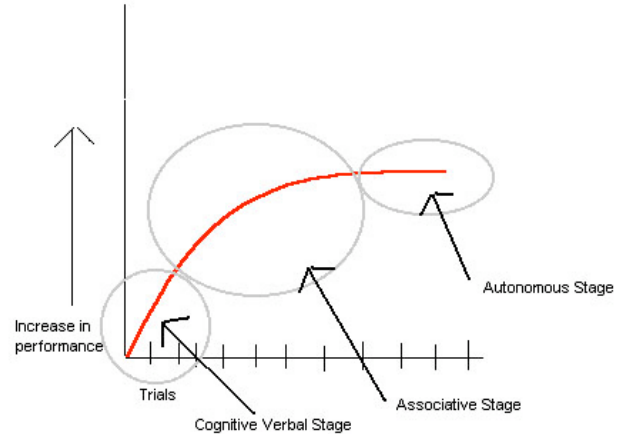


Progressive Grading

Studying, learning and understanding Physics 180A, 195 and 196 are sequential in nature. Concepts in each chapter build upon previous concepts in previous chapters. The first three or four chapters may take more effort to understand than the last four chapters. So, students will experience a learning curve in this class.

You will need to refresh your **basic** algebra, trigonometry, calculus and problem solving skills. A new skill you may not be familiar with is vector manipulation. Vectors are simple arrows. There is basically nothing in Physics 180A and Physics 195 that should be new to you. It's like making and baking a cake. Yeah, a pineapple upside down cake may be more complicated to make than a chocolate cake. But, there is basically nothing new to you about making a cake.

Once you get past refreshing your basic mathematics skills we will derive some fundamental physics concepts such as; displacement, velocity, acceleration, forces, force diagrams, friction, circular motion, momentum, conservation laws, work, energy, and angular motion. These concepts will be used throughout the semester. They build upon each other and are used repetitively in problem solving.



Each test will demonstrate your understanding of these concepts. After teaching for 14 years, I have realized that students generally begin to understand physics as the semester is almost over. So, what I do is average your current test score with your previous test score and add points back. I like to reward students who do progressively better on each test.

An example

A student gets 20/60 points on the first test and gets 40/60 points on the second test.

I will add back 10 points to the first test. (average the two scores)

So, that student will receive 30/60 points on the first test!

If that same student gets 50/60 points on the third test,

I will add back 5 points to the second test. (average the two scores)

So, that student will receive 45/60 points on the second test!

So, that student's new test scores would be 30/60, 45/60 and 50/60 ($125/180 = 69.5\%$)

Instead of the original scores 20/60, 40/60 and 50/60 ($110/180 = 61.1\%$)

This is **Progressive grading**. I will do this for each successive test. Each successive test score will potentially change the previous test score. I will never take points away.

I want students to concentrate on improving their previous test score. Each test reinforces the main objectives of this class. There is more incentive to do better on the next test than dropping the lowest test score. I want you to get to that place where you are confident with the physics principles taught in this class/

Fairness Points Doctrine

The university experience is different today than it was 30 years ago. Many more students are working nearly fulltime to go to school, studying for 4 or 5 classes, standing in line to see other Instructors and trying to live a life like all other people. SDSU has 35,000 students. Class size can reach 300 students in physics classes! Professors and Instructors hold office hours but there is no possible way all students have a chance to see their Instructors. It's simply not possible. I think that is unfair.

A few students are able to see me and discuss their test results in an effort to get more points. Which is good. I want to award points to students that are not able to see me. I believe they would get more points, too. So, I established a system of **Fairness Points** that I award to each student on each test. **Fairness Points** are based upon test scores.

You are always encouraged to come in and see me to discuss your test scores and get more points. But you will have to waive your **Fairness Points**. Students cannot double dip. The **Fairness Points** that you received on your test were given because *you may think that you answered a question better than I thought you answered it*. So, before you waive your **Fairness Points** make sure that you believe you have more points than already awarded you.

Fairness Points are not extra credit points. *I believe that I graded your test correctly*. But, I am willing to respect your opinion and award you points based upon the fact that if you did come and see me, I would more than likely agree with your explanation. I respect your efforts in college and encourage your personal goals. Please stop by to talk with me about anything. Talking with students is the best part of my job.

The Learning Curve

The figure graphically depicts this three stage learning curve. Stage one is Cognitive Verbal, characterized by the acquisition of a movement pattern, which entails abandoning inadequate strategies for adequate strategies, resulting in the greatest rate of learning and variability in the learning curve. Stage two is Associative, and contains the greatest amount of learning. It is concerned not with what to do, but how to perform a movement more efficiently. Stage three is Autonomous, in which the skill can be performed with relatively little interference from other activities (automatic).

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