develops from back to front, but has no skeleton. Therefore, it is likely a(n)....

- a) Chordate
- b) Echinoderm
- c) Cnidarian
- d) Mollusk



- 6. Which of the following is a feature that only mammals have?
- a) predatory behavior.
- b) internal skeleton.
- c) hair.
- d) bilateral symmetry.

7. When thinking about the evolutionary history of humans, which of the following features is most related to the success of *H. sapiens*?

- a) increase in brain size
- b) development of game-playing strategies
- c) decrease in caloric intake resulting in a lower body weight
- d) increased use of teeth as tools
- 8. Which of the following statements about FERN (seedless vascular plat) is not true?
- a) They require water for fertilization
- b) Their spores are contained in sporangia
- c) Their seeds are dispersed by wind
- d) Their roots can reach moisture even when the soil surface is dry
- 9. The dry, waxy layer that covers the leaves and stems of plants is known as the:
- a) roots
- b) cuticle
- c) sporangia
- d) vasculature

10. In mycorrhizal associations, the fungi benefit the plant by _____

- a) increasing the ability of the roots to absorb phosphorus.
- b) increasing the ability of the roots to absorb nitrogen.
- c) helping the plant grow faster and larger.
- d) All of the above are ways the fungi benefit the plant.

- 11. What is the one most obvious difference between the gymnosperms and angiosperms?
- a) The gymnosperms don't produce seeds while the angiosperms do.
- b) The gymnosperms have bark while the angiosperms don't.
- c) The gymnosperms don't form flowers while the angiosperms do.
- d) The gymnosperms don't have leaves while the angiosperms do.
- 12. In plants, ovules after fertilization become _____ and ovaries then develop into _____:
- a) fruits, seeds
- b) shoots, branches
- c) seeds, fruits
- d) branches, shoots
- **13.** Which two microbes are the most closely related according to the evolutionary tree?
- related according to the evolut
- a) Bacteria and Archaea
- b) Bacteria and Eukarya
- c) None are closely related
- d) Archaea and Eukarya



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- 14. In which of the following environments would you expect to find microbes flourishing?
- a) the bottom of the ocean
- b) a natural hot spring
- c) your skin
- d) All of the above.

15. ______ is a method of treating infections by introducing good bacteria in large numbers to outcompete the harmful bacteria.

- a) Bacterial therapy
- b) Probiotic therapy
- c) Gene therapy
- d) Physical therapy

16. Which of the following WOULD most likely to INCREASE antibiotic resistance of microbes?

a) refusing all antibiotics and medications if you get a microbial infection

- b) not finishing the full course of a prescribed antibiotic
- c) taking antiviral drugs for the treatment of a viral infection
- d) taking antibiotics only when needed to kill off infecting microbes

17. The genetic information of the smallpox virus is ______ and is therefore relatively stable. Therefore it mutates ______. The genetic information of a flu virus is that is not stable so it mutates _____. a) DNA ; slowly ; RNA ; rapidly b) RNA ; rapidly ; DNA ; slowly

c) RNA ; slowly ; DNA ; rapidly

d) DNA; rapidly; RNA; slowly

18. What is the most effective medical approach to the prevention of viral infections? a) vaccines b) drugs that target enzymes c) antibiotics d) drugs that target ATP synthesis

19. When groups of individuals of the same species live in the same place at the same time and are able to

interbreed

is referred to as _____.

a) a community.

b) a population.

c) a niche.

d) an ecosystem.

20. In the graph depicted on the right, curve A is the and curve B is the

a) exponential growth curve ; logistic growth

curve

b) logistic growth curve ; exponential growth curve

c) logistic growth curve ; carrying capacity

d) carrying capacity ; logistic growth curve

21. Disease is spread more quickly between individuals who live in close proximity, such as in a nesting colony of penguins. Disease can be considered a:

a) density-dependent factor.

b) factor that causes a greater birth rate than death rate.

c) density-independent factor.

d) factor that increases carrying capacity.



22. The age-structure diagram of a human population in a developing country has the shape of:a) a rhombus.b) an hourglass.



d) a pyramid.



Chapters 15-18

23. Ecosystems or the biomes are defined primarily by:

a). the average rainfall.

b). the average temperature.

c). the seasonal variability in temperature and rainfall.

d). All of the above.

24. The main source of energy that drives global climate is:

a) geothermal energy.

b) chemical energy.

c) ocean currents.

d) solar energy.

25. Which of the following statements about an organism's niche is incorrect?

a). It encompasses the space the organism requires.

b). It includes the type and amount of food the organism consumes.

c). It is not always fully exploited.

d). It may be occupied by two species, as long as they are not competitors.

26. Which of the following organisms would occupy lowest trophic level?

a) fungus

b) spider

c) grass

d) zooplankton



27. The 10% rule of energy-conversion efficiency:

- a). explains why big, fierce animals are so rare.
- b). limits the length of food chains.
- c). suggests that 90% of what an organisms eats is used in cellular respiration or is lost as feces.
- d). All of the above are correct.
- 28. Most of the Phosphorus as shown in the
- Phosphorus cycle on the right exists as:
- a) Phosphates in the soil.
- b) Phosphorus dioxide in the atmosphere
- c) Phosphates in the atmosphere
- d) Phosphoric acid in the atmosphere



ng: phosphorus. a) the range of environmental conditions under which the organism can but the and reproduce.

- b) the area in which the organism reproduces.
- c) the climatic conditions required for the organism to survive and reproduce.
- d) the physical space that the organism occupies.

30. When two species battle for resources until one is driven to local extinction, this process is called:

a) parasitism.

b) competitive exclusion.

c) mutualism.

d) character displacement.





Instructor: A. Shahjahan BIOL 102 HW(Ch 24-26)

1. (a) The controls the anterior pituitary by producing a releasing hormone and it also acts as the internal thermostat. (b) The ______ is a pea-sized gland located below the hypothalamus in the brain and it controls other glands of the endocrine system by producing stimulating hormones. 2. (a) The names of the two systems that work together are: i. ______ ii. _____. (b) The endocrine system is highly dependent on another system called . 3. (a) Hormones that are secreted into the environment are called . (b) Peptide hormones are ______ while steroid hormones are ______. 4. (a) The anterior pituitary gland releases the following four stimulating hormones: (i) (ii) (ii) (iv) (b) Two hormones of the posterior pituitary are _____ & _____. 5. (a) Human sex hormones are classified as hormones and is made of (b) is associated with sexual behavior in male, and & _____ are associated with sexual behavior in female. 6. (a) Our day night cycle (biological rhythm) is regulated by a gland called ______, (b) Our blood glucose content is regulated by two antagonistic hormones produced by the pancreas are _____ and _____. 7. (a) Fragmentation and budding are types of ______ reproduction which produces genetically uniform offspring and are when the environment is continuously changing? (b) Following internal fertilization the zygote develops into adult in one of the three strategies namely (i) _____ (ii) _____ (iii) _____ 8. (a) The human female menstrual cycle is regulated by the hormones _____, and _____. (b) The main function of Progesterone is to ______.

Name: ______ Sec: ____

9. True or false: (T/F):

i) Eggs have more chromosomes than sperms _____. ii) Male produce more sperms than

female produce eggs______ iii) Eggs are much larger than sperm ______ iv) Eggs have

more organelles than sperm _____ v) Eggs are motile but not the sperm _____

10. (a) The three contraceptive methods that help prevent pregnancy are: i) _____

ii) _____ iii) _____

(b) The level estrogen and progesterone in female during menstruation is: _____

11. (a) Name the structure through which the egg after ovulation passes and meet the sperm for fertilization (form diploid zygote). ______.

(b) Name the structures through which the sperm passes from testes to the outside:

12. (a) Sperm is produced in a structure inside testes called ______.

(b) Semen is made up of sperms and secretions of the three glands namely: (i) _____

(ii) _____ and (iii) _____

13. Contractions of uterus during delivery, the release of breast milk after delivery and trusting behavior of mother are all the roles played by the hormone called ______

14. (a) The stage of the egg released from the ovary during ovulation is called ______.

(b) During the human menstrual cycle, a sudden increase in ______ hormones causes the follicle to rupture, releasing the egg from the ovary?

15. (a) The three stages of embryonic development are i) _____ ii) _____iii) _____.

(b) In which stage in embryonic development are the three germ layers created?

_____. Which layer becomes the nervous system ______.

- 16. (a) The first line of defenses include (i) ______ & (ii) _____
 - (b) The second line of defenses include: (i) _____ (ii) _____
- 17. (a) Which WBCs produce histamines in response to allergens and cytokine release?
 - (b) ______ a WBC, ingest pathogens and "present" fragments of these pathogens on their cell surface to helper T cells or other immune cells.

18. (a) Antigen receptors are present on both _____ and _____.

(b) B cells provide immunity by producing ______ and destroying it by binding to

the antigen receptor.

19. (a) Type 1 diabetes is what type of immune disorder?
(b) Cytotoxic T cells & Natural killer cells attack which type of cells?
20. Answer these questions:
i) Which cells are found at the sight of an injury
ii) Phagocytes are part of the innate immune system
iii) Helper T cells activate which cells?
iv) Cells that are able to present antigen to Helper T cells are
v) Helper T cells stimulate B cells cytotoxic T cells by secreting what substance?
vi) Three phagocytic white bold cells that are: (i) (ii) (ii)

BIOL 120 (1033) GELO 3 AND 5 ASSESSMENT TOOLS

Instructor: D. Cole

On-line course resource for chapter specific assignments.

Each assignment had a two week duration period to complete.

Instructor: J. Garton

GELO 3. Read a statement about genome sequencing and the future of "genomic medicine".

Answer:

1) "Would you have your genome sequenced if it was affordable? Why or why not?"

2) Would you make your genome sequence publicly available? How might such information be misused?"

3) "Private companies are now offering personal DNA sequencing along with interpretation through the mail (visit <u>www.23andme.com</u> for an example). What services does this company offer? Do you think these services should be regulated?"

The second question from each of the three subsections was used as the critical thinking assessment.

GELO 5. Students were given a questionnaire asking them to read a short paragraph describing a simple experiment and then to answer 6 questions identifying the following: the independent and dependent variables, the experimental control, the constants in the experiment, the number of trials that were run and to write a hypothesis for the experiment in the if/then style.

Instructor: S. Guzman

GELO 3. Same assessment as Garton

GELO 5 – Five questions in exam#1 that had to do with scientific method were assessed for correctness. I used a rubric were I calculated the percentage of questions that were answered correctly by less than 70% of the students (does not meet expectations), percentage of questions that were answered correctly by 70%-90% (meets expectations), and percentage of the questions that were answered correctly by more than 90% of the students (exceeds expectations).

Instructor: M. Hackney Homework Guides GELO 3: Genetics GELO 5: Molecular Biology and Cell Division

Name_____ Date _____ class_____

Chapter 14: Mendel and the Gene

14.1 Describe pre-Mendelian ideas and assumptions about inheritance, blending and acquired characteristic hypotheses. Contrast with the particulate inheritance hypothesis proposed by Mendel. Assess the accuracy of these beliefs *Evaluation* 257, 261

Key:	blended	acquired characteristics	heredity	trait	genetics	model organism		
	particulate							
the study of heredity which is the inheritance of traits								
	is the inh	is the inheritance of traits or the transmission of traits from parent to offspring						
is any characteristic of an individual ranging from height to a specific protein structure								
	is a speci	es that is used for research becau	se conclusion	s drawn from	n studying it turn out	to apply to other species as well		

a) ______inheritance claims that traits observed in a mother and father blend together to from the traits observed in their offspring who are intermediate between mom and dad's traits.

Ex: black sheep crossed with white sheep will only have offspring that are gray **Blended inheritance** is (**accepted** / **rejected**) today as a theory.

b) **Inheritance of** _______ claimed that traits present in parents are modified through use and passed on to their offspring in the modified form. EX: giraffes who stretch their necks to reach tree leaves become longer necked and pass longer necks on to their offspring. This was the explanation given by Lamarck.

Inheritance of acquired characteristics is (accepted / rejected) today as a theory,.

c) Mendel proposed a ______ inheritance of genes from parents. Genes do not blend together but function as discrete particles.

The **particulate inheritance** of genes from parents is (**accepted** / **rejected**) today as a theory.

14.2. State which model organism Mendel use as his study model and briefly describe what characteristics made it useful. *Comprehension* P.257-258

Garden Peas made a good model organism for research for genetics because garden peas are:

1	
2	
3	
4	
5	

3. Explain the following terms: pure-line / hybrid; monhybrid cross / dihybrid cross; parental (P1) generation/ F1 generation/ F2 generation . Analyze Mendel's monohybrid crosses and explain the resulting 3:1 phenotypic ratio for F2 generations. Use the reappearance of the recessive phenotype to refute the blending hypothesis.

Ex: tall pea plants always have tall						
Ex: offspring of the cross of a pure breeding tall pea plant with a pure breeding short pea plant are hybrids.						

The (P /F1/F2) generation are the true breeding parents that are crossed with each other. .

The (P /F1/F2) generation are the offspring of the parental generation.

The (**P** /**F1**/**F2**) generation are the offspring of the mating of the F1 generation.

P generation	Tall pea plant x short pea plant		
	TT x tt		
F1 generation	All tall pea plants All Tt		
F2 generation	3 tall pea plants : 1 short pea plant		

Genotype of pure tall pea plants of P generation is (**TT** / **Tt** / **tt**) Genotype of pure short pea plants of P generation is (**TT** / **Tt** / **tt**) Genotypes TT or tt are (**homozygous** / **heterozygous**) Genotype of F1 generation is (**TT** / **Tt** / **tt**) Genotype Tt is (**homozygous** / **heterozygous**) The physical appearance of the pea plants is the (**genotype** / **phenotype**) Genes for a trait in the pea plants is its (**genotype** / **phenotype**) The F2 generation has a 3: 1 phenotype ratio which means that ³/₄ were (**tall** / **short**) plants and ¹/₄ were (**tall** / **short**) plants.

Reappearance of the short trait in plants in the F2 generation **disproved** blending inheritance. Also there were no medium height plants as blending would predict.

1TT: 2Tt: 1 tt

4. What is a reciprocal cross and what is its purpose?

A ______ cross is a cross in which the phenotypes of the male and female are reversed compared to the prior cross. If reciprocal cross results are the same as the original cross then this shows that it does not matter whether the genes for that trait are from the mother or father

5. Define the term allele. Compare and contrast dominant and recessive alleles. Give an example for each mode of inheritance.

are different forms for a gene. Ex: T = tall t = short in pea plants

A (dominant / recessive) allele will show up even if there is only one. Ex: TT and Tt are both tall plants because the allele for tall in pea plants is dominant. The genotypes TT and Tt result pea plants in the same (tall / short) phenotype in pea plants

A dominant / recessive) allele will only show up if two are present. Ex: tt is short and the allele for short is recessive in pea plants.

Is the dominant allele always the most common allele in a population? ______ Is the dominant allele always a beneficial allele in a population? ______

6. Define and contrast phenotype and genotype. Describe the difference between homozygous and heterozygous genotypes. Examine how the same phenotype can result from different genotypes.

The physical appearance of the pea plants is the (genotype / phenotype)

Genes for a trait in the pea plants is the (genotype / phenotype)

Homozygous genotypes will have both alleles the same in the genotype for a trait.

Circle homozygous genotypes TT tt Tt

Heterozygous genotypes will have both alleles different in the genotype for a trait.

Circle heterozygous genotypes TT tt Tt

If R is round pea, and r is wrinkled pea. What would the phenotypes be of the following?:

RR _____ Rr ____ rr ____

5. Explain Mendel's principle of segregation and Mendel's principle of independent assortment of chromosomes.

Mendel's principle of segregation states that two copies of a gene (located on the chromosomes of a homologous pair) segregate / separate from each other during the formation of gametes. What are possible genotypes of gametes for a parent with a genotype of Tt? and

Mendel's Law of Independent Assortment is that alleles on separate chromosomes assort independently of each other. For example: if a parent has a genotype of TtPp, the gametes possible are

Note that each gamete receives one of the alleles for the trait of tallness (tall or short) and one of the alleles for color of flower (purple or white)

Linkage does occur if the alleles are on the same chromosome and thus the alleles on the same chromosome should be inherited together. For example : if a parent has a genotype of TtPp, only two gamete genotypes are possible. If one has the Tp, then the other would be

is when particular alleles of different genes are inherited together because they are linked together on the same chromosome. Linked genes do not assort independently. Linked genes violate the principle of independent assortment

Linked genes are inherited together unless crossing over occurs between them. When crossing over takes place, genetic recombination occurs. Linkage is an important exception to Mendel's principles.

7. Indicate how test crosses helped Mendel determine the genotype of a plant with the dominant phenotype. Construct test crosses to determine an organism's genotype

A **cross** is done to determine whether a dominant genotype is homozygous (TT) or heterozygous Tt. One may use Punnett squares to illustrate the test crosses and their results.

The homozygous recessive is used for all test crosses done to determine the genotype of the individual displaying the dominant phenotype.

Problem: A pea plant is tall but is its genotype TT or Tt? Tt x tt TT x tt Т Т Phenotype ratio tall : short Phenotype ratio _____ tall : Genotype ratio: _____ TT : Genotype ratio: What shows that the dominant _____ TT : _____Tt : _____tt Homozygous? What shows that the dominant genotype is heterozygous?

If the results of this test cross was 10 tall plants and 10 d

plant used in the test cross?

8. Use a Punnett square to predict the F1 and F2 results of monohybrid and dihybrid crosses.

If P = purple flower and p= white flower. Do a Punnett square for this monohybrid cross to determine the F1 generation

PP x pp



Genotype: _____ PP: _____ Pp : _____ pp Phenotype: _____ purple flower: _____ white flower Now determine the F2 results



Genotype: _____ PP: ____ Pp : ____ pp Phenotype: _____ purple flower: _____ white flower Dihybrid If Y = yellow pea; y = green pea R = round pea r = wrinkled pea.

