3 Choosing Classes

Every semester, students confront the dilemma of what classes to take. Many look harried and disappointed during registration week and the first week of classes. The cause of their disappointment is not that all the good courses are filled up—even if students think they are—but that they wear blinders in making their choices. Rather than consider the full range of courses at the university, their eyes narrow to a limited number of choices that they believe are the only ones that fit their interests and academic plans. Taking off these blinders will reveal an incredible number of fascinating courses at every university, many of which have plenty of open seats.

The first mistake that students make is in sticking to their comfort zone. They only take classes they think they will like and do well in. If presented with a radically new or different option, they will usually take a pass. A real education, however, will confront them with genuinely new ideas. And in retrospect students agree with this. When a recent survey asked graduates what they would do differently if they had to repeat their university experience, the most popular answer at three selective schools was to take more courses, to take more diverse courses, and to do more research.[1] The tips here are intended to open students' eyes to this variety as well as to get them into courses that will challenge their preconceptions.

The second mistake is a lack of diligence in seeking out the best professors. Classes differ not just in subject matter, but in the quality of the instructor. There are great teachers and terrible ones. This is partially the nature of the beast—teaching is more an art than a science—but it also reflects the incentives at universities. Professors are not rewarded for teaching

1.Twelve to 14 percent of students chose this option, and 8–10 percent said that not doing this was their biggest regret. See *New York Times* Alumni Poll, June 15 –23, 2007.

well. Those who do teach well and devote themselves to undergraduates are therefore doing it from the kindness of their own hearts.

Ultimately, the professor makes or breaks the class. As students your challenge is simply to identify as many great professors as possible. You need to find those souls who have a natural talent for teaching and who care about students. I would add that great teaching is not a single thing. You may disagree with your friends on which professors are the best. Some may prefer charismatic, outspoken ones; others more restrained personalities; some like formality and distinguished professors; others informality and youthful enthusiasm. You don't have to follow the crowd to those considered the best. You have plenty of chances to decide for yourself which professors and teaching styles suit you. The tips to follow will help you in identifying these professors.

TIP 10

Consider Visiting Multiple Classes during the First Week of the Semester

Universities require you to register for classes before the semester begins, and many classes do fill up before your registration time rolls around. But most universities have liberal rules about changing classes during the first week or two of the new semester. And rarely do all worthwhile courses fill up even at the end of the course change period.

You should view these rules as a loophole that allows you to make better choices. What I would recommend is the following. During the first week of classes, go to between five and ten different classes. Try a different class at every time slot. (Of course, beware of classes that require you to attend the first session.) While this may keep you running around for that week, it won't be too bad because professors generally do not teach very intensively at the start of the term precisely because students are switching in and out of classes. And it will yield a number of dividends.

Sampling multiple classes will provide you an early impression of which courses are good and which are not. As the next tip shows, most people can make good evaluations of classes relatively quickly. Just seeing the professor in action once is usually enough. You will also be able to look at the syllabus and see what sort of material is covered and in what way. You can get a rough idea of a professor's devotion to teaching by the kind of assignments in their syllabus. Professors who are committed to their students tend to give more feedback and are less likely to assign just a midterm and final or a single final

paper. If you want to improve your efficiency, a lot of this groundwork can be conducted before the semester starts. Many professors post their syllabi online, and you can browse a course's required texts in the bookstore even before the term starts.

This approach will also provide you with a mini-introduction to many different fields. Even in the course of one or two lectures, you will see what different subjects have to offer. And the syllabi will provide you with a nice reading list if you ever get interested in the topic of classes you don't end up taking. (I am an inveterate collector of syllabi for this very reason.)

Obviously you won't be able to sign up for every good class you attend, but you will for some, and you will also develop a stock of courses that you wish to take in the future. Because certain material needs to be covered for each new crop of students, the same courses are offered year after year. (The Harvard philosophy professor Robert Nozick reputedly never taught the same class twice, but he is the exception.) Even if you can't take a course during one semester, you will likely get another opportunity later. And as important as finding the right subject matter is finding the right professor. While you may not get the exact same course a second time, you will surely be able to catch the same professor again and this is just as good.

