

Clovis Community College

Core Competencies Assessment 2010 - 2011—Area III: Laboratory Science

Class: Biology 113 – Biology for General Education

Faculty: Larry Powell for Anne Luna and Lana Powell

Common Core No.: NMCCN BIOL 1114

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students work through problems via the Scientific Method and correlate historical scientific investigations to important concepts in Biology— In-class exercises, quizzes, lecture exams</p>	<p>In-class student work showed improvement during the course in their in-class exercises, problem sets, lab activities, and current biology topics.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 95% correct (up from 88% last year)</p>	<p>We used a minimum of 70% for each competency as the standard that we aspired to reach and we exceeded that goal in each of the five competencies. All of our competencies were down the year before last – which was a concern.</p> <p>Competencies 1 and 2 had the largest drops. To address those drops, we emphasized scientific inquiry and scientific problem solving this year. As a result, competencies 1 and 2 did see an increase over last two years. Competencies 4 and 5 also had an increase this year. Competency 3 was down from last year and has been down the last two years. To turn that around, we will especially emphasize scientific communication</p>	<p>Focus especially on scientific communication as well as maintaining emphasis on scientific inquiry, problem solving, quantitative analysis and scientific thinking.</p>

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
			next year, while maintaining emphasis on 1, 2, 4, and 5.	
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories). 	<p>The Scientific Method is used by students to solve problems and make observations using tools such as microscopes, electronic scales, Punnett Squares, hypotheses are constructed and tested – Lab reports, problem sets, quizzes, lecture exams</p>	<p>Comp. 2 = 93% correct (up from 74% last year)</p>		

All class assessment forms are due to your division chair by July 1.

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)</p>	<p>Students communicate effectively about science – Lab reports, Biology in the News (current events reports), in-class presentations</p>	<p>Comp. 3 = 74% correct (down from 81% last year)</p>		
<p>4. Students will apply quantitative analysis to scientific problems. Students should: a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.</p>	<p>Students perform calculations involving metrics, plant growth, energy, populations, and genetics – Charts, graphs, lab reports, problem sets, lecture exams</p>	<p>Comp. 4 = 95 % correct (up from 79% last year)</p>		

All class assessment forms are due to your division chair by July 1.

<p>5. Students will apply scientific thinking to real world problems. Students should: a. Critically evaluate scientific reports or accounts presented in the popular media. b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.</p> <p style="text-align: center;">End – Laboratory Science</p>	<p>Students critically evaluate current developments in Biology, incorporating basic scientific facts to make their evaluation – Biology in the News, in-class presentations, class discussions</p> <p>A final assessment quiz that has questions that specifically ties to each of the five competencies is given at the end of the semester</p>	<p>Comp. 5 = 95% correct (up from 89% last year)</p>		
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Faculty Member Completing Assessment: Larry Powell June 7, 2011 575-769-4919
Name *Date* *Phone Number*

All class assessment forms are due to your division chair by July 1.

Clovis Community College

Core Competencies Assessment 2010 - 2011—Area III: Laboratory Science

Class: Biology 115 – Human Biology

Faculty: Larry Powell and Lana Powell

Common Core No.: NMCCN BIOL 1124

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students will investigate many examples in which scientists have developed reliable knowledge about the human body— In-class exercises, quizzes, lecture exams, labs</p>	<p>Student work showed satisfactory results for in-class exercises, problem sets, lab activities, and discussions of current events in human anatomy and physiology as indicated by all competencies meeting our desired minimum score of 70%.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 72% correct (down from 85% last year)</p>	<p>A minimum of 70% correct for each competency was used as the standard that we aspired to reach. This year, all five competencies exceeded that mark. However, all competencies were down from last year except one (4, dealing with quantitative analysis) that was down last year – it was up slightly this year. Because of these results, all competencies will be stressed an extra amount in the coming year.</p>	<p>All competencies were in the 72 – 89 percent range – above our 70% minimum. That’s good, but we saw a fall in four out of five competencies this year from last year – which is discouraging, but will spur us to more efforts in those four areas as well as competency 4.</p>