If Y = yellow pea; y = green pea R = round pea r = wrinkled pea. Do a Punnett square for this dihybrid cross to determine the F1 generation

YYRR x yyrr

Genotype: all ______ Phenotype: all ______

The F1 generation has a genotype of YyRr. Each parent will make ¹/₄ gametes YR, ¹/₄ gametes Yr, ¹/₄ gametes yR, ¹/₄ gametes yr Cross **YyRr x YyRr**

Phenotype ratio

_____yellow round peas _____yellow wrinkled peas _____green round peas

green wrinkled peas

Note: the 9:3:3:1 ratio is predicted when a cross between two heterozygous for two traits individuals are mated.

9.. Discuss the relationship between Mendel/s principles and the understanding of meiosis and the chromosome theory of inheritance.

Mendel's "hereditary determinants" are **genes** located on a ______ The location of a gene on a **chromosome** is called the gene ______. To completely map a chromosome, one would need to identify the **locus** for every gene on that chromosome.



The physical separation of alleles during anaphase of meiosis I is responsible for **Mendel's principle of segregation**. The two members of a parent's gene pair segregate into different gametes because homologous chromosomes separate during **meiois I**. ______ explains the principle of segregation.

Principle of _____: Pairs of alleles are separated during meiosis in the formation of gametes

Meiosis also explains Mendel's principle of ______ **assortment** which states that different genes are transmitted independently of one another. It is actually the chromosomes with their unique set of genes that are transmitted independently of one another.

10. Discuss Thomas Hunt Morgan's genetic research. Relate it to sex chromosomes, sex linkage and the chromosome theory.

(Wild type / Mutant) is the most common phenotype for each trait. Most fruit flies have red eyes and they are the wild type.

A mutation (is / is not) a heritable change in a gene.

(Wild type / Mutant) is an individual with a phenotype due to a mutation. A fruit fly with white eyes is a mutant.

Drosophila melanogaster is the name for a (**fruit fly / grasshopper**). Thomas Hunt Morgan led his genetics research group in early 1900s to study the fruit fly as a model organism. It was a useful organism because it is (**big / small**); is (**easy / hard**) to raise in a lab; has a (**short / long**) generation time; and

(very few / very many) offspring. The wild type fly with red eyes was available, but Morgan needed to find mutant variant. His research group was lucky to find a white-eyed fly.

Sex chromosomes determine the sex of the individual. In humans, sex chromosomes XX will result in a (**male / female**); the sex chromosomes XY will result in a (**male / female**). Interestingly fruit flies also have this type of sex chromosome arrangement for sex determination.

Drosophila has (1/3) pairs of autosomes and (1/3) pair of sex chromosomes for a total of 4 pairs.



When Morgan crossed red eyed female flies with white eyed male flies, what color eyes did the offspring have?

When Morgan crossed red eyed male flies with white eyes females, what color eyes did the female offspring have? _____ and what color eyes did the male offspring have? _____

The sex of the parent mattered because the allele for eye color in fruit flies is carried on the X chromosome and a female has 2 X chromosomes and a male has only X; the Y is small and does not carry a gene for this trait.

The reciprocal crosses confirm that eye color in *Drosophila* is an X-linked trait.

Morgan proposed that the gene for eye color in fruit flies is located on the X chromosome and that the Y chromosome does not carry the gene and this is called (X / Y) linked inheritance or X-linkage. Correspondingly a gene on the Y chromosome is said to be Y -linked inheritance or Y linkage. In general, inheritance of genes on either _____ chromosome (X or Y) is called sex-linked inheritance or sex linkage.

(Genes on non-sex chromosomes or autosomes are said to show (sexual / autosomal) inheritance.)

Recessive X-linked phenotypes are more common in human males than females.

X linked alleles are carried on the X chromosome. If the allele is recessive, the male needs only (1 / 2) of these alleles for it to show up phenotypically. For a female to show this trait, she must have (1 / 2) of these recessive alleles. Hemophilia is an X linked trait.
Color blindness is an X linked trait.

If N is normal vision and n is color blindness Show the allele (N or n) on the sex chromosome Example: a woman with normal vision would be $X^{N}X^{N}$ or $X^{N}X^{n}$

What is the genotype of a male with color blindness?_____ What is the genotype of a male with normal vision? What is the genotype of a female with color blindness?

If a woman with normal vision that carried an allele for color blindness X ^NX ⁿ married a man with normal vision $X^{N}y$, what would be their possible offspring?

Genotype ratio: $X^{N}X^{N}$: $X^{N}X^{n}$: $X^{N}y$: $X^{n}y$ Phenotype ratio: normal female: normal female carrier: normal male: colorblind male

11. Explore multiple allelism, incomplete dominance and codominance and pleiotropy. Give an example for each mode of inheritance.

involves two alleles but may result in three phenotypes with one intermediate between the others. A.

Example: red, pink and white flowers.

Work a Punnett square. What would be the results of a cross of a red flower and pink flower?

rr = red rw = pinkww = whiterr x rw Genotype ratio : _____ rr: _____ rw : _____ ww

Phenotype ratio: _____red : _____pink: _____white

Do a Punnett square . What would be the results of a cross of a pink flower and pink flower

rr = red	rw = pink	ww = white		
		rw x rw		
Genotype ratio :	rr:	rw :	ww	
Phenotype ratio:	red	:pink:	white	
B Ex: the A and B a	alleles are codom i	occurs	when both alleles are exhibited equally in an individual.	
Blood genotypes :		Blood Type: (A,]	B, AB, or O)	
AA				
AO				
BB				
BO				
AB				
00				
C. Human blood ty What blood type c	ype also gives an e ould children have	example of multiple a e if the father has O b	alleles since the alleles include: A, B, O which is more than 2 alleles. lood and the mother has B blood due to her genotype of BO.	OO x BO



 Genotype ratio:
 ______AA:
 _____AO:
 _____BB:
 _____OO:
 _____AB

 Phenotype ratio:
 ______A:
 _____B:
 _____O:
 _____AB

When more than 2 distinct phenotypes are present in a population owing to multiple allelism, the trait is **polymorphic** (poly = many + morph = form). The ABO blood type is a ______ trait because it has 4 distinct phenotypes (A B O and AB) and relies on multiple alleles (A B O).

D. A gene that influences more than one trait is said to be ______Pleiotropy means that a mutation in a single gene can have multiple effects on an individual's phenotype.

For example a person with **Marfan syndrome** is due to mutations in one gene. A person with Marfan's syndrome will have long limbs and long fingers, an abnormal chest shape, heart problems. One gene thus has many effects.

12. Discuss how environment affects phenotypes

An individual's phenotype is often as much a product of the environment as it is a product of the genotype.

A human that is not given good **nutrition** as he grows will not grow as big or as tall as he might have grown if given good nutrition.

A plant will grow with **light**, but if the light is reduced, the plant will grow slower and perhaps differently as it tries to capture more sunlight.

Individuals with the same genotype may end up with different phenotypes based on variations in **environmental variables** such as

13. Discuss how interactions among genes can influence phenotype.

It is also possible for a phenotype for a trait to be the result of interactions between genes. When gene-by-gene interactions occur, one trait is influenced by the alleles of two or more different genes. Example: in a chicken 2 genes (R & P) interact to determine the comb: walnut, rose, pea, single.

14. Explain the difference between discrete and quantitative traits. Discuss how quantitative traits are polygenic.

trait is one with clearly defined phenotypes that are clearly different from each other (example of a discrete trait in garden peas : the peas are either yellow or green)

A _______ trait is one where phenotypes cannot be sorted into discrete categories but rather vary along a continuum. (example of a quantitative trait in humans: height)

The majority of traits in all organisms are quantitative traits. Quantitative traits are polygenic (many genes) traits which means that several or many pairs of ______ determine the outcome of the trait whereby Each gene adds a small amount to the value of the phenotype

Some human **polygenic** traits include: eye _____, skin _____

15. Solve pedigree analyses for autosomal and X-linked modes of inheritance.

Identify the following diseases based on its inheritance as recessive autosomal or dominant autosomal or recessive sex linked . Remember autosomes are body chromosomes but not sex chromosomes

Cystic fibrosis is (recessive autosomal / dominant autosomal / recessive sex linked) Huntington disease is (recessive autosomal / dominant autosomal / recessive sex linked) Sickle cell anemia is (recessive autosomal / dominant autosomal / recessive sex linked) Hemophilia is (recessive autosomal / dominant autosomal / recessive sex linked)

In pedigree analysis, an inherited trait is analyzed over the course of a few generations. A square represents a (male / female) and a circle represents a (male/female)

A pedigree analysis can be used to study human genetic diseases that follow simple Mendelian patterns.

Use the information given to you to determine the second allele for each person with the dominant phenotype. If you cannot determine it for sure, place a ? in the second spot. Example: F?

Specific plants are adapted to grow best at certain temperatures. When these temperatures are not those of their environment, the plants may not grow as tall or may not grow at all.

Complete this process until the entire pedigree is completed.



NamedateclassChapter 15:DNA and the Gene: Synthesis and Repair1.Explain and discuss the Hershey Chase Experiment .



- 6. Hershey and Chase used a unique approach to find out that it was DNA injected into the bacteria by the phage and DNA is the stuff of **genes**. They labeled proteins by making proteins with radioactive _______ since proteins are made of CHONS; and they labeled DNA by making DNA with radioactive _______ since DNA is made of CHONP. Then they used this as a way to determine whether the substance that went into the E coli was the protein or the DNA.
- 7. How big is a nm (nanometer) ?
- 8. The experimental results showed that the DNA of the virus had gone into the bacteria and the protein of the virus had stayed outside. This showed that the hereditary material was______ and not protein.

3. Distinguish between 3 alternative hypotheses about DNA replication and support semiconservative replication of DNA

Key: semicons	ervative	dispersive	conservative	replication
E coli	nitrogen	geno	me	neutron

is the process by which one DNA molecule serves as a template to make two identical DNA molecules. At one time, there were 3 hypotheses as to how replication of DNA took place: semiconservative replication; conservative replication; dispersive replication.

- 1. ______ replication: **parental** strands of DNA separate and both serve as templates for a new daughter strand. Each new daughter DNA molecule would consist of one old strand and one new strand.
- 2. ______ replication: The whole DNA molecule serve as a template for an entirely new DNA molecule.
- 3. ______ replication: stetches of old DNA would be dispersed with new DNA down the length of each daughter strand.

The Meselson-Stahl Experiment.

The model organism they used was the bacterium ______. Bacterial cells copy their entire DNA (______) before every cell division. To distinguish parental strands from daughter stands, they used isotopes of _______. The parental strands had ¹⁵N and the daughter strands had ¹⁴N. Because ¹⁵N contains an extra ______, it is heavier than the ${}^{14}N.$ normal isotope

They used **density gradient centrifugation** to separate molecules based on their _____. This would separate bands that were all ¹⁵N from bands that were hybrids of ${}^{15}N$ and ${}^{14}N$ from bands that were all ${}^{14}N$.

 What hypothesis was supported? ______

 After generation 1, the band indicated that both were ______

 Since the conservative replication hypothesis predicted 2

 bands, this one was rejected.

After generation 2, there were now 2 bands that indicated one group as hybrids and one group as all ¹⁴N

This result supported the semiconservative hypothesis and rejected the dispersive hypothesis.



4. Define DNA polymerases & discuss how they assist in DNA replication which is semiconservative. Replication proceeds in both directions from each origin of replication. Compare the leading strand to the lagging strand.

Key: covalent Replication	DNA lagging	polymerase 5'-3' leading	semiconservative forks
DNA		is an enzyme that catalyze	es the addition of nucleotides to build a chain of nucleotides. The nucleotides link
together by		bonds	
In order to replicat	e DNA, DNA p	olymerase is an enzyme	needed to add nucleotides to the growing strands of DNA.
DNA polymerases synthesis always	work only in or s proceeds in the	ne direction. They can add	deoxyribonucleotides only in the 3' end of a growing chain. As a result, DNAdirection
DNA replication is	s the process by	which two identical because each new DNA r	molecules are made. DNA replication is called nolecule is composed of one old strand and one new strand.
The origin of are many origin replication	s of replication	is a site within a chromos at the same time. An orig	some that serves as a starting point for DNA replication. In eukaryotic cells there gin of replication provides an opening called a replication bubble that forms two

The ______ daughter strand is made continuously. The ______ strand is made in fragments that then are sealed together.

5. Compare & contrast eukaryotic & prokaryotic DNA replication

Prokaryotes have a single circular chromosome that has **a** (**single / multiple**) origin of replication. **Eukayotes** have linear chromosomes with (**single / multiple**) origins of replication.

The prokaryotic cell replicates in two directions (bidirectional) from its single origin of replication .



Instructor: B. Hasek

GELO 3 and GELO 5:

Students were given a prompt and instructed to write an essay/complete a table in response.

PROMPT: You come home one day and find your cat had had massive diarrhea all over the house.

You first form the QUESTION Why does my cat have diarrhea?

Please complete the blanks below and use the scientific method to determine why your cat has diarrhea. Describe the scientific method actions/steps/procedures you conducted to answer the question. You have access to extra cats and all the facilities/equipment and money you may desire to determine why does your cat has diarrhea (in other words there are no limitations to your experimental setup). You may include diagrams, graphs, or a schematic.

QUESTION: Why does my cat have diarrhea?
OBSERVATIONS
HYPOTHESIS
NULL HYPOTHESIS
EXPERIMENTAL SETUP (TEST)
PREDICTIONS
RESULTS
CONCLUSION

BIOL 121 (1043) GELO 3 AND 5 ASSESSMENT TOOLS

BIOL 121 (1043) GELO 3 AND 5 ASSESSMENT TOOLS

Instructor: M. Hackney

Worksheet

Name _____ Date _____Class _____

CHAPTER 45: Circulation

45.8 Compare and contrast internal transport in animals with gastrovascular cavities, open circulatory systems, and closed circulatory systems. P 916-917 Analysis

Draw the gastrovascular cavity of a sea anemone within blood vessels generates high rate of blood flow			gastro refers (digestive / c vascular rej (digestive / c	to irculatory) function. ^{fers to} irculatory) function. o free around tissue		Use the following terms to complete this table: Comparison of Open and Closed circulatory systems Hemolymph blood
generate	s high rate of blood	l flow gene	rates low flow rate of h	emolymph		
human		insect				
mollusk	1	bird	C_1 1 \cdot 1 \cdot			
Open ci	rculatory system		Closea circulatory syst	em		
45.9 Ide	entify the parts of t	he mammalian ci	rculatory system and	the basic function of ear	ach. Compare the	structure and function of
different	types of blood vess	els, including arte	ries, arterioles, capillari	es, venules and veins.	P 917-919 Analy	sis
Key:	arteries art	erioles	capillaries	heart	blood	interstitial
blood	Lymph	lymphatic	-			
veins	venules	Platelets	red	white		
Cardiova	ascular system con	sists of :				
1	pum	ps blood through b	ody and causes blood	pressure		
2. B	clood vessels - trans	sport blood				
	a	larger blood v	vessels that carry blood	away from heart		
	b	smallest arter	ies that carry blood awa	y from heart		
						1.5

- c. _____ tiny blood vessels where exchange of substances occurs
- d. _____ tiny veins that carry blood back to heart
- e. _____larger blood vessels that carry blood back to the heart
- 3. ______- fluid contains dissolved substances, red & white blood cells, platelets
 - a. _____ blood cells (erythrocytes) carry oxygen and some carbon dioxide in blood
 - b. _____ blood cells (leukocytes) defend the body from invaders
 - c. _____ are fragments of cells used in blood clotting
 - d._____ is the liquid part of blood, 55% of blood: Plasma _ 91% is water, 2% is dissolved solutes (ions, nutrients, waste, gases, hormones, vitamins), 7% are proteins (globulins, albumin, fibrinogen)

The body's internal environment fluids include:

- a. _______ fluid or "tissue fluid- fills tissue spaces between cells
 b. _______ is a circulating fluid in blood vessels and heart
- c. ______ is a circulating fluid in lymph vessels that drain excess fluid and return it to blood. Lymph vessels, nodes and other organs form ______ system that helps defend the body.

Trace the path of blood starting with the heart and returning to the heart:

Key:	Venule	capilla	ries artery	y vein	arteriole	
Leaves h	neart to	to	to	to _	to	back to heart

The cardiovascular system is exchanging substances with what system?

Key: digestive	endocrine urinary	integumentary	respiratory
a	system : lungs ex	change gases	
b	system : small intestines abs	sorbs nutrients	
c	system : kidneys absorb me	tabolic wastes and balance	es water, salts
d	system : pancreas secre	tes insulin hormones into b	blood
e	system : skin mediates h	eat exchange from blood v	vessels



45.10 Discuss the influence of the following on the regulation of blood flow through capillary beds: blood pressure and osmotic pressure; precapillary sphincters; autonomic nervous system *Comprehension* P 918-919



2 forces control movement of fluid through capillary wall: blood pressure and osmotic pressure

- a. _____ pressure causes water to move from capillary to tissue fluid
- b. _____ pressure cause water to move back into capillary from tissue fluid

at venule end to return most water that diffused out. Excess is picked up by lymph vessels

Since blood vessels contain smooth muscles, they contract under the control of the ______ nervous system, which is responsible for such involuntary actions.

Solutes diffuse based on concentrations

Place the following in the proper column based on normal movements: oxygen carbon dioxide glucose Amino acids metabolic waste (ammonia)

Diffusion out of capillary	Diffusion into capillary

_sphincters control the flow of blood into capillaries.

45.11 Distinguish between pulmonary and systemic circulation and trace the evolution of the multichambered heart and multiple circulations in vertebrates. P 919- 921 Comprehension

Two separate pumping circuits include: **pulmonary** circulation and **systemic** circulation

1. _____ circulation is a lower pressure circuit to and from the lung

2. _____ circulation is a higher pressure circuit to and from rest of body

Complete the table that compares vertebrate circulatory systems among vertebrates

Fish	birds	mammals	amphibians	turtles/snakes	crocodiles
Type v	ertebrate circ	ulatory system	Vertebrate	s with this type	
1 circuit	2 chambere	d heart			
2 circuit	s 3 chamber	ed heart			
2 circuit	s 4 chamber	ed heart			
45.12 Des	cribe the stru	cture and function	on of the human	heart. P 919- 921	Comprehensi

Key :	valves	pericardi	ium	atria	septum	ventricles	right
left	right	left	atrioventricular		semilunar	cardiac	
Heart muscles	are called	musc	les.				

