

## Part 2 – Comprehensive Program Review

Fall 2010

Program Name: **Physics**

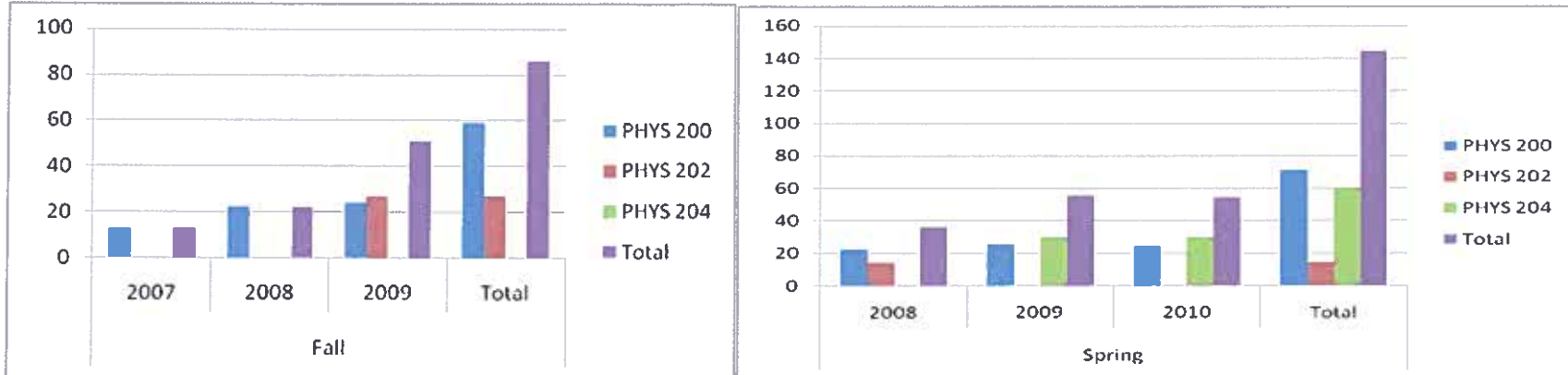
### A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2007-08, 2008-09, 2009-10

1. List the objectives developed for this program during the last comprehensive program review.
  - *There were no past objectives from the last comprehensive program review.*
2. Present program performance data in tabular form for the previous three years that demonstrates the program's performance toward meeting the previous objectives. Include the following standard program performance metrics as well additional program specific metrics, if any.
  - a. For teaching programs this data should include at least the following: Enrollment at census, number of sections, fill rate, retention rate, success rate, and grade distribution for each course in the program, during each semester and session of the previous three academic years. In addition, the Full Time Equivalent Faculty (FTEF) and Full Time Equivalent Students (FTES) and the ratio of FTES per FTEF should be presented for the program for each semester and session.
  - b. For non teaching programs this data should include the following: TBD
    - *Please refer to separate document called PgmRew1011\_PHYS.*
3. Present student learning or service area outcomes data that demonstrate the program's continuous educational and/or service quality improvement. Include the following standard information and metrics as well as additional program specific metrics, if any.

List the program level outcomes, goals or objectives and show how these support the Institutional Student Learning Outcomes. Identify the method(s) of assessment used for each of the program level outcomes. Provide a summary of the outcome data for the program, including course and program level data as appropriate.

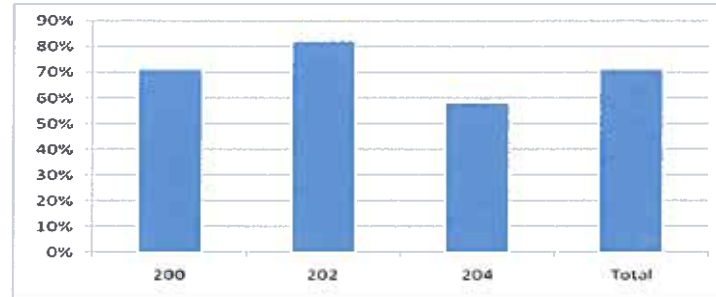
  - *Currently, there are no program-level SLOs for the Physical Science, Pre-Engineering, Computer Science, Mathematics and General Science majors.*
4. Analyze the data presented visually (graphs, diagrams, etc.) and verbally (text) as appropriate, present any trends, anomalies, and conclusions. Explain the program's success or failure in meeting the objectives presented above in item one. Explain the ways that the program utilized the student learning or service area outcome data presented in item three to improve the program (changes to curriculum, instructional methodology, support services, etc.)