TIP 11

Usually Trust Your First Impressions

In his best-selling book *Blink*, the *New Yorker* journalist Malcolm Gladwell relates how people can make surprisingly accurate judgments literally in the blink of an eye.[2] The subconscious mind is good at sizing up situations even before the conscious mind starts thinking about them. This insight can be useful in choosing courses. If you love (or hate) your professor on first sight, your opinion is likely not going to change later.

Research on student evaluations of professors backs this up. In one experiment students were shown a silent thirty-second video clip of a professor teaching and were then asked to evaluate the quality of his teaching.[3]

2. Malcolm Gladwell, *Blink: The Power of Thinking without Thinking* (New York: Little, Brown, and Company, 2005). Though see Richard Posner, "Blinkered," *New Republic*, January 24, 2005, for the limits of his argument.

3. Nalini Ambady and Robert Rosenthal, "Half a Minute: Predicting Teacher Evaluations from Thin Slices of Nonverbal Behavior and Physical Attractiveness," *Journal of Personality and Social Psychology* 64, no. 3 (1993): 431–41.

Amazingly, their evaluations based on this short, silent clip were almost identical to those of students who had experienced the professor's teaching for the entire semester, presumably with sound. First impressions in short seem to be lasting impressions.

One first impression that I sometimes consider is whether a professor uses innovative teaching methods—that is, something besides the standard lecture or discussion format. The reason is not that these innovations are necessarily better, but that they are a sign that the professor has actually thought about teaching and cares enough to work on it. And if they care that much, they will be helpful to you in other ways too.

I would add one caveat to this advice. Much of an education is challenging your own biases. When you first encounter a professor who really and genuinely challenges those preconceptions, you may react negatively. But that is precisely the class you need to be in to examine your prejudices and find your way to truth. If you are a libertarian, you need to be in sociology classes. If you are socialist, you need to be in economics classes. In these cases, first impressions can be misleading.

PRIORITIES IN CHOOSING CLASSES

I can't say for certain how my students go about choosing their classes, but my experience suggests that they follow certain rules. Most seem to start by trying to satisfy requirements. These might be distributional requirements, required courses for their major, or required classes for graduate school. They then think about balance—they want to make sure they don't have too many hard classes or writing classes or math classes—and try to make sure that they don't have too many classes early in the morning or on Fridays. Having limited themselves in these ways—and to certain subjects they know well—they then start thinking about what subjects look interesting and who the best professors are.

I would suggest reversing these priorities (see the table below). I would begin by trying to identify the best professors at your college. I have suggested some ways of doing so in this chapter. Most of your best educational experiences will come from great professors. Your first priority should be finding them. I would then suggest looking at new subjects, subjects that will develop your skills in thinking or writing, and subjects that will challenge your preconceptions. Once you have assembled these classes, you are almost guaranteed a great semester.

Only then would I turn to balance and requirements. While an unbalanced schedule might overwhelm you, if all the courses you are taking are stimulating, then you probably won't mind doing the extra work. And while I don't suggest that you ignore requirements—I do want you to graduate—you should start by trying to get the best education you can and think about requirements only once you have found your way around and can choose requirements that fit your needs. (I would add that there are sometimes ways around requirements; if you make a compelling case to the relevant administrator, you can often substitute other classes for the ones you were supposed to take.)

Priorities in Choosing Classes

Students' Priorities	*My Suggested Priorities*
1. Requirements	1. Great Professors
2. Balance	2. New Subjects
3. Interesting Subjects	3. Balance
4. Good Professors	4. Requirements

TIP 12

Go for Variety, Especially Early On

In most countries outside of the United States, students apply not to a university but to a particular department, say chemistry or history, and then study more or less exclusively in that department. American universities are different. Their presumption is that students enter college without knowing what they want to study. Indeed, high school students are not introduced to most of the subjects that they can study in college. How many high schools offer classes in African American studies, anthropology, art history, or astronomy, to cover only the *A*'s? In fact, even four years is not enough time to sample every department at a university—a large one may have a hundred departments, a smaller one thirty—much less the different idea streams in each.

