

HOW TO STUDY STATISTICS

Many students have trouble learning statistics because they never develop the particular study habits which are conducive to success in statistics. If you practice the following suggestions they should prove invaluable to you.

1) READ CAREFULLY AND DELIBERATELY. The way in which you should read in statistics is quite different from the way you may read a history book, newspaper, or a novel. In statistics you must read slowly, absorbing each word. It is sometimes necessary to read a textbook discussion or problem many times before it begins to “make sense” to you. In some types of reading, such as a novel, it is desirable to skim and read rapidly, because there are usually a few thoughts “sprinkled” among many words. However, in reading statistics each word or symbol is important because there are many thoughts condensed into a few statements. Keep in mind that the little words mean a lot in statistics.

2) THINK WITH PENCIL AND SCRATCH PAPER. Always have pencil in hand and scratch paper ready and use them when you read and study statistics. Test out the ideas on paper that the authors are discussing. When they propose a question, try to answer it before going on. Even though an example may be worked out completely in the text, work it out for yourself on scratch paper. This will help to clinch the ideas and procedures in your mind before starting the exercises. After you have read and reread a problem carefully, if you still don't see what to do, don't just sit and look at it. Get your pencil going on scratch paper and try to “dig it out.” If, while attempting to solve a problem, you have nothing written on paper, then generally you have not yet exerted enough effort to justify seeking help.

3) BE INDEPENDENT. Try to complete each lesson without assistance. If you seek help needlessly, either from your teacher, a classmate, or the solutions manual, you will not gain the maximum benefit from your work. It takes exercise, you know, to become strong. You cannot learn statistics through someone else's exercise/answer. However, you must ask questions when necessary. Sometimes little things cause considerable confusion. Do not be afraid that your question may sound “dumb.” The only “dumb” action is to fail to ask about a topic that you have really tried to grasp and still do not understand. Some people seek help too soon and some wait too long. You will have to use good common sense in this matter.

4) LISTEN IN CLASS. Many of the finer points, fundamental principles and modes of thought will be developed in class. You must pay careful attention to these activities in order to really understand what is going on.

5) PERSEVERE. Do not become frustrated if a topic or problem may completely baffle you at first. **STICK WITH IT!** An extremely interesting characteristic of learning statistics is that at one moment the learner can feel totally at a loss, and then suddenly have a burst of insight that enables him to understand the situation perfectly. Learning is not an “all” or “nothing” process! If you don't seem to be making any progress after working on a problem for some time, put it aside and attack it again later. Many times you will then see the solution immediately even though you have not been consciously thinking about the problem in the meantime. There is a tremendous sense of satisfaction in having been persistent enough and creative enough to independently solve a problem that had given you a great deal of trouble.

6) TAKE TIME TO REFLECT. To learn statistics well you must take time to do some reflective thinking about the material covered during the last few days or weeks. It takes time for some ideas in statistics to “soak in.” You may have to live with them awhile and do reflective thinking about them before they become a part of you.

7) CONCENTRATE ON FUNDAMENTALS. Do not try to learn statistics by memorizing illustrative examples. You will soon become overwhelmed by this approach, and the further you go the less successful you will be. The field of statistics is based on a surprisingly small number of fundamental principles and definitions. Most of these must be memorized. But if you concentrate on these fundamentals and try to see how each new topic is just a application and/or extension of them, very little additional memorization will be necessary.

8) BE NEAT, ACCURATE, AND ORGANIZED. These are habits that will save you many “headaches” in any field of endeavor. Most people must deliberately practice neatness and accuracy before they become a habit. Keep your work organized. Have a special section in your notebook for statistics. Keep each assignment (along with old tests, notes, etc.) in a centrally located place so that you can refer to them when necessary.

9) TAKE TIME TO DO YOUR WORK AND DO IT ON TIME. You must do your assignments regularly and make up the work missed when absent. Do not wait until the last minute to do your work and then rush through it. If you spend just enough time on your lesson to get the “answers” and do not take time to really understand the underlying principles, you will soon become confused. Statistics can be enjoyable as long as you are “on top of it” and understand what is going on; otherwise, it is very frustrating.

Learning statistics is not an activity for the intellectually lazy. It requires a strong, steady effort. There is no other successful way. Neither is statistics a spectator sport, you must become very actively involved. Do not expect to sit idly by and watch your professor do the work. This may keep the professor in good condition, but it won't do you much good.

There will be no extra compensation given for working hard or conscientiously doing your homework. This is something you are expected to do as a matter of course. The “reward” you get will be the statistics that you learn.

GOOD LUCK!!!