## ENROLLMENT DATA BY SEMESTER FOR ALL THREE PHYSICS CLASSES



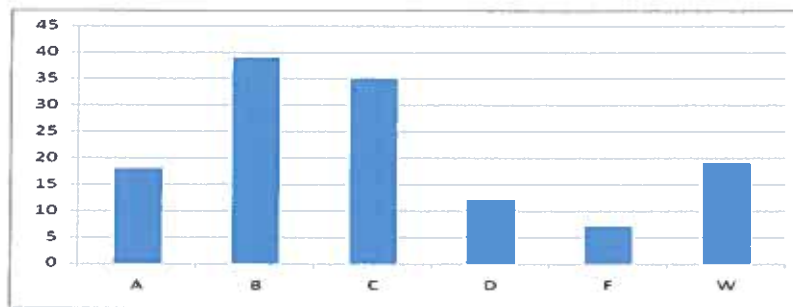
- By looking at the data, we can observe that the number of students enrolled in the Physics classes remains relatively constant and this is due to the fact that the quota for lab classes is 24. However, we make an effort to accommodate the needs of students by taking a few additional students each semester, but at this point there is no sufficient number of students to increase the number of sections offered.

## STUDENT SUCCESS RATE

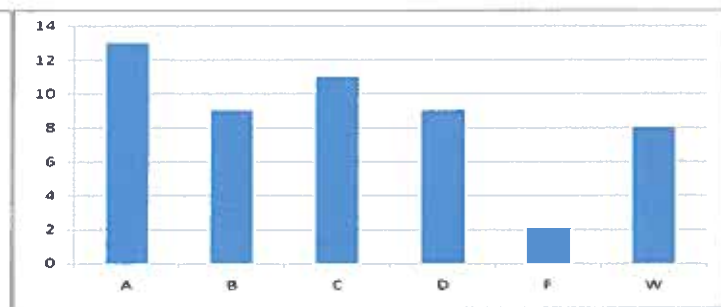


- Regarding student success rates, it is worth to note that a new instructor was hired beginning in August of 2008 so it is difficult to compare data. However, it reveals that success rate remains fairly constant.

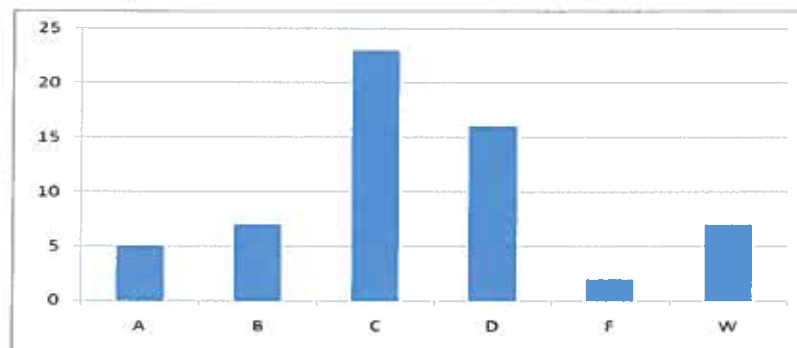
## GRADE DISTRIBUTION BY CLASS



**Physics 200**



**Physics 202**



**Physics 204**

- *By looking at the grade distributions for the three Physics classes, we can see that overall the grades fall into a standard distribution, with the exception of Physics 202 which shows a fairly uniform distribution, with a majority of students earning a "C" or higher. This data shows that these classes are sufficiently challenging to the students, and that they are performing as expected.*

**B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2010**

1. Give a verbal description of the program as it exists at the present time. Include information on current staffing levels, current student enrollments, student learning or service area outcome implementation, number of majors, and/or other data as appropriate.
  - *At the present time, there is one full-time instructor teaching a Physics 200 class (Mechanics) each semester and summer, a Physics 202 (E & M) offered every fall semester, and a Physics 204 (Thermodynamics and Optics) class offered every spring semester. They are all calculus-based classes.*
  - *The enrollment at the present time is 24 students per class and taking a few additional ones if needs arises.*
  - *Student learning Outcomes (SLOs) have been developed for all three classes and data has been collected, analyzed, and reported since 2008.*
2. Verbally describe any outside factors that are currently affecting the program. (For example: changes in job market, changing technologies, changes in transfer destinations, etc.)
  - *At this point there are no major outside factors affecting the program other than budget restraints.*
3. List any significant issues or problems that the program is immediately facing.
  - *None at this time.*