The ______ is a thick membranous sac that supports and protects heart

The ______ is a wall that divides heart into right and left sides. The heart is a double pump

4 heart chambers are:

1. _____chambers that receive blood back :

_____ atrium – receives blood back from body (deoxygenated blood)

	atrium – receives blood back from lungs (oxygenated)
2	chambers that pump blood out of heart:
	ventricle - pumps blood to lungs
	ventricle – pumps blood to whole body, strongest chamber
	prevent backflow of blood
1	(AV) valves (valves between atrium and ventricle)
2	valves – valves between ventricles and arteries leaving heart

Draw a simple diagram of a heart and label parts and use arrows to show flow.

45.13 Trace a drop of blood through the pulmonary and systemic circulations, naming in sequence each structure through which it passes. P 920-921 Analysis

1. superior vena cava and inferior vena cava carry oxygen poor blood to _____atrium

- 2. right atrium contracts blood flows through AV valve into right _____
- 3. right ventricle contracts sends blood through semilunar valve into pulmonary artery
- 4. 4 pulmonary veins return oxygen rich blood from the ______ to left atrium
- 5. left atrium contracts blood flows through AV valve into left _____
- 6. left ventricle contracts blood flows through semilunar valve into aorta
- 7. aorta sends blood to all parts of body as various arteries break away from aorta.

Place the correct terms in the correct circuit

Key : right side of heart pumps blood to and from all parts of body pulmonary veins	<i>left side of heart</i> <i>pumps blood to and from lungs</i>	pulmonary artery
aorta takes blood to whole body	vena cava bring blood to it	
Pulmonary circuit	Systemic circuit	
		-

45.14 Describe the events of the cardiac cycle, differentiate systole and disastole, and relate normal heart sounds to these events. Include heart conduction in the explanation. P 921-923 Analysis

KEY	:	medulla	oblongata	adrena	l medulla	electrocardiogram	systole	
	c	ardiac	di	iastole	pacemaker	atria	ventricles	
a	. Ca	rdiac Cycle: S	Systole and Dias	tole				
	1	•	working	phase contra	raction of ventricles			
	2	•	res	ting phase re	elaxation of ventricle	5		
b	. Int	ernal Control	of Heartbeat					
	_		SA	(sinoatrial n	ode) regulates heartbo	eatsignals contractio	n of	_
	A	V (atriovent	tricular) node) s	ignals contra	ction of			
c	. Ex	ternal Contro	l of Heartbeat					
	1	•		(brain stem) regulate	es heartbeat		
	0	•		(on kid	neys) release epineph	rine to stimulate heart		
d	. A	a record of the	e heartbeat is call	ed an		An EKG records e.	lectrical charges in I	myocardium during a
	C	arutac cycle						
Key: exch	re ang	spiratory es	pulse systolic	hyper	tension	valves sphygmoma	nometer	skeletal
exer	cise		•					
		or heart	rate is rhythmic	expansion and	d recoil of an arterial	wall as blood is pumpe	ed	
Α				measures b	lood pressure caused	by blood pressing agai	inst the wall of a blo	ood vessel.
Bloo	d pr	ressure of 120	/80 is an example	e of a normal	blood pressure. The	upper number (120) is	the	pressure and the lower
numł	ber ((80) is the dia	stolic pressure.					
			_ is high blood pro	essure. Syst	olic pressure should	not be 140 or higher a	and diastolic pressur	e should not be higher
than	90.							
Bloo	d pr	essure gradua	ally decreases as b	plood flows fr	rom aorta to artery to	arterioles to capillaries	8	
Bloo	d Fl	ow is slow in	the capillaries w	hich facilitate	es of s	ubstances		
			will increase b	lood pressure	2.			
Flow	of	blood in veins	s depends on:					
	1	•	muscl	e pump sl	keletal muscle contrac	ctions		
	2	•	pump	breathing	inhale chest expand	ls reduces pressure in t	horacic cavity so bl	ood flows from abdominal
	с	avity to thora	cic		~			
	3	•	in veins	s prevent bacl	xflow			

45.16 Discuss the following public health issues: hypertension, atherosclerosis, coronary artery disease, Myocardial infarction, aneurysm, thrombus, embolus, angina, stroke P 924 **Comprehension** Kev: embolus thrombus angina aneurysm stroke heart attack heart atherosclerosis hypertension 1. _____is high blood pressure "Silent Killer" 2. deposits of plaque consisting of fats, cholesterol, salts, bacteria collect below inner linings of arteries narrowing the channel 3. A stationary blood clot is a _____ 4. A moving blood clot is an _____ 5. _____ occurs when a part of brain dies due to burst arteriole in cranium or a blood clot 6 _____ portion of heart muscle dies due to a lack of oxygen possibly due to clot in **coronary** arteries which supply blood to the heart 7._____ pain in left arm due to partial blockage of coronary artery and temporary lack of oxygen to part of heart 8. - a ballooning of blood vessel which is so weak it can break

45.17 Explain blood typing and blood transfusions Review Application

A ______ transfusion is the transfer of blood from one individual into the blood of another . Blood typing is done to avoid transfusions that agglutinate or clump red blood cells. The most important typing involves: **ABO and Rh** blood groups.

Embedded in the plasma membrane of red blood cell are glycoproteins that

may be foreign antigens to others. ABO blood group has _____ and _____ type antigens.

Blood type	Type antigen	Will produce	Can safely receive
		antibodies	this blood type
А	А	Anti B	
В	В		B or O
0	none		Only O
AB	A and B	none	

What happens if a person with A blood type receives B blood?

What happens if a person with A blood type receives O blood ?

Rh blood groups are either ______ or _____. Most people are positive for Rh factor. If a mother is Rh negative and has a baby with Rh positive blood, she may make antibodies against Rh positive. What would happen if the mother has another baby with Rh positive blood? ______

What step is taken to prevent this from happening?

Instructor: L. YOUNGER

GELO 3: Students were directed to watch 7 short videos (totaling approximately 60 minutes) on plastics in the ocean that included Charles Moore on the seas of plastic, Boyan Slat on a method to clean up the oceans, California's ban on plastic bags (pro and con) and Sylvia Earl on how to protect the oceans. The videos introduced students to important facts about the changing oceans and plastic in the ocean. In addition, students were introduced to one scientific approach to cleaning up the plastic in the ocean.

Students were asked to write several well developed paragraphs discussing their opinions about the arguments presented in the videos and make their own argument for or against the use of plastic bags, the issue of plastic in the ocean and who should be involved in solving the issue. Students were asked to share their ideas for reducing plastics in the environment and cleaning up plastics in the ocean. They were asked to observe plastics in their own life and write about their observations.

GELO 5: Scientific Inquiry: Students were asked to analyze the filtering method to clean plastic from the oceans proposed by Boyan Slat. They were asked to review the project for scientific merit, taking into consideration initial cost, magnitude of the project, effectiveness and sustainability. In their writing, they demonstrated an ability to comprehend and apply the scientific method. About 15% of the students proposed a small scale scientific experiment to remove plastics from rivers and lakes.

The written paper was graded using a rubric that judged 1) critical thinking and the ability to make informed and logical judgments; 2) comprehension and application of the basic principles of scientific inquiry (observation) and 3) scientific literacy (ability to write a coherent and grammatically correct paper).

BIOL 210 (2104) GELO 3 AND 5 ASSESSMENT TOOLS

Instructor: A. Shahjahan

Experiment and Lab Report template

Students posed hypothesis to test the ubiquity of microorganisms based on observations. The students designed, conducted the experiment, collected data, analyzed, interpreted the results and discussed these.

Title: Ubiquity of microorganisms

Introduction: Objective(s): To find out if microbes are ubiquitous Hypothesis:

Prediction: Materials:

Method/Procedure:

Results: (data collection/presentation (table/graph), analysis, interpretation) **Conclusion(s)**

Table 1. Results of the isolation of microbes from different environments

Note: 20 Rows in the table were removed from this templateEnvironments used forGrowth(+/-)# of colonies/plate# of different types ofisolation of microbescolonies

• + indicates growth of microbes (isolated), - indicates no growth of microbes

Submitted by: ______ class BIOL 210 section_____

BIOL 241 (2413) GELO 3 AND 5 ASSESSMENT TOOLS

Exam # 1 BIOL 241 Instructions

On your Scantron form write your NAME – TEST BOOKLET # – CRN – DATE

Read each question carefully & select the best answer. Make a single mark per question & erase completely any additional marks. Do not write on the test booklet.

- 1. Marine science/oceanography draws on several disciplines & integrates the fields of
 - a. sociology, physics, biology, chemistry, engineering
 - b. geology, physics, biology, accounting, history
 - c. geology, physics, biology, chemistry, engineering
 - d. geology, business, biology, mass communications, engineering

2. What is not extraordinary about Earth?

- a. Earth's orbit is almost circular around a stable star
- b. Earth is just the right size, large enough for gravity to hold the atmosphere close
- c. Earth generates enough warmth to generate the raw materials of the atmosphere & ocean
- d. the distance from the Sun keeps Earth's water in vapor form only

- 3. The universe began with an event called the_____.
 - a. Starburst Cycle
 - b. Big Bang
 - c. Super Thrill
 - d. Big Blowup
- 4. Earth was formed of material originally made in _____.
 - a. blackholes
 - b. stars
 - c. Area 54
 - d. no one know where the materials of Earth came from
- 5. A(n) ______ is a test involving manipulations made on conditions of a particular observation.
 - a. hypothesis
 - b. experiment
 - c. theory
 - d. scientific method
- 6. A(n) _____ is an explanation that can be tested by additional observations or controlled experiments.
 - a. question
 - b. science
 - c. hypothesis
 - d. scientific method
- 7. What process involves the clumping of small particles into larger masses?
 - a. condensation
 - b. coagulation
 - c. secretion
 - d. accretion
- 8. What forms heavy elements such as gold, mercury, & uranium?
 - a. a protostar
 - b. condensation
 - c. a supernova

d. a solar nebula

- 9. How long ago did the Big Bang catalyze the beginning of the universe?
 - a. 13.7 billion years ago
 - b. 1.37 billion years ago
 - c. 4 billion years ago
 - d. 40 billion years ago

10. The result of ______ is evident in the formation of Earth's inner & outer core, mantle, & crust.

- a. biosynthesis
- b. outgassing
- c. density stratification
- d. supernova
- 11. The Polynesians voyaged in the Pacific Ocean.
 - a. True
 - b. False
- 12. The Greek Eratosthenes
 - a. was the first to calculate the circumference of the Earth.
 - b. invented the first version of longitude & latitude.
 - c. was the second librarian of the Library of Alexandria.
 - d. was all of the above.

13. Excepting the North American Indians, the first voyagers to discover North American were_____.

- a. the Vikings
- b. the Russians
- c. the Spanish
- d. the British
- 14. The _____ Expedition was the first to circumnavigate the world.
 - a. Cook
 - b. Magellan
 - c. Maury
 - d. Franklin
- 15. The United States Exploring expeditions goals included

- a. whale scouting, mineral gathering, charting, observing
- b. collection of scientific specimens & artifacts
- c. circumnavigation the world
- d. all of the above

16. What was the goal of the Chinese explorations?

- a. show the wealth of the Ming Dynasty
- b. display the powers of the Ming Dynasty
- c. distribute treasures
- d. all of the above

- 17. Benjamin Franklin charted the _____.
 - a. Caribbean Sea
 - b. Bering Sea
 - c. Gulf Stream
 - d. English Channel

18. What was not an invention rendered by the Chinese to facilitate their ocean voyages?

- a. central rudder system
- b. watertight compartments
- c. chronometer
- d. compass
- 19. Columbus docked/located ______ thinking he was in India.
 - a. New York
 - b. Plymouth Rock
 - c. Brazil
 - d. Caribbean islands

20. _____ was longest 19th century continuous scientific oceanographic expedition.

- a. The Challenger expedition
- b. The Fram expedition
- c. The Meteor expedition

- d. The Albatross expedition
- 21. Longitudinal lines run parallel to the equator.
 - a. True
 - b. False

22. Earth's interior is layered & the layers are arranged by _____.

- a. size
- b. shape
- c. color
- d. density

23. Wegner's evidence for continental drift did NOT include

- a. apparent fit of the shorelines of continents.
- b. alignment of mountain ranges on both sides of the Atlantic.
- c. magnetometer readings.
- d. fossilized remains of tropical plants found in Antarctica.
- 24. What keeps Earth's asthenosphere pliable (like pudding)?
 - a. energy from the Sun
 - b. the density of the asthenosphere
 - c. the internal heat of Earth's core
 - d. the insulation of the lithosphere

25. The interior layers of the Earth consist of the

- a. rind, mantle, outer core, inner core
- b. crust, mantle, peeled core, inner core
- c. crust, rock face, outer core, inner core
- d. crust, mantle, outer core, inner core
- 26. What characteristic process/event is associated with convergent plate boundaries?
 - a. new crust formation
 - b. solidification of crust materials
 - c. earthquakes
 - d. spreading zones

27. What is the densest type of crust?

- a. basalt
- b. continental crust
- c. granite
- d. none of the above

28. The study of _____ provided evidence for the interior layering of the Earth.

- a. earthquakes
- b. ice formation
- c. space dust
- d. mountain formation
- 29. The sustained heat within the Earth's interior is attributed to
 - a. radioactive decay
 - b. conduction
 - c. convection
 - d. isostatic equilibrium

30. What type of plate boundary would continental volcanoes, i.e. Cascade Mountains, in the western United States be associated with?

- a. divergent plate boundaries
- b. convergent plate boundaries
- c. transform plate boundaries
- d. all of the above

31. What is the name given to Earth's cool, rigid outer layer based on physical properties?

- a. asthenosphere
- b. core
- c. lithosphere
- d. troposphere
- 32. The Mid-Atlantic Ridge is an example of a _____ plate boundary.
 - a. divergent
 - b. transverse
 - c. convergent
 - d. radical

33. The Pacific Plate & the North American Plate have a _____ boundary.

- a. divergent
- b. transverse
- c. convergent
- d. radical
- 34. The submerged outer edge of a continent is called a(n) ______.
 - a. continental shelf
 - b. continental divide
 - c. active margin
 - d. continental rise
- 35. Where does most of the sediment on the continental shelf come from?
 - a. volcanoes
 - b. sediments transported in rivers
 - c. accumulations from natural dams
 - d. new crust formation
- 36. The sediment particle size of gravel is larger than mud.
 - a. true
 - b. false
- 37. Marine sediments may be classified by their origin. The sediment types are
 - a. gravel, sand, & mud.
 - b. terrigenous, biogenous, hydrogenous, & cosmogenous.
 - c. boulder, cobble, & pebble.
 - d. sand, terrigneous, silt, biogenous, & clay.
- 38. What is the main source of terrigenous sediments to the ocean floor?
 - a. volcanic eruptions
 - b. rivers
 - c. dust and ash
 - d. none of above

- 39. What organism is likely to be found in siliceous ooze?
 - a. foraminifera
 - b. coccolithophore
 - c. radiolarian
 - d. pteropod

40. How old is the oldest oceanic crust?

- a. 5 billion years
- b. 1 billion years
- c. 180 millions years
- d. 6,000 years



- 41. What process is pictured in the cartoon above?
 - a. sea-floor spreading
 - b. isostatic equilibrium
 - c. subduction
 - d. radioactive decay



- 42. What type of plate boundary is pictured in the cartoon above?
 - a. convergent plate boundary
 - b. transform plate boundary
 - c. divergent plate boundary
 - d. blue plate boundary



43. The White Cliffs of Dover are made of

- a. lithified whale bones
- b. lithified chalk
- c. lithified radiolarians
- d. lithified coccolithophores
- 44. Analysis of marine sediments reveals the _____ of an area.
 - a. history
 - b. sociology
 - c. psychology
 - d. economics
- 45. A(n) _____ is a very large column of superheated mantle.
 - a. volcano
 - b. plume
 - c. asthenosphere
 - d. Ridge

CHEM 101 (1123) GELO 3 AND 5 ASSESSMENT TOOLS

All Instructors used two multiple choice questions from final exam. GELO 3 $\,$

- 3. Which would not be a chemical process?
 - (a) Gasoline evaporating from a container
 - (c) rusting of an iron nail

(b) Milk spoiling (d) bleaching of hair

GELO 5

1. A form of matter is isolated and tested. No physical procedures can produce simpler forms of matter but heating the sample produces mercury and oxygen. The sample of matter must be:

CHEM 102 (1133) GELO 3 AND 5 ASSESSMENT TOOLS

All Instructors used an open-response quiz.

GELO 3

In the hit TV series "Breaking Bad", the main characters of the film often used hydrofluoric acid to dissolve dead bodies, metals, and other things they did not want anyone to find. Hydrofluoric acid is a very corrosive acid, yet it is not considered a strong acid. Explain.

GELO 5

Often when making homemade ice cream, it is advisable to use rock salt. Why?

Date:

ENSC 201 (1113) GELO 3 ASSESSMENT TOOL Name:

BRCC-ENVS 201

Dr. S. Guzman

Activity: Human Population Growth 15 pts (to be earned before/during class)

Refer to textbook Ch 8 for background information. Answer questions in back or a separate page if needed. Complete all questions and bring them to class with you. Before coming to class also review the questions in the HPG ICA document so you can be ready to contribute to the discussion of questions in small groups. Participation in group discussion is necessary in order to obtain full credit for each question discussed. Access: http://www.census.gov/

I. Observe the "Population clock" (scroll down, find counter on bottom left corner). Fill the information in the table below for time 1. Then, when you are done with the other activities below, come back to the clock (refresh the screen) and write down the information for time 2.

	United States	World
1:		
2:		

(At home) Did the numbers changed T1 vs T2?

II. Age Structure:

Select PEOPLE (1st tab on top). Choose POPULATION PROJECTIONS (2nd choice in 3rd column when you click on People). Choose LATEST RELEASES- 2012 NATIONAL PROJECTIONS-(middle series).