In order to find out what you enjoy doing and what you do well, you thus need to sample a large variety of courses. Every discipline has a unique perspective on the world—a set of questions it asks and ways of addressing them. Only by immersing yourself in a number of these perspectives can you figure which ways suit you the best. As a freshman and sophomore, you

should take at least one course each semester that is a complete and total flyer—a subject you know little about but which sounds intriguing. Most will not stick, but one or two may. As a side effect of this experimentation, you will also understand the world much better. The more ways of knowing that you learn, the better equipped you are to make sense of the diverse situations you will encounter throughout your life.

TIP 13

At Least Once a Year Pick a Class That Doesn't Seem to Fit Your Interests

Challenging your biases is hard. It hurts to have your worldview called into question. Yet, a real education requires you to do exactly this. An education tries to make us see the world as it really is. But without training, the human mind sees the world only through a glass darkly. We view politics through our partisan preferences, ethics through our religious upbringing, and so on. Most of these prejudices are so ingrained that we don't even notice them. For that reason they are even more insidious and require a full frontal challenge.

Every year search the course catalog for a course that you know you will hate or disagree with. For some it will be "Introduction to Women's Studies," for others "Biological Differences between the Sexes." It may be "Conservative Political Thought" or "Marx and His Followers." The important thing is that you are going to disagree with the basic premises of the course.

The reason for choosing a course like this is that people have a strong tendency to confirm their own prejudices and insulate themselves from alternative views. Several years ago I heard a pollster from Gallup discussing the popularity ratings of politicians. An irate caller to the program claimed that their surveys were systematically biased. "How," she asked, "could George W. Bush have approval ratings of 70%?" (This was back in 2002.) She didn't know one person who approved of his performance. The pollster patiently explained that this was in fact the purpose of polls. People choose their acquaintances so carefully that they are rarely exposed to opposing viewpoints. Only a truly random sample of the population can tell you what the country as a whole is thinking. Indeed, he had received the same complaints a few years earlier when Bill Clinton had equally high approval ratings. Back then people were calling in to say that they didn't know one person who approved of Clinton.

The same applies to choosing classes. Left to their own devices, most students will choose classes that confirm their prejudices and strengths without even knowing that they are doing this. What is needed is some mechanism to force them to confront alternatives. That is the justification for this tip. It is the equivalent of the pollster's use of random selection. At least once in a while, you should select a course that you would not have selected on your own. Even if you hate it in the end, you will have learned more than by taking one more course that intentionally or not confirms your current beliefs.

TIP 14

Take Classes with Heavy Writing Requirements

While college is not primarily a place to learn practical skills, there is at least one skill that you need to pick up as a part of your education. That is the skill to write quickly and well. There is hardly a job for college graduates that does not require them to write clear and intelligible prose on a daily basis. If you learn nothing else in college, make sure that you can produce a coherent eight-hundred-word argument in less than an hour.

This applies across the curriculum. Consider the following comments of the owner of a computer programming firm, a sector where one would think that writing matters little if at all:

> Would Linux have succeeded if Linus Torvalds hadn't evangelized it? As brilliant a hacker as he is, it was Linus's ability to convey his ideas in written English via email and mailing lists that made Linux attract a worldwide brigade of volunteers. . . .
>
> Even on the small scale, when you look at any programming organization, the programmers with the most power and influence are the ones who can write and speak in English clearly, convincingly, and comfortably. . . .
>
> The difference between a tolerable programmer and a great programmer is not how many programming languages they know, and it's not whether they prefer Python or Java. It's whether they can communicate their ideas. By persuading other people, they get leverage.[4]

These remarks apply to an even greater extent in fields where writing is more common.