**C. FUTURE: Program Objectives for the Next Three Academic Years: 2010-11, 2011-12, 2012-13**

1. Identify the program objectives for the next three academic years, making sure these objectives are consistent with the college's Educational Master Plan goals. Include how accomplishment is to be identified or measured and identify the planned completion dates. If any objectives are anticipated to extend beyond this three-year period, identify how much is to be accomplished by the end of this review period and performance measures.
  - *Recruiting competent adjunct faculty is important and challenging (especially for day classes). We recommend continuing to interview and recruit adjunct faculty to facilitate near-term and potential long term growth in the program. This is an ongoing goal with no completion date. We will compare number of full-time and part-time instructors in 2010 and 2013. (Educational Master Plan Goal #2)*
  - *Offer more Physics classes (i.e. College Physics) to meet the need of all students. This is an ongoing goal with no completion date. Number of sections and classes offered will be compared in 2010 and 2013. (Educational Master Plan Goal #1)*
  - *Purchase Physics equipment to keep up with current technologies in this field. The goal is to purchase equipment gradually in such a way as not to produce a big impact in the division's budget over the next three years. Accomplishment of this goal will be by comparing inventories. (Educational Master Plan Goal #3)*

2. Identify how student learning or service area outcomes will be expanded and fully implemented into the program. Include a progress timeline for implementation and program improvement.
  - *We are planning to create program-level SLOs for the Physical Science, Pre-Engineering, Computer Science, Mathematics and General Science majors by the end of the 2010-2011 academic year. We plan to implement these program-level SLOs in the Fall 2011 semester, and use them for improvement of the Physics program.*
3. Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.
  - *The biggest obstacle to overcome in order to accomplish these objectives is money. Without proper funding, we will not be able to hire new adjunct faculty, offer more Physics classes, or buy new lab equipment for the Physics classes to properly educate our students.*
4. Identify any outside factors that might influence your program during the next three years.
  - *Budget constraints might influence the purchase of more equipment and the hiring of adjunct faculty.*



**Physics Program  
Average Number of Students per Section**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
PHYS 200	13	22	24	20	22	25	24	24									22
PHYS 202			27	27	14			14									21
PHYS 204						30	30	30									30

**Physics Program  
Student Success Rate**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
PHYS 200	69%	100%	58%	76%	68%	68%	63%	66%									71%
PHYS 202			78%	78%	86%			86%									82%
PHYS 204						53%	63%	58%									58%
Avg.	69%	100%	68%	76%	77%	61%	63%	67%									71%

**Physics Program  
Student Retention Rate**

Course	Fall	Spring	Summer	Winter	Grand
--------	------	--------	--------	--------	-------

	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	Total
PHYS 200	77%	100%	71%	83%	82%	96%	83%	87%									85%
PHYS 202			78%	78%	86%			86%									82%
PHYS 204						83%	93%	88%									88%
Avg.	77%	100%	74%	81%	84%	90%	88%	87%									85%

### Grade Distribution

Program	Term	Sem.	Yr.	Course	A	B	C	D	F	CR	P	Other	W	Total	Success Rate	Retention Rate
PHSC	200810	Fall	2007	PHYS200	2	3	4		1			0	3	13	69.2%	76.9%
PHSC	200820	Spr.	2008	PHYS200	1	8	6	1	2			0	4	22	68.2%	81.8%
PHSC	200910	Fall	2008	PHYS200	7	11	4					0		22	100.0%	100.0%
PHSC	200920	Spr.	2009	PHYS200	3	5	9	6	1			0	1	25	68.0%	96.0%
PHSC	201010	Fall	2009	PHYS200	4	6	4	2	1			0	7	24	58.3%	70.8%
PHSC	201020	Spr.	2010	PHYS200	1	6	8	3	2			0	4	24	62.5%	83.3%
PHSC	200820	Spr.	2008	PHYS202	5	4	3					0	2	14	85.7%	85.7%
PHSC	201010	Fall	2009	PHYS202	8	5	8					0	6	27	77.8%	77.8%