Read the press release and **click on the graphs (this will make them bigger)**. Take a close look at the graph, pay attention to the different **age groups and** how these relate to each other. They result in a certain **shape of the graph**. The shape of the graph is affected by the structure of the population, that is, how many individuals are in pre-reproductive age, reproductive age, and post-reproductive age (*read textbook for more info on this*). Look at the overall **size** of the population (width of the graph).

Compare their patterns.

1. Look at the width of the x-axis. What can you say about the expected population growth in the US in the next ca. 50 yrs?

- 2. How old would you be in year 2060? How do you think you could be impacted by the population growth then? Consider the different "layers" of the graph (the population structure, pre-reproductive...etc. Then, think about how different aspects related to "quality of life" (i.e. where you live, job availability, health & hospitals, other community services, schools, traffic, pollution etc.) may be positively and/or negatively affected.
- 3. In your book the population growth for China, Mexico, India, Nigeria, and Europe is discussed. Go back to the original tab of PEOPLE (top of page) and choose INTERNATIONAL DATA BASE (middle column towards the bottom).

From "Select report" Choose – POULATION PYRAMID GRAPH (last one). Then, select **any country of your interest**. In AGGREGATION OPTIONS choose the first one (Individual region). Select year (start with 2012) and SUBMIT (bottom). After you obtain this graph, go back and take a look at the graphs for 2035 and 2060. Sketching the shape of graph in a piece of paper is good enough to help you in the discussion. No need to print. Pay attention to shape, width, age categories for pre-reproductive, reproductive, post-reproductive, seniors

A) How do these graphs contrast among them? And between the country of your interest and the US?

- 4. Read your textbook. What do you think about effectiveness of governmental policies on population growth? Give examples.
- 5. Do you think the US should have governmental suggested policies regarding reproduction? Replacement reproduction? Could this have an impact on immigration? Some people argue the new government medical plan help addresses the issue of overpopulation indirectly. How? What do you think? Make a critical comment about the possibility of making RF mandatory in the US (consider pros & cons).

Hum	nan	Population	Growth - Ir	n class discussi	on	Date _	
_							

Facilitator: _____

Group members: ___

Use the space below and the back of the sheet to answer the following group questions:

I. How the population numbers compare to other group members that completed the homework before /after you did?

II. Revisit individual responses to Item #2 in the homework. Discuss with your group:

Does your group considers any of the factors that affect the quality of life to be most important or most at risk with the expected changes in the population? List and explain why.

II.a. Which countries were selected by the classmates in your group? (list)

b. How the graphs compare? (check/share)

c. State here 2-3 things the group considers is an important comparison among the graphs of the countries selected.

d. Go back to your individual homework and state one thing you learned from the country another classmate in this group chose.

IV.. If you were given the task of creating legislation to either control population growth or encourage replacement fertility, what policies will this group be willing to include? Why? What could be some "pros" and "cons" about this measure?

VI. 6. Human Population Growth is considered one of the most important, if not "THE" most important issue our society needs to deal with in the 21st century. Some consider that it is the root of all other environmental problems we currently face.

a. What are your group's thoughts about this statement?

b. Do you think this activity help you become aware (or increase your awareness) of the importance of the issue of human population growth?

PHSC 101 (1023) GELO 3 ASSESSMENT TOOL

Physical Science 101 Final Exam for 2015:

For the following questions (a.) circle the correct answer's letter next to the questions number then transfer the answer to your Scantron; (b.) in your Blue Book please show how to calculate the answer or (c.) show the answer by a drawing with an explanation: (Bracket Your Calculated Answers.)

1. My favorite Color's Wavelength: a. 415 nm b. 600 nm c. 435 nm d. 450 nm e. 750 nm 2. Property of Visible Light: a. Refraction b. Transmission c. Reflection d. Absorption e. All Above 3._ Bernoulli's Principle is based on: a. Confined fluids b. Flowing fluids c. Swirling fluids 4. Absolute Zero = a. 0 K b. 32 degrees F c. -273 K d. 0 C 5. Momentum = a. (M) (A) b. ½ (M) (Vel.²) c. (M) (Velocity) d. Friction 6. Heat Transfer in a Conduction oven: a. Touch b. Gas/Liquid c. Turbulence d. Radiation 7. Newton's 3rd Law = a, F = (M) (A) b. Equal/Opposite Forces c. Acceleration d. Inertia 8. Bouyancy = a. Mass/Volume b. (M) (Vel.) c. F = (M) (A) d. Force = Weight Water Displaced 9. Visible Light's Longest Wavelength Color = a. Red b. Indigo c. IR d. Violet Melting starts: a. Liquid (-) Heat b. Gas (-) Heat c. Solid (+) Heat d. Solid (-) Heat 10. Heat = a. Pressure b. Potential Energy c. Internal Energy d. 1st Law Thermodynamics 11. What infrared and UV light have in common? a. safe b. hazards c. invisible d. nothing 12. Inertia = a. Newton's 1st Law b. Newton's 2nd Law c. (F) (D) d. (M) (A) 13. Write 1,600,000.00 in Scientific Notation. 14. Fast Flow creates: a. Lift b. Smooth Flow c. High Pressure d. Low Pressure 15. Low Frequency to High Frequency, Light Colors: a. Orange/Yellow/Blue b. Violet/green/Blue c. Yellow/Orange/Red d. Blue/Green/Yellow 16. Define or write Ohm's Law = (a.) I = (R) (V) (b.) R = I/R (c.) R = V/I (d.) $R_1 + R_2 + R_3$ 17. As Frequency gets lower, Wavelength gets Shorter: a. T b. F 18. Hydraulic Lift: a. Bernoulli Principle b. Newton's 2nd Law c. Pascal's Law d. Newton's 3rd Law 19. Wavelength is from Wave Peak to Peak? a. T b. F 20. Pascal Triangle contains: a. F = (P) (A) b. P = (F) (A) c. F = P/A d. None of above 21. Pascal Triangle contains: a. P = F/A b. F = P/A c. P = A/F d. P = (F)(A)22. Pascal's Law concerns: a. Flowing Fluids b. Confined Fluids c. Lift d. None of above 23. Resistance for a Parallel Circuit: a, $R_1 + R_2 + R_3$ b, $1/R_1 + 1/R_2 + 1/R_3$ c. None above 24. Current is a flow of: a. + particles b. - particles c. neutral particles d. all the above 25. Formula for Coloumb's Law : a. $F = K (q+)(q-)/d^2$ b. F = (q+)(q-)/d c. d. $F = C (m)(M)/d^2$ 26. Ohms measure: a. Current b. Resistance c. Voltage d. not given 27. Current is measured in : a. Amperes b. Volts c. Ohms d. not given 28. Electrical Potential Energy measured in: a. Ohms b. Volts c. Amps d. Electrons

29. What Place is the Precision of the Number 1050 ? a. 1s b. 10s c. 100s d. 1000s

Use your Blue Book for the Remainder of Work!

30. Give the Recycle # for PVC; and two uses.

- 31. Give the Recycle # for LDPE, Low density polyethylene and the two major uses:
- 32. Heat Transfer by radiation: a. Fluids b. Touch c. Waves d. none of the above
- 33. Types of Energy: a. Motion b. Potential c. Electrical d. Chemical e. (all the above)
- 34. 150002 has how many Significant Figures? a. 3 b. 5 c. 7 d. 2
- 35. Convert: (4 meters to cms.; when 1 meter = 100 cms.) a. 0.400 b. 400 c. 25 d. 2.5 cms.
- 36. At Standard Temperature (T₁); a Volume of Gas is 10 Liters but at -20 degrees Celsius (T₂). What would the New Volume (V₂) be?
- 37. Calculate Pressure, P, on a diver below 60 ft. of Water. D_w = 62.4 lbs./1ft³?
- 38. Why is Voltage Increased using a Step Up Transformer before wire/cables are used to carry electrical current over long distances?
- 39. Draw and Explain a Generator's Parts and how those part's functions to form electrical Energyl
- 40. Draw a Step Down Transformer indicating how it works.
- 41. Explain how Heat is transferred from a Hot Object to a Cold Object in Space?
- 42. List the three Laws of Thermodynamics:
- 43. List the 1st, 2nd & 3rd Laws of Newton on Motion!
- 44. Volts measures Electrical _____?
- 45. Calculate: the Work done lifting a 50 kg. bag of grain and carrying it 100 meters.
- 47. Draw the Magnetic Field around two bar magnets showing an attraction between opposite charges.

48. Draw a Rainbow indicating the colors most humans can see and those colors Wavelengths.

Formulas and Data: $Q_f = (m) (C_f)$ and $C_f = 80$ calories/g for Ice ; $V_1/T_1 = V_2/T_2$; $P = (H) (D_w)$ and $D_w = 62.4$ lbs./cubic ft. ; Mom. = (M) (Vel.) ; W = (F) (D) ; Work = (F) (D); Power = Work/Time ; Kelvin = Degrees C + 273 ; Standard Temperature = 273 K ; Standard Pressure = 760 Torr

PHSC 102 (1033) GELO 3 AND GELO 5 ASSESSMENT TOOLS

Exam #1.

The instructor interpreted the number of students who have correct responses had exceeded expectations and the students who had incorrect answers had failed to meet expectations.

GELO 3: Classify the following changes as physical or chemical. Wood burns to ashes; water begins to boil; grass grows; a rock is crushed to powder.

- A) chemical; physical; chemical; chemical
- B) chemical; physical; physical; physical
- C) physical; physical; chemical; physical
- D) chemical; physical; chemical; physical

GELO 5: Which of the following boxes represents a compound?



A) only AB) only BC) only CD) both A and C

NOTE: PHYS 201 (2113), PHYS 202 (2123) and PHYS 222 (2143) – Instructor was unable to provide samples (files were corrupted), GELO 3 and GELO 5. **NOTE:** PHYS 110 (1103), PHYS 200 (1013), PHYS 221 (2133), and PHYS 223 (2153)– Provided as a separate PDF file.

RNRE 101 (1013) GELO 6 ASSESSMENT TOOL

Note: For this course, similar projects (same instructions) were used to assess GELO 5, 6 and 9.

RNRE 101 Course project

Maximum total points: 100

DUE DATE: 04/07/16 at noon. 20% off per day it is late with no exceptions.

TOPIC:

* Your choice selected from the syllabus-approved topics. T&E species must be approved by instructor. Any additional topics not listed in the syllabus must be approved by the instructor.

* You must address multiple chapter-level learning outcomes (i.e., course-relevant material) with your chosen topic.

MINIMUM REQUIREMENTS:

*Two (2) or more relevant images for your topic. The images must not be superfluous. Include informative captions. *Not a requirement for a paper*

*Format can be up to two pages (i.e., can be front and back of one page) in a poster, bi- fold, or multi- fold format.

*Text must be interesting, factual, informative, convincing, and grammatically correct.

*800+ words of descriptive text (specifically for a paper vs. a brochure or poster presentation). (Word count excludes references, your name, the title, etc.)

*Two (2) peer-reviewed scientific citations (see JSTOR). Use in-text citations followed by a literature cited section. The literature cited section does not count towards the word limit, and it may be on a separate page.

Syllabus approved topics:

- 1. The causes, consequences, and fallacies of global warming.
- 2. Ecological impacts of exotic species invasions
- 3. An endangered species (pick one must be approved by the instructor no later than 03/15/16), why it is endangered, and what we can do about it?
- 4. The causes and effects of human population growth
- 5. The causes and impacts of desertification
- 6. The future of worldwide water resources
- 7. Rangeland management in the US
- 8. The history, current status, and future of tropical rain forests
- 9. The status of neotropical migrant birds: U.S.-Mexico-South America

- 10. Environmental Pros and Cons associated with recycling in America
- 11. Environmental Pros and Cons associated with "green energy" in America
- 12. Other selected topics approved in advance by the instructor. (No other topic approved after 03/15/16)

EXAMPLE:

"Many goose populations in the northern hemi-sphere have shown rapid growth in recent years, particularly in the 1980s and 1990s (Ankney 1996)."

A rubric was used to evaluate students work.

Appendix H

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Business, Social Sciences, and History

Department: Social Sciences and History

GELO Outcome 2	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	CJUS 101	17%	27%	56%	52
	HIST 101	21%	48%	31%	251
	HIST 102	17%	47%	36%	197
	HIST 200	5%	37%	58%	19
	HIST 201	24%	52%	24%	168
	HIST 202	16%	42%	42%	139

GELO Outcome 3	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	HIST 200	14%	59%	32%	22
	PSYC 201	15%	38%	47%	594
	POLI 251	21%	22%	57%	125

GELO Outcome 5	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	PSYC 201	16%	35%	49%	843

GELO Outcome 6	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	SOCL 200	15%	28%	57%	307
GELO Outcome 7	Course	Does Not Meet	Meets	Exceeds	Total Assessments

HIST 101	14%	27%	58%	159
HIST 102	11%	31%	58%	92
SOCL 200	11%	36%	53%	305
SOCL 203	27%	56%	17%	133
SOCL 205	10%	40%	50%	20

GELO Outcome 9	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	CJUS 101	28%	47%	25%	93
	SOCL 203	21%	59%	20%	123
	SOCL 205	0%	30%	70%	20

GELO Outcome 10	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	HIST 201	15%	12%	73%	343
	HIST 202	21%	16%	63%	172
	POLI 211	14%	5%	81%	21

Assessments tools: Describe strategies faculty used to assess how well students achieved this outcome. Provide evidence from each course.

GELO Outcome 2	Course	Assessment Tools	Example
	CJUS 101	Writing Assignment	Write a two-page paper
			comparing and contrasting
			the Uniform Crime Report,
			National Incident Based
			Reporting, and National
			Crime Victimization Survey,
			summarizing each,
			describing how each
			system is used, and the
			effectiveness of each system.
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	HIST 101	Writing assignment	Students researched and read a primary source document on Medieval History from an Internet primary source website using Fordham University's Medieval Sourcebook webpage; students also completed a research paper in which they comprehended the topic that they read over the
	HIST 102	Reading Assignments	semester Online assignments in which the students had to read various sources including primary and secondary dealing with history from 1500 to the present.
	HIST 200	Writing Assignments	A research paper that called on the students to use secondary and primary sources in order to write about a historical figure or event.
	HIST 201	Writing Assignments	Students received a Primary Source Project assignment for which they had to locate primary sources related to the Missouri Compromise of 1820 and

		make an argument as to what the implication the document could have had on the westward expansion of the U.S. or on Congressional oversight of slavery from 1920-1865. Student writing was evaluated using a rubric and they also orally discussed their findings and ideas with each other.
HIST 202	Writing Assignment	Essay on post- Reconstruction race relations in the South.

GELO Outcome 3	Course	Assessment Tools	Example
	HIST 200	Writing Assignments	A research paper that called on the students to use secondary and primary sources in order to write about a historical figure or event.
	PSYC 201	Multiple Choice Questions; Evaluation of a sample paragraph	As discussed in class, identify what type of language is being used in the following headlines: Headline #1: "Eating chocolate will make you smarter."

		Headline #2: "Having large feet is linked to better reading ability." a. #1: Correlational language; #2: Cause-effect language b. #1: Cause-effect language; #2: Correlational language c. both are correlational language d. both are cause-effect language
POLI 251	Multiple Choice Questions	To further explore the reasons or causes for why some political outcomes take place and others do not regarding the accomplishment of the president's legislative agenda, we often test competing theories. In exploring the presidency, we studied two competing theories of which may explain differences in how presidents accomplish their agenda. a. Congressional weakness/fully b. Political socialization/partially

	c. Presidential Power/partially
	d. Public Opinion/fully

GELO Outcome 5	Course	Assessment Tools	Example
	PSYC 201	Multiple Choice Questions	Which of the following
			methods is the only way to
			determine cause and
			effect?
			a. Survey method
			b. An experiment
			c. Correlational
			research
			d. Naturalistic
			observation

GELO Outcome 6	Course	Assessment Tools	Example
	SOCL 200	Multiple Choice Questions	All of the following are
			considered good sources
			to use in conducting
			research on a presentation
			topic EXCEPT:
			a. Sociology or other
			Social Science Journal
			articles
			b. News articles from
			national and local
			newspapers
			c. Governmental
			websites
			d. Reference or
			textbooks

	e.	Commercial websites
	used	for advertisements

GELO Outcome 7	Course		
	HIST 101		Students researched and read a primary source document on Medieval History from an Internet primary source website using Fordham University's Medieval Sourcebook webpage; students also completed a research paper in which they comprehended the topic
	HIST 102	Written Assignments, Quizzes	Various online assignments in which the student had to read various sources including primary and secondary dealing with history from 1500 to the present.
	SOCL 200	Multiple Choice/T-F Questions	True/False: According to sociologists, we can facilitate social interaction within a culturally diverse society by supporting the belief that cultures that are different from our own should be viewed and analyzed by THEIR own cultural standards(cultural relativism) rather than

		judging them based on OUR own cultural standards and assuming our culture is superior to all others
SOCL 203	Multiple Choice Questions	Questions focused particularly on their knowledge of the past and present treatment of varying racial groups throughout the world and in the United States and how they are related.
SOCL 205	Multiple choice/T-F Assessment Questions	Students were given an assessment exam which consisted of close-ended questions which delved straight to the different aspects of social responsibility and comprehensive knowledge of each student enrolled in the class.

GELO Outcome 9	Course	Assessment Tools	Example
	CJUS 101	Writing Assignment	Analyze the criminal justice
			concept of formal and
			informal social control and
			how their norms and values
			impact informal social
			control in their

		communities. Use readings
		from the text and other law
		related research
		sources. Students also
		discussed various aspects
		of the concept from public
		order, personal
		responsibility and
		professional integrity by
		members of the criminal
		justice system.
SOCL 203	Group Assignment	Students worked in groups
		on an assignment on the
		effects of racism and
		discrimination at different
		societal levels. They were
		required to research both
		individual and institutional
		racism as it exists in
		educational systems;
		workplace environments;
		and in everyday life. They
		were then required to
		develop a potential
		solution to those issues
		through the development
		of a seminar for
		administrators, educators or
		students.
SOCL 205	Multiple choice/T-F Assessment Exam	Students were given an
		assessment exam which
		consisted of close-ended
		questions which delved

	straight to the different
	aspects of social
	responsibility and
	comprehensive knowledge
	of each student.