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories). 	<p>Students will use current information to evaluate theories of anatomy and physiology in humans – Lab reports, problem sets, quizzes, lecture exams</p>	<p>Comp. 2 = 77% correct (down from 92% last year)</p>		
<p>3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)</p>	<p>Students will submit lab reports and discuss topics in current anatomy and physiology information and news– Lab reports, threaded discussions</p>	<p>Comp. 3 = 88% correct (down from 95% last year)</p>		

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Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/Priorities
<p>4. Students will apply quantitative analysis to scientific problems. Students should:</p> <ul style="list-style-type: none"> a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs. 	<p>Students will perform calculations involving heart rate, nerve receptors, and reflexes – Charts, graphs, lab reports, problem sets, lecture exams</p>	<p>Comp. 4 = 89% correct (up from 88% last year)</p>		

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Clovis Community College

Core Competencies Assessment 2010 - 2011—Area III: Laboratory Science

Class: Chemistry 113 – Chemistry for General Education

Faculty: Larry Powell for Don Clark, Carrie Phipps, Larry Powell

Common Core No.: NMCCN CHEM 1114

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students will work through problems using the Scientific Method, specific historical examples will also be investigated that correlate to important concepts in Chemistry (ex.: atomic models, stoichiometry, metrics) – In-class exercises, quizzes, lecture exams, labs</p>	<p>Chemistry 113 classes did meet the 70% minimum success rate we want our students to reach.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 81% correct (down from 82% last year)</p>	<p>We used a minimum of 70% correct for each competency as the standard that we aspired to reach. All competencies did reach that mark, and only competency 1 (process of scientific inquiry) was down from last year and that was by just one point. To address that drop, we will stress scientific inquiry more in Chem. 113 next year. Additionally, we will continue to devote significant time to the mathematical aspects of chemistry throughout the semester – although there were good increases in those competencies, they are always areas of concern.</p>	<p>We will reemphasize the importance of the process of scientific inquiry (competency 1) in our Chem. 113 classes next year. Our overall scores for competencies 2,3,4, and 5 showed improvement this year over last year so we will continue our successful teaching methods in those areas.</p>

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/Priorities
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories). 	<p>The Scientific Method will be used to solve problems and problems will be solved in the following areas: density, metrics, formula mass, per cent composition, balancing equations, stoichiometry – Lab reports, problem sets, quizzes, lecture exams</p>	<p>Comp. 2 = 97% (up from 90% last year)</p>		
<p>3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)</p>	<p>Students will submit lab reports and discuss current topics in Chemistry – Lab reports, Chemistry in the News reports and presentations</p>	<p>Comp. 3 = 92% (up from 70% last year)</p>		

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<p style="text-align: center;"><u>Competencies</u> (Learning Outcomes Being Measured)</p>	<p style="text-align: center;"><u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)</p>	<p style="text-align: center;"><u>Assessment Results</u></p>	<p style="text-align: center;"><u>How Results Will Be Used To Make Improvements</u></p>	<p style="text-align: center;"><u>(Optional)</u> Recommendations/Goals/ Priorities</p>
<p>4. Students will apply quantitative analysis to scientific problems. Students should: a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.</p>	<p>Students will perform Calculations throughout the course in areas listed above – Lab reports, problem sets, lecture exams</p>	<p>Comp. 4 = 93% (up from 84% last year)</p>		

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<p>5. Students will apply scientific thinking to real world problems. Students should:</p> <p>a. Critically evaluate scientific reports or accounts presented in the popular media.</p> <p>b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.</p> <p style="text-align: right;">End – Laboratory Science</p>	<p>Chemistry in the News reports and presentations</p> <p>A final assessment quiz that has questions that correlate to each of the five competencies is given at the end of the semester</p>	<p>Comp. 5 = 95% (up from 76% last year)</p>		
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Faculty Member Completing Assessment: Larry Powell _____ June 7, 2011 _____ 575-769-4919 _____
Name *Date* *Phone Number*