While all colleges profess a commitment to developing the writing skills

4. See Joel Spolsky, "Advice for Computer Science College Students," www.joelonsoftware.com.

of their students, few do it as well as they should.[5] Writing should be a constant part of every student's education, but faculty shrink from teaching it. Most professors are trained in a particular subject, not in the art of composition. Teaching writing is also hard. It requires professors to devote a lot of effort to each piece of writing they receive—often very poor ones. This is a large time commitment for which professors receive little or no reward.

As a result, teaching composition is outsourced—to the English department and then to graduate students or part-timers.[6] But this is far from ideal. While scholars of English literature may be experts on style, just about all professors make their living by writing and are capable of teaching students the principles of good writing. Best then would be to write across the curriculum—to have practice writing essays about political science, philosophy, history, and even economics, biology, and physics. This has the added advantage of giving students the opportunity to write about issues that interest them, which makes the training more effective. But few colleges have writing-intensive courses in multiple subjects.

What do good writing classes look like? The way to develop writing skills is the same way you get to Carnegie Hall—practice, practice, practice. Writing a short essay or two every week or better every day is best. (Extensive reading is of course vital too.) But most classes do not require you to write very much. Most universities have an introductory set of writing-intensive seminars—often only one course—but they stop there. Better would be more of them. When Richard Light interviewed graduating seniors he found that many would have preferred writing seminars to be given in junior and senior year when they were ready for them and desired them.[7] As freshmen, they didn't realize the importance of writing and had too little time to devote to it. You would be well advised to seek out as many classes labeled "writing intensive" as you can find.

Nearly as important as quantity is feedback. You need to hand in the assignment, get critical comments, and incorporate these comments into future assignments or even revisions of the same piece. Don't choose courses

5. According to one scholar, "Responsible administration of a university writing program is a test of the institution's integrity, a test few institutions can pass at the minimum competency level." See Edward M. White, *Developing Successful College Writing Programs* (San Francisco: Jossey-Bass, 1989), p. 164

6. See Louis Menand, "The Ph.D. Problem," *Harvard Magazine*, November–December 2009.

7. Richard J. Light, *Making the Most of College: Students Speak Their Minds* (Cambridge, MA: Harvard University Press, 2001), pp. 54–62.

with a single twenty-page final paper—or at least don't choose them to improve your writing—choose ones with short weekly or biweekly papers. The ideal might be what is common in graduate school where students are required to write two-to-three-page reactions to the week's readings each and every week. Such a model seems to pay off for graduate students who use it to become experts in their field in scarcely more than a year.

The beauty of such intensive writing is not only that it forces you to practice, but it also requires professors to focus their attention on you specifically. They have to engage your efforts every week in a personal way. This is the reason why such courses are not as common as they should be—they take up a lot of faculty energy. But it is exactly for this reason that you should seek them out. Indeed, the amount of writing required in a course is one measure of a professor's devotion to her students. If a professor requires a lot of writing, this means that she has committed herself to spending a lot of time on the class because she is going to have to grade all of these essays and get into the heads of all the students in the class.

Finally, all of this writing has benefits for learning more generally. Writing intensively forces you to come to terms with the course material, which is why courses with a lot of writing have higher levels of student engagement.[8] And there is evidence that putting material into narrative form—in short, writing about it—is one of the best ways for the brain to absorb new ideas.[9] In short, you are learning not just how to write better, but how to think better.

TIP 15

Take as Many Small Seminars and as Few Large Lecture Courses as Possible

If you want to get your money's worth at college, minimize the number of large lecture courses you take (or audit them as Tip 26 suggests). This is the place where universities skimp and save. Lectures allow them to teach a lot of students with very few teachers. The upshot is obvious. In a class of one student, you get 100 percent of the professor's attention. In a class of

8. Richard Light has found that courses with frequent writing assignments are also viewed as more interesting and challenging than other courses. See ibid., p. 55.