GELO Outcome 10	Course	Assessment Tools	Example
	HIST 201	Writing Assignments	Students received a
			Primary Source Project
			assignment for which they
			had to locate primary
			sources related to the
			Missouri Compromise of
			1820 and make an
			argument as to what the
			implication the document
			could have had on the
			westward expansion of the
			U.S. or on Congressional
			oversignt of slavery from
			1920-1865. Student writing
			rubric and they also orally
			discussed their findings and
			ideas with each other
	HIST 202	Written Assignments, guizzes	Finding primary sources
			relating to Reconstruction
			and re-admitting states to
			the Union, interpreting
			primary sources related to
			the establishment of Jim
			Crow laws, lynching and
			the establishment of

		extralegal organizations (e.g. the NAACP), voting rights, role-playing a key figure from the civil rights debates, assessing various presidents' constitutional justifications for wartime activities (e.g. Palmer Raids, Alien and Sedition Acts during WWI), and assessing the various supreme court decisions (e.g. 1954 Brown v Board of Ed.).
POLI 211	Multiple Choice Questions	The Clear and Present Danger Test argues that words spoken may "create a clear and present danger that they will bring about substantive evils." Furthermore, Congress has a right to prevent such dangers However, what is the difficulty with such a test? 1. The linkage between words, intent, and action 2. Mere membership in a political party was anti- American. 3. The person who was speaking the words.

	4. The arena in which the
	words were spoken.

Summary of data analysis:

Overall, 84% of students within the Department of Social Sciences and History assessed during Cycle 3 either met or exceeded expectations for the pertinent General Education Learning Outcomes. Almost half of the Departments' students (48%) exceeded expectations. Furthermore, no single course within the department had less than 72% meets/exceeds expectations.

With regards to specific, relevant GELOs, 83% of students met or exceeded expectations for GELOs 2 and 3; 84% of students met or exceeded expectations for GELO 5; 85% met or exceeded expectation for GELO 6; 85% of students met or exceeded expectations for GELO 7; 84% of students met or exceeded expectations for GELO 9; and 83% of students met or exceeded expectations for GELO 10.

Summary of redesign: actions taken in any of the following by the faculty of the department

- 1. Assessment Methodology
 - a. The Department discussed the pros and cons of utilizing a "standardized" GELO assessment tool per course, similar to what is used for Course Level Learning Outcomes, rather than faculty who teach the same course using a variety of assessments strategies. Faculty discussed the importance of using the same process or method for assessing a specific GELO (eg, use of objective exam questions, written assignments, etc.), but the specific content may vary and all agreed that is acceptable. The Department agreed that no change in assessment methodology is warranted at this time.
- 2. <u>Learning Outcomes</u>
 - a. The Department agrees that the General Education learning outcomes do not need to be revised at this time.
- 3. Course Delivery
 - a. The Department agrees that, based on the data, there is no compelling reason to make any changes with course delivery.
- 4. Course Content

- a. The Department agrees that, based on the data, there is no compelling reason to make any changes with course content.
- 5. <u>Department/Program</u>
 - a. No redesign of department or programs are deemed necessary at this time.

Appendix I

General Education Summary Form Assessment and Improvement Plan Cycle 3 (SP15, FA15, and SP16)

Division: Business, Social Sciences, and History

Department: Business

GELO Outcome 3	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ECON 201	37%	52%	11%	122
	ECON 202	20%	34%	45%	137
	ECON 203	42%	45%	13%	117

GELO Outcome 4	Course	Does Not Meet	Meets	Exceeds	Total Assessments
	ECON 201	32%	51%	17%	253
	ECON 202	21%	44%	35%	185
	ECON 203	30%	60%	10%	318

Assessments tools: Describe strategies faculty used to assess how well students achieved this outcome. Provide evidence from each course. **Response:** Faculty implemented a 10 question online quiz which assessed the general education learning outcomes in GELO 3 and GELO 4. A score of 10/10 or 9/10 was deemed to exceed expectations. A score of 8/10 or 7/10 was deemed to meet expectations. A score of 6/10 or below as deemed to fall below expectations. A different quiz was administered for each course.

Summary of analysis of data: Response: Data demonstrates that a majority of students in the referenced Econ courses met or exceed the expectations for critical thinking as outlined in GELO 3 and GELO 4.

Summary of redesign: actions taken in any of the following by the faculty of the department

- 1. assessments methodology
- 2. learning outcomes
- 3. course delivery
- 4. course content
- 5. department/program

Response: Assessment of GELO 3 indicates that 63% (Econ 201), 79% (Econ 202), and 58% (Econ 203) of students met the goal for each of the courses referenced. Per the teaching experiences of our Economics professors, students that do not perform well in Econ 201 do not typically move on to Econ 202, therefore the 79% performance level for Econ 202 is representative of students who were stronger performers and successfully completed Econ 201. Additionally, students who take Econ 201 and Econ 202, do not take Econ 203. Therefore students taking Econ 203 (our construction management and business non-transfer students) are being exposed to Economic principles for the first time as well. GELO 3 measures critical and independent thinking. First year students are advised to take Econ 201 or Econ 203 depending up on their majors. The results show that students likely need additional time to develop this skillset and that student assignments in Econ 201 and Econ 203 should focus more on critical thinking. Faculty feel that course redesign should be addressed at the course learning outcome level. Learning outcome assessments for each of the referenced courses are performed annually at the departmental level. The assessment of GELO 4 indicates that 68% (Econ 201), 79% (Econ 202) and 70% (Econ 203) of students are meeting this goal. Therefore faculty feel that this outcome was met at an acceptable level, and faculty will continue to assess the need for course redesign at the departmental level.

Appendix J

				SPRIN	G 2015 GEI	N ED OUTC	OME 1				
								Fails to MeMeets	;	Exceeds r	1
20263 EN GL	L 10	1 Englisi	h Composi	Richard	Long	English	ENGL	4	0	16	20
20270 EN GL	L 10	1 Englis	h Composi	James	Harris	English	ENGL	2	8	7	17
20391 EN GL	L 10	1 Englis	h Composi	Eric	Elliott	English	ENGL	5	10	1	16
20507 EN GL	L 10	1 Englis	h Comp I (I	Paul	McKeough	English	ENGL	1	4	2	e
20271 EN GL	L 10	1 Englis	h Composi	Carrie	Causey	English	ENGL	2	16	2	20
20247 EN GL	L 10	1 Englis	h Composi	Lucas	Gassen	English	ENGL	4	9	4	17
20298 EN GL	L 10	1 Englisi	h Composi	Summer	Doucet	English	ENGL	3	9	0	12
21161 ENGL	L 10	1 Englis	h Composi	Summer	Doucet	English	ENGL	1	13	2	16
20305 EN GL	L 10	1 Englisi	h Composi	Shelisa	Theus	English	ENGL	1	14	1	16
20338 EN GL	L 10	1 Englis	h Composi	Eric	Elliott	English	ENGL	5	8	0	13
20301 EN GL	L 10	1 Englis	h Composi	Eric	Elliott	English	ENGL	5	10	2	17
20312 ENGL	L 10	1 Englisi	h Composi	Brodrick	Hampton	English	ENGL	11	5	0	16
20332 EN GL	L 10)1 Englisi	h Composi	Lucas	Gassen	English	ENGL	1	11	3	15
20329 EN GL	L 10)1 Englisi	h Composi	Lucas	Gassen	English	ENGL	3	7	9	19
20335 EN GL	L 10	1 Englisi	h Composi	Mary	McKeoug	English	ENGL	2	9	5	16
21168 EN GL	L 10)1 Englisi	h Comp I (I	Kathleen	Schexnay	der English	ENGL	1	5	1	7
20306 EN GL	L 10)1 Englisi	h Composi	Eric	Elliott Eng	lish	ENGL	5	8	3	16
20303 EN GL	L 10)1 Englisi	h Composi	Summer	Doucet En	glish	ENGL	2	9	1	15
20398 EN GL	L 10)1 Englisi	h Composi	Kathleen	Schexnay	der English	ENGL	3	1	3	7
20318 EN GL	L 10)1 Englisi	h Composi	Lucas	Gassen Er	nglish	ENGL	4	11	5	20
20308 EN GL	L 10)1 Englisi	h Composi	Mary	McKeough	n English	ENGL	1	11	5	17
20314 EN GL	L 10)1 Englisi	h Composi	Mary	McKeoug	n English	ENGL	2	7	4	13
20310 EN GL	L 10)1 Englisi	h Composi	Steven	Keeton Er	nglish	ENGL	3	5	2	7
20331 EN GL	L 10	1 Englisi	h Composi	Jaimie	Stallone E	nglish	ENGL	0	9	4	13
20333 EN GL	L 10	1 Englisi	h Composi	Jame s	Harris Eng	lish	ENGL	0	5	8	13
20265 EN GL	L 10	1 Englis	h Composi	Joshua	Gremillio	n English	ENGL	2	3	3	8
20325 EN GL	L 10	1 Englisi	h Composi	Wendy	Hellinger	English	ENGL	3	11	1	15
20326 EN GL	L 10	1 Englisi	h Composi	Jaimie	Stallone E	inglish	ENGL	4	4	6	14
20258 EN GL	L 10)1 Englisi	h Composi	Jaimie	Stallone	English	ENGL	4	6	6	16
20399 EN GL	L 10	1 Englisi	h Composi	Akosua	Gyimah	English	ENGL	0	11	2	13
20254 EN GL	L 10)1 Englisi	h Composi	Donna	Porche	English	ENGL	2	6	0	8
20320 EN GL	L 10)1 Englisi	h Composi	Wendy	Hellinger	English	ENGL	1	15	0	16
20249 EN GL	L 10)1 Englisi	h Composi	Donna	Porche	English	ENGL	0	3	3	e
20244 EN GL	L 10)1 Englisi	h Composi	Jaimie	Stallone	English	ENGL	1	4	3	8
20321 EN GL	L 10)1 Englisi	h Composi	Brodrick	Hampton	English	ENGL	7	7	0	14
20250 EN GL	L 10)1 Englisi	h Composi	Jaimie	Stallone	English	ENGL	4	6	5	15
20256 EN GL	L 10)1 Englisi	h Composi	Jaimie	Stallone	English	ENGL	2	9	3	14
20246 EN GL	L 10)1 Englisi	h Composi	Je an	Credit	English	ENGL	2	5	4	11
20327 ENGL	L 10)1 Englisi	h Comp I (:	Carrie	Causey	English	ENGL	3	15	3	21
20404 EN GL	L 10)1 Englisi	h Comp I (I	3RCC Onlir	Credit	English	ENGL	3	5	2	10
20402 EN GL	L 10	1 Englis	h Comp I (I	3RCC Onlin	Schexnav	der English	ENGL	2	3	4	G
20403 EN GL	L 10	1 Englisi	h Comp I (I	3RCC Onlin	Credit	English	ENGL	3	2	0	5
		0				J	total	114	319	135	567
								20% 5	56%	24%	

21172 ENGL	102 English Comp II (Laura	Fallon	English	ENGL	2	3	1	6
20162 ENGL	102 English Comp II (Christoph	Krejci	English	ENGL	0	5	0	5
20165 ENGL	102 English Comp II (James	Harris	English	ENGL	6	18	1	25
20166 ENGL	102 English Comp II (Joshua	Gremillio	English	ENGL	6	7	2	15
20167 ENGL	102 English Comp II (Christoph	Krejci	English	ENGL	0	4	1	5
20213 ENGL	102 English Composi Lester	Bourg	English	ENGL	2	14	5	21
20189 ENGL	102 English Composi Sydney	Varnado	English	ENGL	0	12	4	16
20185 ENGL	102 English Composi Steven	Keeton	English	ENGL	3	6	2	11
20219 ENGL	102 English Composi Jennifer	Linscott	English	ENGL	3	9	5	17
20200 ENGL	102 English Composi Clarence	Nero	English	ENGL	2	4	5	11
20148 ENGL	102 English Comp II Sydney	Varnado	English	ENGL	4	7	3	14
20222 ENGL	102 English Composi Jennifer	Linscott	English	ENGL	3	12	5	20
20152 ENGL	102 English Comp II Sydney	Varnado	English	ENGL	0	3	4	7
20186 ENGL	102 English Composi Sydney	Varnado	English	ENGL	2	6	7	15
20223 ENGL	102 English Composi Benjamir	Lowenkro	English	ENGL	4	11	9	24
20149 ENGL	102 English Comp II Steven	Keeton	English	ENGL	2	5	3	10
20150 EN GL	102 English Comp II Akosua	Gyimah	English	ENGL	0	16	1	17
20208 ENGL	102 English Composi Mark	Redmond	English	ENGL	10	3	2	15
20220 ENGL	102 English Composi Steven	Keeton	English	ENGL	8	4	5	17
20405 ENGL	102 English Composi Keith	McClure	English	ENGL	2	4	5	11
20188 ENGL	102 English Composi Keith	McClure	English	ENGL	1	9	3	13
20146 ENGL	102 English Comp II (Wendy	Hellinger	English	ENGL	1	3	3	7
21209 ENGL	102 English Composi Akosua	Gyimah	English	ENGL	1	14	3	18
20177 ENGL	102 English Composi Mark	Redmond	English	ENGL	7	3	2	12
20196 ENGL	102 English Composi Mary	McKeoug	English	ENGL	3	4	5	12
20221 ENGL	102 English Composi Summer	Doucet	English	ENGL	3	10	1	14
20190 ENGL	102 English Composi Shelisa	Theus	English	ENGL	0	15	0	15
20215 ENGL	102 English Comp II Sydney	Varnado	English	ENGL	0	9	7	16
20407 ENGL	102 English Composi James	Harris	English	ENGL	2	6	5	13
20406 ENGL	102 English Composi Richard	Long	English	ENGL	0	13	8	21
20147 ENGL	102 English Comp II Jennifer	Linscott	English	ENGL	7	6	3	16
20181 ENGL	102 English Composi Jennifer	Linscott	English	ENGL	3	10	5	18
20191 ENGL	102 English Composi Akosua	Gyimah	English	ENGL	0	12	6	18
20514 ENGL	102 English Composi Richard	Long	English	ENGL	4	11	5	20
20154 ENGL	102 English Comp II Sydney	Varnado	English	ENGL	0	7	9	16
21164 ENGL	102 English Composi Keith	McClure	English	ENGL	6	7	1	14
20210 ENGL	102 English Composi Lester	Bourg	English	ENGL	2	9	3	14
20151 ENGL	102 English Comp II Clarence	Nero	English	ENGL	2	10	6	18
20217 ENGL	102 English Composi Lester	Bourg	English	ENGL	0	17	2	19
20206 ENGL	102 English Composi Shelisa	Theus	English	ENGL	2	19	1	22
20211 ENGL	102 English Composi Steven	Keeton	English	ENGL	4	4	2	10
20193 ENGL	102 English Composi Benjamir	Lowenkro	English	ENGL	4	14	6	24
20669 ENGL	102 English Composi Benjamir	Lowenkro	English	ENGL	7	10	7	24
20516 ENGL	102 Eng Comp II (2nc Benjamir	Lowenkro	English	ENGL	4	11	7	22
20160 ENGL	102 English Comp II (BRCC Onl	Dorhauer	English	ENGL	4	7	5	16
20159 ENGL	102 English Comp II (BRCC Onl	Dorhauer	English	ENGL	5	6	10	21
20156 ENGL	102 English Comp II (BRCC Onl	Dorhauer	English	ENGL	4	6	4	14
20408 ENGL	102 English Comp II (BRCC Onl	Long	English	ENGL	4	6	10	20
				total	139	411	199	749
					18%	55%	27%	

20886 SPC	CH	101 Funda	amentals of	f Speech	Danielle	Vignes	Arts & Hur	0	11	6	17
20878 SPC	CH	101 Funda	amentals of	f Speech	Mollye	Deloach	Arts & Hur	3	16	3	22
20876 SPC	CH	101 Funda	amentals of	f Speech	Mollye	Deloach	Arts & Hur	5	11	4	20
20871 SPC	CH	101 Funda	amentals of	f Speech	Mollye	Deloach	Arts & Hur	4	7	5	16
20885 SPC	CH	101 Funda	mentals of	f Speech	Danielle	Vignes	Arts & Hur	3	10	7	20
							total	15	55	25	95
								16%	58%	26%	
20864 SPC	CH	101 Funda	amentals of	f Speech	Amy	Atchley	Arts & Hur	1	4	12	17
20866 SPC	CH	101 Funda	amentals of	f Speech	Amy	Atchley	Arts & Hur	0	3	13	16
20862 SPC	CH	101 Funda	ementals of	f Speech	Amy	Atchley	Arts & Hur	1	7	5	13
20883 SP	СН	101 Funda	ementals of	f Speech	Danielle	Vignes	Arts & Hur	1	9	10	20
20884 SP	СН	101 Funda	mentals o	f Speech	Danielle	Vignes	Arts & Hur	1	9	8	18
							total	4	32	48	84
								5%	38%	57%	
20887 SPC	CH	120 Techn	iques of Sp	beech	Shawndee	Fluker	Arts & Hur	3	8	4	15
20899 SPC	CH	120 Techn	iques of Sp	beech	Gary	Reeves	Arts & Hur	3	10	3	16
20894 SPC	CH	120 Techn	iques of Sp	beech	Gary	Reeves	Arts & Hur	3	9	4	16
20888 SPC	CH	120 Techn	iques of Sp	beech	David	Руе	Arts & Hur	1	7	3	11
20890 SPC	CH	120 Techn	iques of Sp	beech	David	Руе	Arts & Hur	1	12	1	14
20926 SPC	CH	120 Tech o	of Speech (TB)	Mollye	Deloach	Arts & Hur	2	5	9	16
20898 SPC	CH	120 Techn	iques of Sp	beech	Gary	Reeves	Arts & Hur	0	9	9	18
20895 SPC	CH	120 Tech o	of Speech (TB)	Gary	Reeves	Arts & Hur	2	10	5	17
20889 SPC	CH	120 Tech o	of Speech (TB)	David	Руе	Arts & Hur	2	5	8	15
20892 SP	СН	120 Tech o	of Speech (TB)	Gary	Reeves	Arts & Hur	3	7	7	17
20893 SP	СН	120 Techn	iques of Sp	beech	Gary	Reeves	Arts & Hur	1	11	7	19
20896 SPC	CH	120 Tech o	of Speech (TB)	Gary	Reeves	Arts & Hur	1	10	7	18
20918 SPC	CH	210 Interp	ersonal Co	mmunicat	tionMollye	Deloach	Arts & Hur	5	5	1	11
20919 SPC	CH	210 Interp	ersonal Co	mmunicat	tionMollye	Deloach	Arts & Hur	0	12	6	18
20915 SPC	CH	210 Interp	ersonal Co	mmunicat	tionAmy	Atchley	Arts & Hur	0	10	4	14
20916 SPC	CH	210 Interp	ersonal Co	mmunicat	tionAmy	Atchley	Arts & Hur	0	16	5	21
							total	27	146	83	256
								11%	57%	32%	

