Academic Orientation Suggestions

Adapted from "Teaching at the University Level" by Steven Zucker,
Notices Amer. Math. Soc. 43 (August, 1996), pp. 863–865

There is a big instructional difference between high school and the University: here you learn principally *on your own or working cooperatively with fellow students outside the classroom.* This reflects the very different purposes of the two types of institutions. High schools exist to impart the minimal level of knowledge and intellectual power people need to *survive and function* in modern society. Universities aim to develop the critical analytical, problem-solving and creative skills that our highly technological society requires to *maintain and advance* its level of civilization and standard of living. Your presence here means that you have the intellectual power to make significant contributions to the advancement of the quality of life in the 21st century. Realizing that potential requires hard intellectual work: your classmates from high school who went directly into the work force typically spend 40 or more hours per week working and commuting. Commensurate effort here is *approximately two hours of out-of-class work in each course for every hour of classroom time.* Ample help is available to assist you in spending that time effectively. Take advantage of as much of it as you can!

Because you are now in a community of other talented students, the pace of teaching accelerates. A typical high-school course lasts 18 weeks and meets daily. University courses last 14 weeks, and meet only two or three times a week. Even if our courses covered only as much as high-school courses (in fact, they cover much more), the pace would thus be much faster. Since you have become accustomed to teaching aimed below your intellectual capacity, it will take some time to adjust. Don't be overwhelmed: thousands of UConn students have successfully made the transition!

Some suggestions to help you orient yourself academically:

1. Discard your prior expectations about teaching and learning. The sooner you take responsibility for your own learning, the more successful you will be. Be ready for tests and projects that ask you to go beyond simple reproduction of classroom material and homework problems.
2. Realize that material in class will flow at *two to three times* the rate in high-school. Strive for deep enough understanding of the underlying principles that you can recognize situations where applying them will lead to solution of problems that may look new or different from earlier examples or exercises.
3. Because lecture time is short, ***it is your responsibility to learn much of the material outside class***. Typically, your instructor will discuss important points from the text, illustrate their use in solving some homework exercises, and leave remaining details for you to explore on your own or with others.
4. Your instructor is not interested in "programming" you with isolated facts or rote procedures. He or she tries to provide some guidance about the framework of the subject, point out important patterns, and foster understanding of key concepts and approaches. That guidance can help you start your own program of mastering the subject. You may find it best to use office hours for further guidance and clarification of concepts and their application, as well as for assistance with troublesome technical details of homework problems. Also incorporate such resources as the Math Center into your study program.
5. *Read the textbook carefully.* Follow the advice in the "Foreword to the Student" (especially the last paragraph on p. x) about how to read actively. There are two workable approaches to reading the text: use it as either an introduction to or an elaboration of the lectures. Reading the material before class can help you follow the lecturer's discussion of the material better and derive fuller understanding of it. You may also read it after seeing the lecture, to build on the classroom presentation and solidify understanding of the main points. The text's worked-out examples provide a broad range of illustrations of how to use the ideas of each section to approach the homework problems. Try to work all assigned exercises, and seek help when you encounter ones that you cannot solve fully.