9. See Robert H. Frank, *The Economic Naturalist: In Search of Explanations for Everyday Enigmas* (New York: Basic Books, 2007). Frank has students in his introductory economics course write short essays explaining an unusual economic phenomenon.

ten, you get on average 10 percent. What then do you get in a class of one hundred? One percent is probably a high estimate as a professor's eyes blur at the mass of students. You cannot expect individualized attention and personal feedback in these classes.

This is not to say that lecture classes are all bad. Often you will find brilliant and charismatic professors who seem to give you your money's worth and even find ways of engaging with students; though nearly as often you will encounter the opposite.

But a great performance is just about all you will get.[10] Otherwise, most if not all of your contact is with a TA who makes sure you do the assignments, grades your papers, and perhaps leads a discussion section. Yes, some TAs are smart and devoted, but is this what you are paying tuition for? Lectures also tend to emphasize passive learning (the professor talks, the student takes notes) over active learning (where students engage with problems themselves).[11] One of the main findings of educational research is that active learning leads to better outcomes than passive learning.[12]

Not only are you getting less out of lectures, but there is a cheap substitute that is often of higher quality than most of the classes you are taking. Just buy CDs or DVDs of great lectures from places like the Learning Company (www.thegreatcourses.com) or access free videos of lectures from a new Youtube page (www.youtube.com/edu).[13] There is a high probability

10. The economist Brad Delong asks why the lecture emerged if it is not the best way to learn. He argues that in medieval times when the university arose, books were too expensive for students to own (this was before the printing press). Thus, professors had to read them out loud (lecture is from the Latin lector or reader) while students frantically scribbled down their contents. See Brad DeLong, "Why Are We Here? (In a Big Lecture, That Is)," delong.typepad.com.

11. One study found that 73–83 percent of professors simply lecture passively to their students. See Derek Bok, *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More* (Princeton, NJ: Princeton University Press, 2006), p. 120.

12. Greg Light, Roy Cox, and Susanna Calkins, *Learning and Teaching in Higher Education: The Reflective Professional*, 2nd ed. (Los Angeles: Sage Publications, 2009).

13. As Steven Pearlstein puts it, "Every year . . . there are thousands of college professors who twice or three times a week offer what is largely the same basic lecture course in a subject like molecular biology or Shakespeare comedies. A few of these professors offer the kind of brilliant lectures that fill auditoriums and provide the kind of educational experience that students remember all their lives. Many of the rest offer something that ranges from mediocre to awful. . . . Why don't we identify these extraordinary lecturers, put their lectures on CDs, and sell them to universities that could supplement them with faculty-led tutorials

that these lectures are going to be better than the ones offered at your university. It may be pushing the point to say these videos are equivalent to lecture courses at your college—you probably lose something without the live performance and the pressure to do the assignments—but they do come quite close. If you feel that you need the theatrical experience, then just sit in on the classes of the best lecturers at your university without signing up for them (see Tip 26).

By contrast, consider what you are getting out of a small seminar course. In the first place, the professor will know you—your face, your name, your ideas, your writing. And he or she will be forced to react to your thoughts whether in class or on your assignments. My undergraduate college had as its image of the ideal education, "The Log." According to legend, President James A. Garfield said of one of his former professors that "the ideal college is Mark Hopkins on one end of a log and the student on the other." This image encapsulates the way that most people conceive an education. And seminars are the closet approximation you will find at American universities. (British universities offer tutorials where you actually get this one-on-one encounter.)

Seminars will also force you to fully engage with the course material. Because you are in the spotlight during every class and forced to put forward your own ideas, you will have to actively digest your assignments. Not only will you be under pressure to do the reading—something that slips by the wayside in large lecture courses—but you will have to think about it and come up with insights and criticisms to share in class. Seminars are as much a disciplining force—forcing you to stay alert—as a place where you receive personalized attention.[14]

And research backs up this advice. When Richard Light interviewed graduating seniors, he found that the number of small classes taken correlated highly with satisfaction and even with grades.[15] Students who took more seminar-style classes were more satisfied *and* received higher grades!