	SPRING 2015 GEN ED OUTCOME 3										
CRN Course	TITLE	FIRST_NA	ME LAST_N	DEPT		Fails to Mee	Meets	Exceeeds	n		
20670 BIOL	101 General Biolo	Laura	Laynes	Science	BIOL	0	6	2	8		
20671 BIOL	101 General Biolo	Theresa	Toulmon	Science	BIOL	6	17	5	28		
20672 BIOL	101 General Biolo	Clarence	Elkins	Science	BIOL	6	19	6	31		
20673 BIOL	101 General Biolo	Denise	D'Abundo	Science	BIOL	15	17	2	34		
20674 BIOL	101 General Biolo	Denise	D'Abundo	Science	BIOL	14	10	1	25		
20677 BIOL	101 General Biolo	Laura	Laynes	Science	BIOL	3	6	3	12		
20676 BIOL	101 General Biolo	Joy	Davis	Science	BIOL	9	10	5	24		
20678 BIOL	101 General Biolo	Theresa	Toulmon	Science	BIOL	4	10	4	18		
20675 BIOL	101 General Biolo	Gabriel	Aluko	Science	BIOL	8	8	11	27		
20679 BIOL	101 General Biolo	Clarence	Elkins	Science	BIOL	4	16	4	24		
20680 BIOL	101 General Biolo	Gabriel	Aluko	Science	BIOL	5	2	19	26		
20682 BIOL	101 General Biolo	Sherry	Melancon	Science	BIOL	6	10	7	23		
20683 BIOL	101 General Biolo	Denise	D'Abundo	Science	BIOL	11	10	3	24		
20681 BIOL	101 General Biolo	Gabriel	Aluko	Science	BIOL	4	3	21	28		
20684 BIOL	101 General Biolo	AKM	Shahjahar	Science	BIOL	5	12	19	36		
20687 BIOL	101 General Biolo	Denise	D'Abundo	Science	BIOL	10	6	3	19		
20686 BIOL	101 General Biolo	Denise	D'Abundo	Science	BIOL	12	8	2	22		
20688 BIOL	101 General Biolo	Laura	Laynes	Science	BIOL	2	10	3	15		
					total	124	180	120	424		
						29%	43%	28%			
21278 BIOL	102 General Biolo	Mary	Miller	Science	BIOL	0	0	14	14		
20696 BIOL	102 General Biolo	Derek	Cole	Science	BIOL	6	19	0	25		
21237 BIOL	102 General Biolo	Eileen	Shieber	Science	BIOL	8	17	5	30		
21255 BIOL	102 General Biolo	Derek	Cole	Science	BIOL	2	7	0	9		
20697 BIOL	102 General Biolo	AKM	Shahjahar	Science	BIOL	6	9	12	27		
20698 BIOL	102 General Biolo	Gabriel	Aluko	Science	BIOL	8	5	15	28		
20699 BIOL	102 General Biolo	AKM	Shahjahar	Science	BIOL	5	7	8	20		
20701 BIOL	102 General Biolo	Gabriel	Aluko	Science	BIOL	6	3	21	30		
					total	41	67	75	183		
						22%	37%	41%			

21010 BIOL	120 Biol I Sci Maj	Sandra	Guzman	Science	BIOL	3	3	2	8
21233 BIOL	120 Biology I Sci N	Barbara	Hasek	Science	BIOL	13	4	6	23
21008 BIOL	120 Biology I Sci N	Derek	Cole	Science	BIOL	3	13	0	16
21011 BIOL	120 Biology I Sci N	James	Garton	Science	BIOL	1	3	4	8
21012 BIOL	120 Biology I Sci N	James	Garton	Science	BIOL	0	3	4	7
21014 BIOL	120 Biology I Sci N	Sandra	Guzman	Science	BIOL	7	9	6	22
21016 BIOL	120 Biology I Sci N	Sandra	Guzman	Science	BIOL	3	10	0	13
21018 BIOL	120 Biology I Sci N	James	Garton	Science	BIOL	3	3	6	12
21019 BIOL	120 Biology I Sci N	Barbara	Hasek	Science	BIOL	15	3	7	25
21017 BIOL	120 Biology I Sci N	Derek	Cole	Science	BIOL	5	10	0	15
21020 BIOL	120 Biology I Sci N	James	Garton	Science	BIOL	0	3	7	10
21021 BIOL	120 Biology I Sci N	Marcella	Hackney	Science	BIOL	7	7	11	25
					total	60	71	53	184
						32%	39%	29%	
21040 BIOL	210 General Micro	AKM	Shahjahar	Science	BIOL	2	3	9	14
21041 BIOL	210 General Micro	AKM	Shahjahar	Science	BIOL	2	3	7	12
21042 BIOL	210 General Micro	Clarence	Elkins	Science	BIOL	0	8	2	10
21043 BIOL	210 Gen Microbio	logy (Hybr	Miller	Science	BIOL	1	5	12	18
					total	5	19	30	54
						9%	35%	56%	
21058 BIOL	241 Intro to Ocean	Barbara	Hasek	Science	BIOL	5	20	0	25
						20%	80%	0%	
21062 CHEM	101 Chemistry I So	Anthony	Zeh-Youe	Science	CHEM	8	10	0	18
	, ,	, ,		. ·	0.1514				25
21063 CHEM	101 Chemistry I So	Divina	Miranda	Science	CHEM	3	1	21	25
21066 CHEM	101 Chemistry I So	Divina	Miranda	Science	CHEM	4	8	16	28
21061 CHEM	101 Chemistry I So	Anthony	Zeh-Youe	Science	CHEM	12	20	0	32
21067 CHEM	101 Chemistry I So	Divina	Miranda	Science	CHEM	5	6	14	25
21068 CHEM	101 Chem I Sci Ma	j (BRCC	Logan	Science	CHEM	5	2	3	10
					total	37	47	54	138
						27%	34%	39%	

21092 CHEM	102 Chemistry II S	ci Major	Logan	Science	CHEM	11	2	6	19
21150 CHEM	102 Chemistry II S	ci Major	Miranda	Science	CHEM	2	3	30	35
21124 CHEM	102 Chemistry II S	ci Major	Logan	Science	CHEM	8	4	2	14
					total	21	9	38	68
						31%	13%	56%	
21107 ENSC	201 Environmenta	l Science	Guzman	Science	ENSC	4	11	14	29
						14%	38%	48%	
21231 PHSC	101 Physical Scier	Otto	Goins	Science	PHSC	1	25	7	33
21098 PHSC	101 Physical Scier	Otto	Goins	Science	PHSC	6	37	3	46
21100 PHSC	101 Physical Scier	Otto	Goins	Science	PHSC	2	29	5	36
21096 PHSC	101 Physical Scier	Otto	Goins	Science	PHSC	2	20	1	23
					total	11	111	16	138
						8%	80%	12%	
21115 PHSC	102 Physical Scier	Divina	Miranda	Science	PHSC	3	0	20	23
21116 PHSC	102 Phys Sci II (BR	Divina	Miranda	Science	PHSC	0	2	11	13
					total	3	2	31	36
						8%	5%	86%	
21118 PHYS	110Introduction t	Myungkee	Sung	Science	PHYS	6	7	4	17
						35%	41%	24%	
21119 PHYS	200 Intro to Conce	pts in	Sung	Science	PHYS	3	8	0	11
21120 PHYS	200 Intro to Conce	pts in	Sekharan	Science	PHYS	2	3	13	18
					total	5	11	13	29
						17%	38%	45%	
21123 PHYS	201 General Physi	Asoka	Sekharan	Science	PHYS	6	12	7	25
						24%	48%	28%	
21175 PHYS	202 General Physi	Asoka	Sekharan	Science	PHYS	0	2	7	9
						0%	22%	78%	
21136 PHYS	221 Engineering F	Myungkee	Sung	Science	PHYS	3	22	20	45
21137 PHYS	221 Engineering F	Myungkee	Sung	Science	PHYS	3	22	20	45
					total	6	44	40	90
						7%	49%	44%	
21138 PHYS	222 Engineering F	Asoka	Sekharan	Science	PHYS	2	7	2	11
						18%	64%	18%	
21139 PHYS	223 Engineering F	Myungkee	Sung	Science	PHYS	1	6	8	15
						7%	40%	53%	

20071 MATH	204 Elem Statistic	Robyn		Scalzo	Mathemat	7	8	3	18
20072 MATH	204 Elementary S	Robyn		Scalzo	Mathemat	5	16	8	29
20073 MATH	204 Elementary S	Sandra		Stokes	Mathemat	3	0	18	21
20074 MATH	204 Elementary S	tat (BRCC C	-	Scalzo	Mathemat	2	1	10	13
					total	17	25	39	81
						21%	31%	48%	
20012 MATH	210 Calculus I	William		Forrest	Mathemat	4	3	10	17
20015 MATH	210 Calculus I	Vickie		Flanders	Mathemat	14	14	6	34
20014 MATH	210 Calculus I	Patricia		Van Brunt	Mathemat	5	4	16	25
					total	23	21	32	76
						30%	28%	42%	
20016 MATH	211 Calculus II	Troy		Bryant	Mathemat	4	8	17	29
20017 MATH	211 Calculus II	William		Forrest	Mathemat	8	0	10	18
					total	12	8	27	47
						27%	17%	57%	
20018 MATH	212 Multidimens	onal Calcu	Flanders		Mathemat	5	10	7	22
						23%	45%	32%	
20092 ENICI	211 Introduction	lica Knott			English	Э	10	1	22
20083 ENGL	211 Introduction		.5	Noro	English	3	19	1	23
20084 EINGL	211 Introduction	Loppifor		Lipscott	English	2	10	6	24
20079 EINGL	ZIIIIIIIOduction	Jennier		LIIISCOLL	total	о О	54		27
					total	11%	72%	16%	74
						11/0	1370	1070	
20091 ENGL	215 Introduction	to Drama 8	PoetMan	McKeougl	English	1	20	5	26
20051 ENGL	Zishitoduction		er oc tiviar j	, wieke ougi	English	4%	77%	19%	20
								12770	
21162 ENGI	220 Major British	Keith		McClure	English	3	8	2	13
					28	23%	62%	15%	
21157 ENGL	221 Major Americ	Summer		Doucet	English	0	11	6	17
20082 ENGL	221 Major Americ	Sarah		Little	English	2	14	2	18
21227 ENGL	221 Major Americ	Natalie		Smith	English	2	9	2	13
					total	4	34	10	48
						8%	71%	21%	
20089 ENGL	223 African-Amer	Shelisa		Theus	English	2	15	1	18
						11%	83%	6%	
20078 ENGL	230 Introduction	l Steven		Keeton	English	4	10	8	22
						18%	45%	36%	
20813 FILM	200 Introduction	to Cinema	StudieStev	Mitchell	Arts & Hur	6	5	4	15
20817 FILM	200 Introduction	to Cinema	StudieDav	iSedevie	Arts & Hur	7	14	10	31
20818 FILM	200 Introduction	to Cinema	StudieDav	iSedevie	Arts & Hur	6	16	5	27
					total	19	35	19	73
						26%	48%	26%	
						_			
20092 PHIL	203 Introduction	to Logic Va	lerie	Holliday	English	0	15	12	27
				1		0%	56%	44%	

20535 HIST	200 History Roman Republic/EmpiTode	Dozier		3	12	7	22
				14%	59%	32%	
20562 PSYC	201 Introd Thomas	D	Domangue	9	28	24	61
20558 PSYC	201 Introd Thomas	D	Domangue	7	28	21	56
20941 PSYC	201 Introd Stephanie		Martin	6	17	20	43
20938 PSYC	201 Introd Bridget	Sonnier-H	illis Social	17	49	0	66
20931 PSYC	201 Introd Bridget	Sonnier-H	illis Social	15	35	0	50
20929 PSYC	201 Introd Jennifer	Knapp	Social Sci	2	7	39	48
20928 PSYC	201 Introd Jennifer	Knapp	Social Sci	3	7	28	38
20927 PSYC	201 Introd Jennifer	Knapp	Social Sci	3	4	27	34
20943 PSYC	201 Introduction to Psychology Stepha	nie	Martin	5	7	20	32
20811 PSYC	201 Introduction to Psychology Eric	١	Whitfield	0	5	15	20
20942 PSYC	201 Introduction to Psychology Stepha	nie	Martin	2	10	18	30
20559 PSYC	201 Intro to Psyc (BRCC Online) Thomas	s D	Domangue	3	4	8	15
20560 PSYC	201 Intro to Psyc (BRCC Online) Thomas	s D	Domangue	3	5	9	17
20561 PSYC	201 Intro to Psyc (BRCC Online) Thomas	s D)omangue	0	5	7	12
21277 PSYC	201 Intro to Psyc(2nd 7 online) lennife	-r	Knann	9	7	4	20
20083 PSVC	201 Intro to Psyc (DE-BBCC Online Jennie	ifor	Knapp	2	, 1	16	20
20981 PSVC	201 Intro to Psyc (BECC Online) lennife	or incl	Knapp	2	0	13	15
20001151C	201 Intro Psyc(BRCC Onl/1st 7 wks Julia	+	Тоо	2	6	15	15
20990F31C	201 Intro Psycharce Only 1st 7 Wksjulle		total	2	220	276	504
			total	90 4E0/	220	270	594
				15%	38%	4/%	
20442 ECON	201 Principles of Macroaconomics Nich	2	Arockar	11	c	2	10
20445 ECON	201 Principles of Macroaconomics Tulin		Koray	11	16	2	20
20449 ECON	201 Principles of Macroeconomics Nich	1	Arockar	0	01	4	20
20440 ECON	201 Principles of Macroeconomics Nish	a	Aroskar		8	2	1/
20503 ECON	201 Principles of Macroeconomics Nish	a	Aroskar	6	4	2	12
20501 ECON	201 Principles of Macroeconomics Nish	а	Aroskar	9	5	2	16
21220 ECON	201 Prin of Macro (BRCC Online) Janet		Daniel	12	26	0	38
			total	45	64	13	122
				37%	52%	11%	
20435 ECON	202 Principles of Microeconomics Mich	nael	Buckner	2	6	24	32
20436 ECON	202 Principles of Microeconomics Mich	nael	Buckner	3	3	15	21
20434 ECON	202 Principles of Microeconomics Mich	nael	Buckner	4	3	23	30
20447 ECON	202 Prin of Microecon(BRCC OnlinJane	t	Daniel	19	35	0	54
			total	28	47	62	137
				20%	34%	45%	
20444 ECON	203 Economic Principles Nisha		Aroskar	8	5	7	20
20445 ECON	203 Economic Principles Janet		Daniel	19	35	0	54
20439 ECON	203 Econ Principles (BRCC Online) Mich	nael	Buckner	11	7	1	19
20437 ECON	203 Econ Principles (BRCC Online) Mich	nael	Buckner	11	6	7	24
			total	49	53	15	117
				42%	45%	13%	

						Fails to M	Meets	Exceeds	n
20670 BIO	L 101 Gener	Laura	Laynes	Science	BIOL	0	6	5 2	8
20671 BIO	L 101 Gener	Theresa	Toulmon	Science	BIOL	6	17	7 5	28
20672 BIO	L 101 Gener	Clarence	Elkins	Science	BIOL	6	19) 6	31
20673 BIO	L 101 Gener	Denise	D'Abundo	Science	BIOL	14	21	L 0	35
20674 BIO	L 101 Gener	Denise	D'Abundo	Science	BIOL	10	12	2 0	22
20677 BIO	L 101 Gener	Laura	Laynes	Science	BIOL	3	6	5 3	12
20676 BIO	L 101 Gener	Joy	Davis	Science	BIOL	9	10) 5	24
20678 BIO	L 101 Gener	Theresa	Toulmon	Science	BIOL	4	10) 4	18
20675 BIO	L 101 Gener	Gabriel	Aluko	Science	BIOL	8	2	1 6	18
20679 BIO	L 101 Gener	Clarence	Elkins	Science	BIOL	4	16	5 4	24
20680 BIO	L 101 Gener	Gabriel	Aluko	Science	BIOL	13	2	2 6	21
20682 BIO	L 101 Gener	Sherry	Melancon	Science	BIOL	6	10) 7	23
20683 BIO	L 101 Gener	Denise	D'Abundo	Science	BIOL	8	19) 0	27
20681 BIO	L 101 Gener	Gabriel	Aluko	Science	BIOL	4	2	2 19	25
20684 BIO	L 101 Gener	AKM	Shahjahar	Science	BIOL	4	6	5 8	18
20687 BIO	L 101 Gener	al Biology	D'Abundo	Science	BIOL	11	14	t 0	25
20686 BIO	L 101 Gener	al Biology	D'Abundo	Science	BIOL	12	13	3 0	25
20688 BIO	L 101 Gener	al Biology	Laynes	Science	BIOL	2	10) 3	15
					total	124	197	7 78	399
						31%	49%	5 2 0%	
21278 BIO	L 102 Gener	al Biology	Miller	Science	BIOL	0	1	l 13	14
20696 BIO	L 102 Gener	al Biology	Cole	Science	BIOL	6	19) 0	25
21237 BIO	L 102 Gener	al Biology	Shieber	Science	BIOL	5	20) 5	30
21255 BIO	L 102 Gener	al Biology	Cole	Science	BIOL	2	7	7 O	9
20697 BIO	L 102 Gener	al Biology	Shahjahar	Science	BIOL	3	7	/ 11	21
20698 BIO	L 102 Gener	al Biology	Aluko	Science	BIOL	13	5	5 11	. 29
20699 BIO	L 102 Gener	al Biology	Shahjahar	Science	BIOL	2	9) 11	22
20701 BIO	L 102 Gener	al Biology	Aluko	Science	BIOL	11	3	3 16	30
					total	42	71	L 67	180
						23%	40%	37%	