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Clovis Community College

Core Competencies Assessment 2010 - 2011—Area III: Laboratory Science

Class: Geol 113 – Physical Geology

Faculty: Larry Powell for Harry Pomeroy

Common Core No.: NMCCN GEOL 1114

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students will work through problems using the Scientific Method, specific historical examples will also be investigated that correlate to important concepts in Geology (ex.: theories of geologic phenomenon, origin of the Earth) – In-class exercises, quizzes, lecture exams, labs</p>	<p>In-class student work showed improvement during the course in their in-class exercises, problem sets, lab activities, and discussions of current events in Geology as indicated by every one of the competencies meeting our desired minimum score of 70%.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 82% correct (down from 93% last year)</p>	<p>We used at minimum of 70% correct for each competency as the standard that we aspired to reach. All competencies reached at least the 70% mark – one just so – and all of the competencies were down from last year. To address this, all competencies will be stressed more next year. Only one competency (3) was almost the same as last year – just one point lower. Students seem to have problems (not just in this course, but across the board in science classes) with quantitative operations – and that is a handicap in our courses. More time an effort will need to be taken to make up for skills that frankly should have been learned in 12 years of public school.</p>	<p>All competencies were at or above the 70% standard that we sought this year. However, there were declines in all competencies this year from last.</p>

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories). 	<p>The Scientific Method will be used to solve problems and problems will be solved in the following areas: “present is the key to the past exercises, geologic structure formation – Lab reports, problem sets, quizzes, lecture exams</p>	<p>Comp. 2 = 79% correct (down from 87% last year)</p>		
<p>3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)</p>	<p>Students will submit lab reports and discuss current topics in Geology – reports and presentations on geological topics such as local topography, hydrology, volcano formation, tsunamis</p>	<p>Comp. 3 = 89% correct (down from 90% last year)</p>		

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Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/Priorities
<p>4. Students will apply quantitative analysis to scientific problems. Students should:</p> <ul style="list-style-type: none"> a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs. 	<p>Students will perform calculations throughout the course in areas including earthquake intensity, isotope half-life, radiocarbon dating</p>	<p>Comp. 4 = 76% correct (down from 80% last year)</p>		

All class assessment forms are due to your division chair by July 1.

<p>5. Students will apply scientific thinking to real world problems. Students should: a. Critically evaluate scientific reports or accounts presented in the popular media. b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.</p> <p style="text-align: right;">End – Laboratory Science</p>	<p>Current topics in Geology – through lecture and student discussions</p> <p>A final assessment quiz that has questions that correlate to each of the five competencies is given at the end of the semester</p>	<p>Comp. 5 = 70% correct (down from 80% last year)</p>		
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Name *Date* *Phone Number*

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Clovis Community College

Core Competencies Assessment 2020-2011 —Area III: Laboratory Science

Class: Physics 113 – Physics for General Education

Faculty: Larry Powell for Carl Armstrong

Common Core No.: NMCCN General Education Elective Area III

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students will work through problems using the Scientific Method, specific historical examples will also be investigated that correlate to important concepts in Physics (ex.: velocity, acceleration, mass, force, momentum, temperature, frequency, light, electricity) – In-class exercises, quizzes, lecture exams, labs</p>	<p>In-class student work (in-class exercises, problem sets, lab activities, and discussions of current events in Physics) indicated that all but two of the competencies met our desired minimum score of 70%.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 50% correct, down from 75% correct last year</p>	<p>We used at minimum of 70% correct for each competency as the standard that we aspired to reach. All but two of the competencies met that minimum. The results will be used to address these problem areas:</p> <ul style="list-style-type: none"> - Some difficulty using equations <p>More time will be spent emphasizing how to perform the calculations. Students made mistakes based on “common sense”. They failed to appreciate the subtle differences between what one would expect to be the case versus what actually happens in the physical world,</p>	<p>One of the most significant problems faced by students in Physics 113 is that they are not comfortable using math. More emphasis will be placed on calculations (especially in the lab setting) next year. In addition, Mr. Armstrong will continue to point out and emphasize the reality of when, where, and how one would expect to occur conflicts with what actually occurs in the physical world.</p>
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated 	<p>The Scientific Method will be used to solve problems and problems will be solved in the following areas: masses, temperature, specific heat in lab reports, problem sets, quizzes,</p>	<p>Comp. 2 = 80% correct, up from 70% correct last year</p>		