This advice does not apply across the board. There are certain shy souls

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or discussions?" The religion professor Mark Taylor tried to put such a scheme in place at Williams College, but it was voted down by the faculty. See Steven Pearlstein, "The Lesson Colleges Need to Learn," *Washington Post*, December 17, 2003.

14. The discipline applies to professors as well. They have to work harder to prepare for a seminar than a lecture.

15. Light, *Making the Most of College*, pp. 46–50. I suspect that it is easier for a professor to give a low grade to a student they have never met than to one they know well.

(like myself) who are too timid to engage in seminars and thus do not get the most out of them. Four seminars each quarter may also put a strain on your time. You may need to "relax" at a lecture course to keep up your steam (that is what these courses often are—relaxation). For seminars to pay off, you have to invest in them—engaging the assignments and your fellow students. Without this investment they might be worth less than lectures. But with it, they will give you far more. An additional bonus of these classes is that you will get to know your professor personally, a benefit I will describe in chapter 6.

WHAT DOES A GOOD LECTURE LOOK LIKE?

It is sometimes hard to tell if a lecturer is doing a good job or not. Students do not always know whether they are truly learning from a lecture or simply being entertained. Educational research, however, has started to understand the styles of teaching that lead to better learning.* Students appear to learn best when lecturers do the following things:

1. *Good lecturers allow students the opportunity to participate.* Even in large lecture classes—over one hundred students—good lecturers find ways to get students involved whether by letting them voice their opinions, conducting spot polls or quizzes, or initiating small group discussions. If there is little role for students to play in your classroom—the professor spends the whole period talking—you may be better off trying another class.
2. *Good lecturers base their lectures around problems.* A good lecture almost always begins with a question, problem, or puzzle and shows students its significance. A good lecture then provides students an opportunity to grapple with the problem themselves. Only sometimes do professors provide an answer to the problem. But what a good lecture always does is leave students with a new problem to ponder at the end of class. This sort of problem-based lecturing is more likely to promote engagement and learning than other approaches.
3. *Good lecturers show students the personal relevance of the material.* Students tend not to learn as well when the material only seems

* See Ken Bain, *What the Best College Teachers Do* (Cambridge, MA: Harvard University Press, 2004)

relevant to success in the course. Good lecturers show how the material has wider relevance to their lives and careers. If your teacher has not shown you the relevance of the course, then consider another professor.

4. *Good lecturers don't overload students with information.* Most students cannot hold their attention on a lecture beyond about fifteen minutes. Good lecturers will find ways to present information in digestible chunks and vary the mode of presentation frequently, using video, audio, or hands-on activities. If your professor goes on for much longer than this in a single format—for example, simply talking—then you might not be learning as much as you could.

TIP 16

Take Mostly Upper-Division Courses

When Harvard experimented with a curriculum devoid of requirements early in the twentieth century, most students ended up only taking introductory courses. Even today many students tend to stick with lower-division courses unless they know the subject well. By all means start your academic career with lower-level courses—in the standard nomenclature 100- or 200-level classes—but it is mistake to stick with them for a number of reasons.[16]

In the first place, lower-division courses are less challenging than upper-division ones. They treat subjects superficially and are designed for the masses, the lowest common denominator student. And because they usually have large enrollments, the mode of instruction is typically the passive transmission of knowledge: a professor lectures and students take notes. To top it off, most professors dislike teaching these classes because they have to stray outside of their specialties to cover the material. Yes, you will get a panoramic survey of a field from these courses that helps to broaden your knowledge, but your mind will probably not be tested.

In upper-division courses, by contrast, professors will start pushing you. They will give you more complex exercises and more room to engage with

16. Upper-division courses are typically numbered in the 300s or 400s while graduate courses would be in the 500s; however, many different course numbering systems exist. One university recently contemplated renumbering their courses because the low numbers supposedly made their courses look too easy to outsiders. See Michael Munger, "Great Moments in Faculty Meetings," mungowitzend.blogspot.com.

problems. These classes are also smaller and thus provide you with more personal contact with the instructor and more individualized feedback on your assignments. Instructors are more engaged too because the material is closer to their areas of expertise. Though the subject may be narrower, this is not such a worry because you are unlikely to remember the material in any case. What you are learning are thinking skills and upper-division classes will give you these more than lower-division ones.