21010 BIOL	120 Biol I S	ci Maj (Hy	Guzman	Science	BIOL	6	7	3	16
21233 BIOL	120 Biolog B	Barbara	Hasek	Science	BIOL	13	4	6	23
21008 BIOL	120 Biolog I	Derek	Cole	Science	BIOL	3	13	0	16
21011 BIOL	120 Biolog J	lames	Garton	Science	BIOL	1	3	4	8
21012 BIOL	120 Biolog J	lames	Garton	Science	BIOL	1	2	4	7
21014 BIO 120 Biolog	gy I Sci Maj S	Sandra	Guzman	Science	BIOL	10	17	0	27
21016 BIO 120 Biolog	gy I Sci Maj S	Sandra	Guzman	Science	BIOL	10	14	0	24
21018 BIOL	120 Biolog J	lames	Garton	Science	BIOL	2	3	7	12
21019 BIOL	120 Biolog B	Barbara	Hasek	Science	BIOL	15	3	7	25
21017 BIOL	120 Biolog I	Derek	Cole	Science	BIOL	5	10	0	15
21020 BIOL	120 Biolog J	lames	Garton	Science	BIOL	1	3	6	10
21021 BIOL	120 Biolog I	Marcella	Hackney	Science	BIOL	5	1	19	25
					total	72	80	56	208
						35%	38%	27%	
21033 BIOL	121 Biol II S	Sci Maj (Hy	Younger	Science	BIOL	2	0	18	20
21238 BIOL	121 Biology	/ II for Sci	Hackney	Science	BIOL	4	11	17	32
21032 BIOL	121 Biology	/ II Sci Maj	Hackney	Science	BIOL	9	6	8	23
					total	15	17	43	75
						20%	23%	57%	
21040 BIOL	210 Genera	al Microbi	Shahjahar	Science	BIOL	2	4	10	16
21041 BIOL	210 Genera	al Microbio	Shahjahar	Science	BIOL	3	6	5	14
21042 BIOL	210 Genera	al Microbi	Elkins	Science	BIOL	0	8	2	10
21043 BIOL	210 Gen Mi	crobiolog	Miller	Science	BIOL	1	9	8	18
					total	6	27	25	58
						10%	46%	44%	
21058 BIOI									
	241 Intro to	Oceanog	Hasek	Science	BIOL	12	11	2	25
	241 Intro to) Oceanog	Hasek	Science	BIOL	12 48%	11 44%	2 8%	25
	241 Intro to	o Oceanog	Hasek	Science	BIOL	12 48%	11 44%	2 8%	25
	241 Intro to) Oceanog	Hasek	Science	BIOL	12 48%	11 44%	2 8%	25
21062 CHEM	241 Intro to	o Oceanog Anthony	Hasek Zeh-Youe	Science	BIOL	12 48% 8	11 44% 10	2 8% 0	25
21062 CHEM 21063 CHEM	241 Intro to 101 Chem / 101 Chem I	o Oceanog Anthony Divina	Hasek Zeh-Youe Miranda	Science Science Science	BIOL CHEM CHEM	12 48% 8 2	11 44% 10 2	2 8% 0 21	25 18 25
21062 CHEM 21063 CHEM 21066 CHEM	241 Intro to 101 Chem I 101 Chem I 101 Chem I	o Oceanog Anthony Divina Divina	Hasek Zeh-Youe Miranda Miranda	Science Science Science Science	BIOL CHEM CHEM CHEM	12 48% 8 2 1	11 44% 10 2 10	2 8% 0 21 17	25 18 25 28
21062 CHEM 21063 CHEM 21066 CHEM 21061 CHEM	241 Intro to 101 Chem / 101 Chem I 101 Chem I 101 Chem /	o Oceanog Anthony Divina Divina Anthony	Hasek Zeh-Youe Miranda Miranda Zeh-Youe	Science Science Science Science Science	BIOL CHEM CHEM CHEM CHEM	12 48% 8 2 1 12	11 44% 10 2 10 20	2 8% 0 21 17 0	25 18 25 28 32
21062 CHEM 21063 CHEM 21066 CHEM 21061 CHEM 21067 CHEM	241 Intro to 101 Chem / 101 Chem / 101 Chem / 101 Chem / 101 Chem /	o Oceanog Anthony Divina Divina Anthony Divina	Hasek Zeh-Youe Miranda Miranda Zeh-Youe Miranda	Science Science Science Science Science Science	BIOL CHEM CHEM CHEM CHEM CHEM CHEM	12 48% 8 2 1 12 12	11 44% 10 2 10 20 3	2 8% 0 21 17 0 21	25 18 25 28 32 25
21062 CHEM 21063 CHEM 21066 CHEM 21061 CHEM 21067 CHEM 21068 CHEM	241 Intro to 101 Chem / 101 Chem / 101 Chem / 101 Chem / 101 Chem / 101 Chem /	o Oceanog Anthony Divina Divina Anthony Divina Sci Maj (E	Hasek Zeh-Youe Miranda Miranda Zeh-Youe Miranda Logan	Science Science Science Science Science Science Science	BIOL CHEM CHEM CHEM CHEM CHEM CHEM	12 48% 8 2 1 12 12 2	11 44% 10 2 10 20 3 1	2 8% 0 21 17 0 21 7	25 18 25 28 32 25 10
21062 CHEM 21063 CHEM 21066 CHEM 21061 CHEM 21067 CHEM 21068 CHEM	241 Intro to 101 Chem I 101 Chem I 101 Chem I 101 Chem I 101 Chem I 101 Chem I	o Oceanog Anthony Divina Divina Anthony Divina Sci Maj (E	Hasek Zeh-Youe Miranda Miranda Zeh-Youe Miranda Logan	Science Science Science Science Science Science	BIOL CHEM CHEM CHEM CHEM CHEM CHEM CHEM CHEM	12 48% 8 2 1 12 1 2 26	11 44% 10 2 10 20 3 1 46	2 8% 0 21 17 0 21 7 66	25 18 25 28 32 25 10 138

21092 CHEN	1 102 Chem	istry II Sci I	Logan	Science	CHEM	5	4	9	19
21150 CHEM	102 Chem	istry II Sci I	Miranda	Science	CHEM	2	4	29	35
21124 CHEM	102 Chem	istry II Sci I	Logan	Science	CHEM	3	1	10	14
					total	10	9	48	68
						15%	13%	71%	
21231 PHSC	101 Physic	SCIE	Otto	Goins	PHSC	5	21	7	33
21098 PHSC	101 Physic	SCIE	Otto	Goins	PHSC	6	37	7	50
21100 PHSC	101 Physic	SCIE	Otto	Goins	PHSC	4	27	6	37
21096 PHSC	101 Physic	SCIE	Otto	Goins	PHSC	4	18	3	25
					total	19	103	23	145
						13%	71%	16%	
21115 PH 102 PI	hysical Science	SCIE	Divina	Miranda	PHSC	5	1	19	25
21116 PH 102 PI	hys Sci II (BRCC	OnlinSCIE	Divina	Miranda	PHSC	0	1	12	13
					total	5	2	31	38
						13%	5%	82%	
21118 PH 110 In	troduction to I	Physics SCI I	Myungke	eSung	PHYS	10	6	1	17
						59%	35%	6%	
21119 PH 200 In	tro to Concept	s in PhSCIE	Myungke	eSung	PHYS	3	3	5	11
21120 PH 200 In	tro to Concept	s in PhSCIE	Asoka	Sekharan	PHYS	3	8	7	18
					total	6	11	12	29
						21%	38%	41%	

	FALL 2015 GEN ED OUTCOME 7 RMCODE INSTR_ID INSTR_FIRST INSTR_LAST CRN SUBJ CRSE# TITLE Fails to Meet Meets Exceeds n													
TERMCODE	INSTR_ID	INSTR_FIRST	INSTR_LAST	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n			
201610	L00040148	Cynthia	Giachetti	10408	ARTS	101	Introduction to Fine Arts	5	7	10	22			
201610	L00040148	Cynthia	Giachetti	10422	ARTS	101	Introduction to Fine Arts	19	37	10	66			
201610	L01329920	Christopher	Brumfield	11066	ARTS	101	Introduction to Fine Arts	7	19	6	32			
201610	L01329920	Christopher	Brumfield	10403	ARTS	101	Intro to Fine Arts (TB)	5	15	8	28			
201610	L01329920	Christopher	Brumfield	11067	ARTS	101	Introduction to Fine Arts	6	14	12	32			
							total	42	92	46	180			
								23%	51%	26%				
201610	L00040148	Cynthia	Giachetti	10474	ARTS	102	Non-Western Art	4	11	10	25			
								16%	44%	40%				
201610	L00040369	Asmani	Tchomba	10634	FREN	101	Elementary French I	0	1	21	22			
201610	L00040369	Asmani	Tchomba	10638	FREN	101	Elementary French I	1	0	20	21			
201610	L00040369	Asmani	Tchomba	10633	FREN	101	Elementary French I	0	0	27	27			
201610	L00040369	Asmani	Tchomba	10636	FREN	101	Elementary French I	0	1	11	12			
201610	L00040369	Asmani	Tchomba	11156	FREN	101	Elementary French I (DE)	0	0	28	28			
							total	1	2	107	110			
								1%	2%	97%				
201610	L00040369	Asmani	Tchomba	10646	FREN	102	Elementary French II	0	1	14	15			
								0%	7%	93%				
201610	L00040235	Amy	Atchley	10597	SPCH	210	Interpersonal Communication	10	20	0	30			
201610	L00040235	Amy	Atchley	10595	SPCH	210	Interpersonal Communication	10	20	0	30			
							total	20	40	0	60			
								33%	67%	0%				
201610	L01366204	Gregory	Leute	11154	THTR	100	Introduction to Theatre	9	3	11	23			
201610	L01366204	Gregory	Leute	10610	THTR	100	Intro to Theatre (2nd 7 Wks)	9	3	11	23			

201610	L01366204	Gregory	Leute	10607	THTR	100	Intro to Theatre (1st 7 Wks)	8	3	10	21
							total	26	9	32	67
								39%	13%	48%	
201610	L00040134	Akosua	Gyimah	10470	ENGL	210	Literature and Ethnicity	0	2	19	21
								0%	10%	90%	
201610	B00056131	Keith	McClure	10359	HUMN	275	The Heroic Journey:Class/Cont	1	6	0	7
								14%	86%	0%	
201610	L00040251	Daniel	Simon	10829	HIST	101	History Wo Civ I (TB)	1	4	30	36
201610	L00040251	Daniel	Simon	10824	HIST	101	Hist World Civ I (1st 7 Wks)	1	3	14	18
201610	L00800197	William	Bertolette	10912	HIST	101	History World Civilizations I	16	30	6	52
201610	L00040251	Daniel	Simon	10832	HIST	101	History World Civ I	1	4	19	24
201610	L00040251	Daniel	Simon	10835	HIST	101	History World Civilizations I	3	2	24	29
							total	22	43	93	159
								14%	27%	58%	
201610	L00040251	Daniel	Simon	10827	HIST	102	Hist World Civ II (2nd 7 Wks)	1	3	8	12
201610	L00040251	Daniel	Simon	11050	HIST	102	History World Civilizations II	0	3	18	21
201610	L00800197	William	Bertolette	10914	HIST	102	History World Civilizations II	6	13	1	20
201610	L00040251	Daniel	Simon	10834	HIST	102	History World Civilizations II	3	4	22	29
201610	N00024522	Todd	Dozier	10039	HIST	102	Hist World Civ II (BRCCOnline)	0	6	4	10
							total	10	29	53	92
								11%	31%	58%	
201610	N00024855	Claudia	Hall	10070	SOCL	200	Intro to Sociology (TB)	1	8	18	27
201610	L00040231	Lynda	Gaines	10060	SOCL	200	Introduction to Sociology	6	19	15	40
201610	L00040231	Lynda	Gaines	10059	SOCL	200	Introduction to Sociology	0	3	23	26
201610	L00040231	Lynda	Gaines	10063	SOCL	200	Introduction to Sociology	5	13	16	34
201610	N00024855	Claudia	Hall	10068	SOCL	200	Introduction to Sociology	2	4	22	28

201610	N00024855	Claudia	Hall	10066	SOCL	200	Introduction to Sociology	2	17	7	26
201610	L00040231	Lynda	Gaines	10062	SOCL	200	Introduction to Sociology	4	13	10	27
201610	L00040231	Lynda	Gaines	10065	SOCL	200	Introduction to Sociology	3	7	20	30
201610	L00040231	Lynda	Gaines	10061	SOCL	200	Introduction to Sociology	3	12	25	40
201610	L00040171	Erica	Burrell	10048	SOCL	200	Intro Sociology (BRCC Online)	7	13	7	27
							total	33	109	163	305
								11%	36%	53%	
201610	L00040171	Erica	Burrell	10051	SOCL	203	Race Relations	10	23	6	39
201610	L00040171	Erica	Burrell	10050	SOCL	203	Race Relations	9	19	2	30
201610	L00040171	Erica	Burrell	10052	SOCL	203	Race Relations	10	20	7	37
201610	L00040171	Erica	Burrell	10049	SOCL	203	Race Relations (BRCC Online)	7	13	7	27
							total	36	75	22	133
								27%	56%	17%	
201610	L00040231	Lynda	Gaines	10064	SOCL	205	Contemporary Social Problems	2	8	10	20
								10%	40%	50%	

	FALL 2015 GEN ED OUTCOME 8													
TERMCODE	INSTR_ID	INSTR_FIRST	INSTR_LAST	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n			
201610	L01366204	Gregory	Leute	11154	THTR	100	Introduction to Theatre	10	6	7	23			
201610	L01366204	Gregory	Leute	10610	THTR	100	Intro to Theatre (2nd 7 Wks)	10	6	7	23			
201610	L01366204	Gregory	Leute	10607	THTR	100	Intro to Theatre (1st 7 Wks)	10	6	5	21			
							total	30	18	19	67			
								45%	27%	28%				

				F	ALL 201	5 GEN ED	OUTCOME 9				
TERMCODE	INSTR_ID	INSTR_FIRST	INSTR_LAST	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n
201610	L01366204	Gregory	Leute	11154	THTR	100	Introduction to Theatre	10	6	7	23
201610	L01366204	Gregory	Leute	10610	THTR	100	Intro to Theatre (2nd 7 Wks)	10	6	7	23
201610	L01366204	Gregory	Leute	10607	THTR	100	Intro to Theatre (1st 7 Wks)	10	6	5	21
							total	30	18	19	67

								45%	27%	28%	
TERMCODE	INSTR_ID	INSTR_FIRST	INSTR_LAST	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n
201610	L01521512	Darren	Jones	11137	PHIL	201	Introduction to Philosophy	4	13	3	20
								20%	65%	15%	
201610	N00027806	Derek	Cole	10273	ENSC	201	Environmental Sci (2nd 7 Wks)	10	14	0	24
								42%	58%	0%	
201610	L00733028	Paul	Guidry	10339	CJUS	101	Intro to CJUS (1st 7 Wks)	5	12	6	23
201610	L00733028	Paul	Guidry	10341	CJUS	101	Intr to Criminal Justice	10	11	5	26
201610	L00733028	Paul	Guidry	10342	CJUS	101	Intr to Criminal Justice	6	9	11	26
201610	L00040008	Chandra	Joseph	10030	CJUS	101	Intr to CJUS (BRCC Online)	5	12	1	18
							total	26	44	23	93
								28%	47%	25%	
201610	L00040171	Erica	Burrell	10051	SOCL	203	Race Relations	6	20	7	33
201610	L00040171	Erica	Burrell	10050	SOCL	203	Race Relations	8	20	3	31
201610	L00040171	Erica	Burrell	10052	SOCL	203	Race Relations	7	22	6	35
201610	L00040171	Erica	Burrell	10049	SOCL	203	Race Relations (BRCC Online)	5	11	8	24
							total	26	73	24	123
								21%	59%	20%	
201610	L00040231	Lynda	Gaines	10064	SOCL	205	Contemporary Social Problems	0	6	14	20
								0%	30%	70%	

				FALL 2	2015 GE	N ED OUT	COMES 10				
TERMCODE	INSTR_ID	INSTR_FIRST	INSTR_LAST	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n
201610	N00027847	Nina	McCune	10812	HIST	201	U.S. History I	9	5	63	77
201610	N00027847	Nina	McCune	10811	HIST	201	U.S. Hist I (TB)	3	1	63	67
201610	N00027847	Nina	McCune	10809	HIST	201	U.S. His I (TB)	4	1	71	76

201610	L01423966	Dan	Frost	10053	HIST	201	U.S. History I	11	9	9	29
201610	L01423966	Dan	Frost	10055	HIST	201	U.S. History I	14	11	11	36
201610	L01423966	Dan	Frost	10054	HIST	201	U.S. History I	8	13	11	32
201610	N00027847	Nina	McCune	10806	HIST	201	U.S Hist I (BRCC Online)	1	2	23	26
							total	50	42	251	343
								15%	12%	73%	
201610	L01423966	Dan	Frost	10057	HIST	202	U.S. History II	16	12	20	48
201610	N00027847	Nina	McCune	10810	HIST	202	U.S. History II	10	4	25	39
201610	L01423966	Dan	Frost	10056	HIST	202	U.S. History II	7	8	14	29
201610	N00027847	Nina	McCune	10808	HIST	202	U.S. Hist II (BRCC Online)	4	2	20	26
201610	N00027847	Nina	McCune	10886	HIST	202	U.S. Hist II (BRCC Online)	0	1	29	30
							total	37	27	108	172
								21%	16%	63%	
201610	L01426726	Revathi	Hines	10805	POLI	211	Constitutional Law	3	1	17	21
								14%	5%	81%	

