Assessment: Course Four Column

Courses (SCI) - Physics

PHYS 152:Gen Physics II

Course Outcomes	*Assessment Measures*	*Results*	*Actions*
Electric charges, potential, current, and magnetic fields - Students will be able to solve problems involving electric charges, potential, current, and magnetic fields **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** Applicable questions on exam 1 **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 67% of students had an an aggregate score of 70% or better on applicable exam questions Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	**Action:** keep this part of the course the same (09/18/2019)
Magnetic flux, induction, AC circuits, and electromagnetic fluctuations (waves) - Students will be able to solve problems involving magnetic flux, induction, AC circuits, and electromagnetic fluctuations (waves) **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** Applicable questions on exam 2 **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 67% of students had an an aggregate score of 70% or better on applicable exam questions Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	
Optics - Students will be able to solve problems involving optics **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** Applicable questions on exam 3 **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** No 47% of students had an an aggregate score of 70% or better on applicable exam questions Results Analysis: The students struggled somewhat with optics. This subject matter is more challenging and has a complicated type of math on it that they were having trouble grasping. (09/18/2019)	**Action:** The students need more support in the form of increased tutoring, recitation, or something like more study sessions. (09/18/2019)

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Relativity, quantum mechanics, atomic physics, and nuclear physics - Students will be able to solve problems involving relativity, quantum mechanics, atomic physics, and nuclear physics **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** Applicable questions on exam 4 **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** No 40% of students had an an aggregate score of 70% or better on applicable exam questions Results Analysis: The students REALLY struggled with quantum mechanics and relativity. Atomic and nuclear physics were challenging, but not to the same extent. (09/18/2019)	**Action:** The students need more support in the form of increased tutoring, recitation, or something like more study sessions. (09/18/2019)
Correct operation of common physics lab equipment - Correct operation of common physics lab equipment **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Assignment - Lab -** Correct completion of lab reports including operation of lab equipment – the lab reports can only be completed if the experiments are done correctly. **Criterion:** 70% of students with an aggregate score of 70% or better on lab reports	**Reporting Period:** 2018-2019 **Criterion Met:** Yes and No 100% of students with an aggregate score of 70% or better on lab reports but only 40% actually did experiments because there were 9 students online. yes (and no – because this course had 9 online students) If the online students are included then the operation of lab equipment outcome cannot be met. Results Analysis: All the students were able to complete the lab reports satisfactorily because the online students could watch them being performed on video. (09/18/2019)	**Action:** This outcome will need to be dropped if we continue to teach this physics course online – or we could stop teaching the course online. (09/18/2019)
GEN ED, Scientific Reasoning: Scientific methodologies used in various disciplines - GEN ED, Scientific Reasoning: Demonstrate an understanding of the scientific methodologies used in various disciplines **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** Applicable questions on exams from throughout the course **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 60% of students had an aggregate score of 70% or better on applicable exam questions Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	
GEN ED, Scientific Reasoning: Scientific principles and concepts - GEN ED, Scientific Reasoning: Effectively interpret and apply scientific principles and concepts **Course Outcome Status:** Active	**Exam -** Applicable questions on exams from throughout the course **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 60% of students had an aggregate score of 70% or better on applicable exam questions Results Analysis:	

Course Outcomes	Assessment Measures	Results	Actions
Next Assessment: 2023-2024		This is an adequate result for this part of this course. (09/18/2019)	
GEN ED, Scientific Reasoning: Evaluation, analysis, or interpretation of models and theories developed in the sciences - GEN ED, Scientific Reasoning: Apply scientific reasoning to the evaluation, analysis, or interpretation of models and theories developed in the sciences **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Exam -** GEN ED, Scientific Reasoning: Apply scientific reasoning to the evaluation, analysis, or interpretation of models and theories developed in the sciences **Criterion:** 50% of students with an aggregate score of 70% or better on applicable exam questions	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 60% of students had an aggregate score of 70% or better on applicable exam questions Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	
GEN ED, Scientific Data Interpretation: Mathematical principles and quantitative methods to collect and analyze scientific data - GEN ED, Scientific Data Interpretation: Effectively apply mathematical principles and quantitative methods to collect and analyze scientific data **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Assignment - Lab -** Lab reports including data interpretation and quantitative methods **Criterion:** 70% of students with an aggregate score of 70% or better on lab reports	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 100% of students with an aggregate score of 70% or better on applicable sections of lab reports Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	
GEN ED, Scientific Data Interpretation: Scientific method to arrive at informed conclusions - GEN ED, Scientific Data Interpretation: Utilize the scientific method to arrive at informed conclusions **Course Outcome Status:** Active **Next Assessment:** 2023-2024	**Assignment - Lab -** Correct use of scientific methods in lab reports **Criterion:** 70% of students with an aggregate score of 70% or better on lab reports	**Reporting Period:** 2018-2019 **Criterion Met:** Yes 100% of students with an aggregate score of 70% or better on applicable sections of lab reports Results Analysis: This is an adequate result for this part of this course. (09/18/2019)	**Action:** This was only the second time I have taught this course. The last time was 5 years ago. It is an extremely challenging course to teach with respect to student success – I had trouble getting students to consistently achieve at a high enough level to do well on my challenging exam questions. Student achievement goals were very easy to attain in lab. The labs are longer, hands-on, and there is much more time for direct contact and tutoring. This amount of contact cannot be replicated in

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			lecture. I feel GBC needs to have more tutoring (currently on the INBRE program has it) or have more study sections of recitations. Without more support courses like physics and chemistry will continue to be bottlenecks in our programs. Additionally, course outcomes including labs in this course need to be reviewed at the department level. We have online labs for this course to serve the survey program. We discussed the option of closing the enrollment in this course to students outside of the survey degree to limit the exposure to online labs to those students who really need them – ie. survey program students (this is unrelated to course assessment). (09/18/2019)