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).	lecture exams			
3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)	Students will submit lab reports and discuss current topics in Physics – reports and presentations on topics such as ohms, resistors, series circuits, voltage, DC power	Comp. 3 = 77% correct, down from 88% correct last year		
4. Students will apply quantitative analysis to scientific problems. Students should: a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.	Students will perform calculations throughout course in areas dealing with light and index of refraction and Snell’s Law	Comp. 4 = 64% correct, down from 70% correct last year		

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<p>5. Students will apply scientific thinking to real world problems. Students should: a. Critically evaluate scientific reports or accounts presented in the popular media. b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.</p> <p style="text-align: right;">End – Laboratory Science</p>	<p>Current topics in Physics – through lecture and student discussions</p> <p>A final assessment quiz that has questions that correlate to each of the five competencies is given at the end of the semester</p>	<p>Comp. 5 = 80% correct, down from 88% correct last year</p>		
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Clovis Community College

Core Competencies Assessment 2010-2011—Area III: Laboratory Science

Class: Physics 151 and 152 General Physics I and II and Lab

Faculty: Larry Powell for Carl Armstrong

Common Core No.: NMCCN Phys 1114 and Phys 1124

<u>Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>Students will work through problems using the Scientific Method, specific historical examples will also be investigated that correlate to important concepts in Physics (ex.: electrical circuits, moles, magnetic fields, lenses) – In-class exercises, quizzes, lecture exams, labs</p>	<p>In-class student work (in-class exercises, problem sets, lab activities, and discussions of current events in Physics) indicated that all of the competencies met our desired minimum score of 70%.</p> <p>On the exit assessment test, student results were as follows:</p> <p>Comp. 1 = 75% correct, down from 92% correct last year</p>	<p>We used at minimum of 70% correct for each competency as the standard that we aspired to reach. All results were above that minimum, although all were down from last year's results. The results will be used to address these areas:</p> <ul style="list-style-type: none"> - Dealing with thermodynamics - Charged particles being accelerated by a potential difference and then moving in a magnetic field. 	<p>All outcomes were positive and above the 70% mark we were shooting for – there were some lower scores than last year and some higher. Emphasis will continue on quantitative problems next year.</p>
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. b. Be able to evaluate isolated observations about the 	<p>The Scientific Method will be used to solve problems and problems will be solved in the following areas: DC circuit, resistance, ohms in lab reports, problem sets, quizzes, lecture exams</p>	<p>Comp. 2 = 80% correct, down from 81% correct last year</p>		

Competencies (Learning Outcomes Being Measured)	Assessment Procedures (Process/Instrument named or described – rubric attached)	Assessment Results	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
physical universe and relate them to hierarchically organized explanatory frameworks (theories).				
3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)	Students will submit lab reports and discuss current topics in Physics – reports and presentations on topics such as ions, charges, potential differences, velocity vectors, and magnetic fields	Comp. 3 = 91% correct, up from 87% correct last year		
4. Students will apply quantitative analysis to scientific problems. Students should: a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.	Students will perform calculations throughout course in areas dealing with converging lenses, inverted and upright images, virtual and real images, overall magnification, images created by mirrors,	Comp. 4 = 71% correct, down from 78% correct last year		

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<p>5. Students will apply scientific thinking to real world problems. Students should: a. Critically evaluate scientific reports or accounts presented in the popular media. b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.</p> <p style="text-align: center;">End – Laboratory Science</p>	<p>Current topics in Physics – through lecture and student discussions</p> <p>A final assessment quiz that has questions that correlate to each of the five competencies is given at the end of the semester</p>	<p>Comp. 5 = 98% correct, up from 91% correct last year</p>		
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Faculty Member Completing Assessment: Larry Powell _____ June 7, 2011 _____ 575-769-4919 _____
Name *Date* *Phone Number*

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