						SPRIM	NG 2016 GEN ED OUTCOME 2				
TERMCOD	INSTR_ID	INSTR_FI	RINSTR_LAS	CRN	SUBJ	CRSE#	TITLE	Fails to Meet	Meets	Exceeds	n
201620	L00733028	Paul	Guidry	20207	CJUS	101	Intro to CJUS (1st 7 Wks)	2	10	10	22
201620	L00733028	Paul	Guidry	20211	CJUS	101	Intro to CJUS	7	4	19	30
							total	9	14	29	52
								17%	27%	56%	
201620	L01536237	Lise	Namikas	20240	HIST	101	History World Civilizations I	23	35	9	67
201620	L01536237	Lise	Namikas	20232	HIST	101	History World Civilizations I	9	12	4	25
201620	L01536237	Lise	Namikas	20247	HIST	101	History World Civilizations I	5	20	8	33
201620	L00040251	Daniel	Simon	20234	HIST	101	Hist World Civ I (1st 7 Wks)	2	2	12	16
201620	L00800197	William	Bertolette	20584	HIST	101	History World Civilizations I	2	11	4	17
201620	L00040251	Daniel	Simon	20396	HIST	101	History World Civilizations I	3	14	16	33
201620	L00800197	William	Bertolette	20582	HIST	101	History World Civilizations I	0	3	1	4
201620	L00040251	Daniel	Simon	20449	HIST	101	History World Civilizations I	2	10	19	31
201620	L01356588	Craig	Saucier	20555	HIST	101	Hist World Civ I (Online)	3	7	3	13
201620	L01356588	Craig	Saucier	20554	HIST	101	Hist World Civ I (Online)	4	6	2	12
							total	53	120	78	251
								21%	48%	31%	
201620	L00040251	Daniel	Simon	20453	HIST	102	History World Civilizations II	1	12	17	30
201620	L00040251	Daniel	Simon	20399	HIST	102	History World Civilizations II	2	10	10	22
201620	L00040251	Daniel	Simon	20385	HIST	102	History World Civilizations II	1	15	9	25
201620	L00040251	Daniel	Simon	20235	HIST	102	Hist World Civ II (2nd 7 Wks)	3	4	12	19
201620	L01536237	Lise	Namikas	20393	HIST	102	History World Civilizations II	4	11	2	17
201620	L00800197	William	Bertolette	20583	HIST	102	History World Civilizations II	2	5	0	7
201620	N00024522	Todd	Dozier	20191	HIST	102	Hist World Civ II (Online)	4	6	1	11
201620	L01536237	Lise	Namikas	20546	HIST	102	Hist World Civ II (Online) DE	15	0	0	15
201620	L01356588	Craig	Saucier	21142	HIST	102	History Wo Civ II (DE)	0	3	0	3
201620	L00035678	Heather	Thornton	21145	HIST	102	Hist Wor Civ II (DE)	1	22	7	30
201620	L00035678	Heather	Thornton	21146	HIST	102	Hist Wor Civ II (DE)	1	5	12	18
							total	34	93	70	197
								17%	47%	36%	
201620	N00024522	Todd	Dozier	20168	HIST	200	History Roman Republic/Emp	1	7	11	19
							total	5%	37%	58%	#NAME?
201620	L00040551	Alan	Forrester	20479	HIST	201	U.S. History I	8	18	5	31
201620	L00040551	Alan	Forrester	20390	HIST	201	U.S. History I	14	44	7	65
201620	L01423966	Dan	Frost	20557	HIST	201	U.S. History I	8	9	10	27
201620	L01423966	Dan	Frost	20451	HIST	201	U.S. History I	9	10	13	32
201620	L00883739	Allen	Enger	20192	HIST	201	U.S. History I (1st 7 Wks)	1	7	5	13
							total	40	88	40	168
								24%	52%	24%	

201620	L01329632	James	Worley	20427	ENGL	223	African-American Literature	0	4	1	5
								0%	80%	20%	
201620	L00040185	Steven	Keeton	20275	ENGL	230	Introduction to Literature	8	2	8	18
								44%	12%	44%	
201620	L00040221	Eric	Elliott	20456	HUMN	210	World Mythology	8	5	3	16
								50%	31%	19%	

						SPRING 2	16 GEN ED OUTCOME 4				
TERMCOD	INSTR_ID	INSTR_FIF	INSTR_LASCR	N	SUBJ	CRSE#	TITLE	Fails to M	Meets	Exceeds	n
201620	B00084274	Nisha	Aroskar	20316	ECON	201	Prin of Macroeconomics	5	6	17	28
201620	B00084274	Nisha	Aroskar	20317	ECON	201	Prin of Macroeconomics	10	10	11	31
201620	B00084274	Nisha	Aroskar	20315	ECON	201	Prin of Macroeconomics	9	10	13	32
201620	N 0002793	Janet	Daniel	20328	ECON	201	Prin of Macroeconomics(Online)	27	48	0	75
201620	N0002793	Janet	Daniel	21162	ECON	201	Prin of Macro (Online 2nd 7wk)	4	8	0	12
201620	N 0002793	Janet	Daniel	20327	ECON	201	Prin of Macroeconomics(Online)	27	48	0	75
							total	82	130	41	253
								32%	51%	17%	
201620	L00040032	Michael	Buckner	20321	ECON	202	Prin of Microeconomics	8	12	23	43
201620	L00040032	Michael	Buckner	20322	ECON	202	Prin of Microeconomics	5	14	19	38
201620	L00040032	Michael	Buckner	20323	ECON	202	Prin of Microeconomics	8	12	23	43
201620	N 0002793	Janet	Daniel	20324	ECON	202	Prin Microeconomics (Online)	17	44	0	61
							total	38	82	65	185
								21%	44%	35%	
201620	N 0002793	Janet	Daniel	20329	ECON	203	Economic Principles	38	79	0	117
201620	N 0002793	Janet	Daniel	20330	ECON	203	Economic Principles	43	86	0	129
201620	B00084274	Nisha	Aroskar	20320	ECON	203	Economic Principles	7	12	7	26
201620	L00040032	Michael	Buckner	20326	ECON	203	Economic Principles (Online)	5	9	8	22
201620	L00040032	Michael	Buckner	20325	ECON	203	Economic Principles (Online)	3	7	14	24
							total	96	193	29	318
								30%	60%	10%	
201620	L01521512	Darren	Jones	20306	PHIL	203	Introduction to Logic	19	6	0	25
201620	L01521512	Darren	Jones	20400	PHIL	203	Introduction to Logic	9	11	2	22
201620	L01521512	Darren	Jones	20312	PHIL	203	Introduction to Logic	9	11	1	21
201620	L01521512	Darren	Jones	20311	PHIL	203	Introduction to Logic	15	11	1	27
201620	L01521512	Darren	Jones	20307	PHIL	203	Introduction to Logic	14	5	1	20
							total	66	44	5	115
								57%	38%	5%	0

								-	
201620 L00041274 Andrew	Knox	20709	MATH	101	Col Alg 5-Hr Frmt	15	20	2	37
201620 L00041274 Andrew	Knox	20707	MATH	101	Col Alg 5-Hr Frmt	16	22	2	40
201620 L00040093 Kristie	Harringtor	20706	MATH	101	Col Alg 5-Hr Frmt	24	0	16	40
201620 L00040187 Adam	Ferguson	20001	MATH	101	Col Alg 5-Hr Frmt	7	12	1	20
201620 L00040093 Kristie	Harringtor	20705	MATH	101	Col Alg 5-Hr Frmt	33	0	15	48
201620 L00040063 Robyn	Scalzo	20714	MATH	101	Col Alg 5-Hr Frmt	14	9	1	24
201620 L00040093 Kristie	Harringtor	20723	MATH	101	Col Alg 5-Hr Frmt (Hybrid)	2	0	34	36
201620 L01301006 Joshua	Green	20715	MATH	101	Col Alg 5-Hr Frmt	9	28	19	56
201620 L00040079 Troy	Bryant	21105	MATH	101	Col Alga 5-Hour Frmt (Hybrid)	5	9	3	17
201620 L00040079 Troy	Bryant	21100	MATH	101	College Algebra 5-Hour Format	8	5	9	22
201620 L00040079 Troy	Bryant	20716	MATH	101	Col Alg 5-Hr Frmt (Hybrid)	10	5	6	21
					total	143	110	108	361
						40%	30%	30%	
201620 L00040079 Trov	Brvant	21080	MATH	110	College Algebra (1st 7 wks)	11	13	3	27
201620 00040093 Kristie	Harrington	21108	MATH	110	College Algebra	11	4	8	23
201620 L00040093 Kristie	Harrington	21047	MATH	110	College Algebra	23	3	10	36
201020 200040053 Kitstle	narmgcoi	21047	IVI/3111	110	total	15	20	21	86
					totai	43 E 294	20	21	00
						5270	23%	2470	
201 (20) 000 (010) 4	F	24.05.4	MAATU	444	Diana Triana anata		45	7	20
201620 L0004018 / Adam	Ferguson	21054	MATH	111	Plane Irigonometry	8	15	/	30
201620 L00040187Adam	Ferguson	21051	MATH	111	Plane Irigonometry	10	14	5	29
201620 L00040460 Kanetra	Jones	21067	MATH	111	Plane Trigonometry (Online)	/	0	6	13
					total	25	29	18	72
						35%	40%	25%	
201620 L00040187 Adam	Ferguson	21056	MATH	130	Intro Contemporary Mathematics	8	13	4	25
						32%	52%	16%	
201620 L00040187 Adam	Ferguson	21049	MATH	201	Calculus Non-Science Majors	6	11	2	19
						32%	58%	10%	
201620 L00040063 Robyn	Scalzo	21050	MATH	202	Basic Statistics I	13	21	4	38
201620 L00040063 Robyn	Scalzo	21061	MATH	202	Basic Statistics I	14	22	3	39
201620 L00039932 Matthew	Buras	21023	MATH	202	Basic Statistics I	16	7	3	26
					total	43	50	10	103
						42%	48%	10%	
201620 00039932 Matthew	Buras	21019	MATH	204	Flementary Statistics	24	6	0	30
201620 L00039932 Matthew	Buras	21064	ΜΔΤΗ	204	Flementary Statistics	0	2	4	15
201620 L00039932 Matthew	Buras	21004	МАТН	204	Flementary Statistics	9	2	4	15
201620 L00039552 Matthew	Scalzo	21020	MATH	204	Elementary Statistics	9	21	4	31
201620 L00040063 R00 yn	Scalzo	21055		204	Elementary Statistics (Online)	9	21	1	10
201020 L00040003 KODYN	303120	21008	MATH	204	Liementary statistics (Unline)	4	14	0	18
					total	55	45	9	109
						50%	41%	9%	
201620 L00039925 Vickie	Flanders	20834	MATH	212	Multidimensional Calculus	3	4	6	13
						23%	31%	26%	

SPRING 2016 G EN ED OUTCOME 6											
TERMCOD	INSTR_ID	INSTR_FIF	INSTR_LAS	CRN	SUBJ	CRS E#	TITLE	Fails to Meet	Meets	Exceeds	n
201620	L00040231	Lynda	Gaines	20508	SOCL	200	Intro to Sociology	2		7 17	26
201620	L00040554	, Paul	Sampson	20506	SOCL	200	Intro to Sociology	6	5	7 1	14
201620	N0002485	Claudia	Hall	21166	SOCI	200	Intro to Soc (2nd 7)	1		3 6	10
201620	N0002485	Claudia	Hall	20188	SOCI	200	Intro to Sociology	-		2 21	23
201020	10002483	Ciauura	Calaaa	20488	SOCL	200	Intro to Sociology			2 21	25
201620	100040251	Lynda	Gaines	20580	SOCL	200	Intro to Sociology			5 21	35
201620	100040554	Paul	Sampson	20581	SOCL	200	Intro to Sociology				17
201620	L00040231	Lynda	Gaines	20491	SOCL	200	Intro to Sociology	4		3 15	27
201620	L00040231	Lynda	Gaines	20492	SOCL	200	Intro to Sociology	C) !	5 27	32
201620	N0002485	Claudia	Hall	20486	SOCL	200	Intro to Sociology	C) (5 12	18
201620	N0002485	Claudia	Hall	20489	SOCL	200	Intro to Sociology	C) 4	4 21	25
201620	L00040554	Paul	Sampson	20500	SOCL	200	Intro to Sociology	5	5 !	5 0	10
201620	L00040231	lLynda	Gaines	20480	SOCL	200	Intro to Sociology	2	2 (8 0	10
201620	L00040231	Lvnda	Gaines	20499	SOCL	200	Intro to Sociology	C) 1	3 7	20
201620	100040554	Paul	Samoson	20585	SOCI	200	Intro to Sociology	4		2 2	8
201620	10004055/	Paul	Sampson	20503	SOCI	200	Intro to Sociology			5 2	13
201020	100040332	Faul	Burnell	20304	SOCL	200	Intro to Sociology	-			10
201620	100040171	Erica	Burrell	20481	SUCL	200	Intro to Sociology (Unline)	3			19
							total	46	o 8	5 1/5	307
								15%	289	6 57%	
201620	L00040330	Summer	Doucet	20279	ENGL	102	English Comp II	9) !	9 0	18
201620	L00040330	Summer	Doucet	20280	ENGL	102	English Comp II	2	2 14	4 0	16
201620	L00040134	Akosua	Gyimah	20420	ENGL	102	English Comp II	1	. 1	3 2	21
201620	L00040016	Sydnev	Varnado	20530	ENGL	102	English Comp II (1st 7 Wks)	0) 1	2 0	12
201620	1000/10016	Sydney	Varnado	20531	ENGL	102	English Comp II (2nd 7 Wks)			1 3	9
201020	100040016	Sydney	Varnado	20551	ENGL	102	English Comp II			, 3 7 3	14
201620	100040010	Sydney	varnado	20080	ENGL	102	English Comp II	-	, ,	2	14
201620	100040016	Sydney	Varnado	20681	ENGL	102	English Comp II	1		9	10
201620	100040016	Sydney	Varnado	20419	ENGL	102	English Comp II	1		/ 10	18
201620	L00040016	Sydney	Varnado	20418	ENGL	102	English Comp II	C) :	36	9
201620	L00040134	Akosua	Gyimah	20421	ENGL	102	English Comp II	3	1	7 2	22
201620	L00040022	Benjamin	Lowenkro	20741	ENGL	102	Eng Comp II (Acadian)	4	ا 14	4 2	20
201620	L00040022	Benjamin	Lowenkro	20742	ENGL	102	Eng Comp II (Acadian)	5	5 1	1 4	20
201620	L00040240	Jennifer	Linscott	20423	ENGL	102	English Comp II	8	1	3 0	21
201620	100040240	lennifer	Linscott	204.24	ENGL	102	English Comp II	12			21
201620	101222700	Kimborhu	Vadiaka	20727	ENCL	102	English Comp II				15
201620	101323700	Kimberiy	Volicka	20747	ENGL	102		-		ь 4 • г	15
201620	101323700	Kimberiy	Vodicka	20746	ENGL	102	English Comp II	4		1 5	20
201620	B0005613	Keith	McClure	20770	ENGL	102	English Comp II	e	5 1) 3	19
201620	L00040252	Irma	Landry	20768	ENGL	102	English Comp II	C) 1:	1 9	20
201620	L01208614	IJoshua	Gremillion	20790	ENGL	102	English Comp II	9) ;	B 15	32
201620	L00040419	Kathleen	Schexnayo	20766	ENGL	102	English Comp II	2	2	7 4	13
201620	L01208614	Joshua	Gremillion	20767	ENGL	102	English Comp II	9) (3 15	32
201620	L01536209	Alexandra	Cavazos	20434	ENGL	102	English Comp II	7	/ 1	2 1	20
201620	101536209	Alexandra	Cavazos	20435	ENGL	102	English Comp II	7	7 10) 3	20
201620	100039951	Many	McKeough	20433	ENGL	102	English Comp II	,		1 2	14
201020	100020054	Man	McKcourt	20437	ENCL	102	English Comp II	c		2	10
201020	100023321		wickeougr	20438	ENGL	102		2	. 1	5	19
201620	100040578	vvendy	Heilinger	20441	ENGL	102	English Comp II	1		5 3	12
201620	L00040185	Steven	Keeton	20693	ENGL	102	English Comp II	8	5	2 2	12
201620	L00040185	Steven	Keeton	20694	ENGL	102	English Comp II	4	L :	2 6	12
201620	L00040240	Jennifer	Linscott	20695	ENGL	102	English Comp II	e	i 10) 3	19
201620	L00040240	Jennifer	Linscott	20696	ENGL	102	English Comp II	14	L a	в О	22
201620	L00040578	Wendy	Hellinger	20432	ENGL	102	English Comp II	1		3 6	15
201620	L01536209	Alexandra	Cavazos	20433	ENGL	102	English Comp II	5	5 1	1 2	18
201620	10004008	Shelisa	Theus	204/17	FNGI	102	English Comp II			3 1	8
201020	100040200	Carrie	Caucas	20762	ENCL	102	English Comp II				17
201020	10405000	Dame	Causey	20/03	ENGL	102		1	. 1	4	1/
201620	LU1358027	Douglas	Dorhauer	20525	ENGL	102	Eng Comp II (Online 2nd 7 Wks)	3		4	14
201620	B0005613	Keith	McClure	20536	ÉNGL	102	English Comp II (Online)	8	3 !	5 3	16
201620	B0005613	Keith	McClure	20537	ENGL	102	English Comp II (Online)	1		7 1	9
201620	L01358027	Douglas	Dorhauer	20524	ENGL	102	Eng Comp II (Online 1st 7 Wks)	8	3 4	4 8	20
201620	L01358027	Douglas	Dorhauer	20523	ENGL	102	English Comp II (Online)	10) (5 5	21
201620	L00040419	Kathleen	Schexnavo	20522	ENGL	102	English Comp II (Online)	5	; .	7 5	17
							total	189) 33	9 159	687
								200/	409	4 3204	007
								28%	, 497	23%	