TIP 17

Focus More on Methods Than Topics

Most departments offer some courses that tell you how their field operates—the techniques it uses to understand the world—and others that tell you what scholars have found using those techniques. The first type is referred to as a methods course and the second as a topics course. The first might be titled "Methods of Political Inquiry" or "Statistics for Political Science," while the second might be called "Elections and Voting" or "The Politics of Africa." The line is not hard and fast. Methods are almost always presented in the context of an actual topic and courses on a specific topic necessarily introduce a variety of methods. The difference is more one of emphasis and design.

My advice is to take as many methods courses as you can. It is these courses that teach ways of thinking and understanding that will stick with you. The facts and theories that you learn in topics courses will be quickly forgotten no matter how interesting they seem at the time. While you might feel like an expert in African politics at the end of a semester, a few months later you will have only a hazy sense of who succeeded Mobuto Sese Seko and why apartheid fell. You will also forget some of what you learned in methods courses, but since these courses will typically teach you one big thing, they are more memorable. The big thing is how to identify and approach a problem. Once you have learned this one thing—and these courses typically hammer it in—it is likely to stick with you. You will come to view every problem you encounter in its light.

The difference is neatly summed up in the well-known proverb "Give a man a fish and he'll eat for a day, teach him how to fish and he'll eat forever." Methods courses teach you how to fish, how to approach a problem like a sociologist or art historian or biologist. While it would be going too far to

say that topics courses only give you a fish—most professors put methods into every course—the fishing skills they teach are less distilled and intense and so may pass you by. Surveys of graduating seniors confirm that learning how to think like a member of a discipline—which is what methods course do—leads students to study a subject in more depth.[17]

I would add that you should sample methods courses from around the curriculum—from the humanities, social sciences, and natural sciences.[18] Most majors have at least one required course in methods, but don't limit yourself to the methods of your major. Each field approaches the world in a different way (and sometimes multiple ways), and it behooves you to learn the essence of each perspective. While a topics course in a field will pique your interest, a methods course will give you something to take away permanently.

TIP 18

Seek Out Classes That Provide You with Continuous Feedback and Take the Feedback Seriously

If you want to learn from your classes, you need to complete your assignments and then get feedback about what you did poorly and what you did well. Without these pointers it is nearly impossible to improve your performance. How do you know where you made mistakes (much less how to fix them) if no one tells you?

One of the ways you can do this is by taking classes from professors who require a lot of assignments and return them with detailed comments. (This is one more advantage of writing intensive courses—see Tip 14.) A class with a single exam or final paper usually does not provide you with much insight into what you are doing poorly and how to improve. In fact, most of my students rarely bother to pick up their final exams and papers even after I tell them that they will be available in my office for several weeks into the following semester. Needless to say, you should always pick them up.

It is then incumbent upon you to take this feedback seriously. Don't focus on the bottom line grade. Look at the professor's actual comments on your

17. Light, *Making the Most of College*, pp. 117–19.

18. Actually, pretty much all courses in the natural sciences are methods courses. After all, labs are teaching you the actual methods of science.

work and try to learn from them. Figure out where you went wrong and how to do things differently next time. If it is not clear where you screwed up, seek out the professor at his office hours and ask what you should be doing differently. Even if you did well, try to find out where you can improve. Without getting feedback and taking it seriously, you are only getting half of an education.

TIP 19

Know the Status of Your Professors

Professors come in a variety of shapes and sizes. Some of the main distinctions are tenured versus untenured, tenure-track versus nontenure-track, and full-time versus part-time. Which of these types is going to give you the best education? The answer is not obvious. All of them may be great or terrible teachers, and it is their teaching abilities that usually matter the most. But these differences of status and rank can inform your course choices.

The most prestigious species of the professor genus is the full-time tenured professor. They can be recognized on their department Web site by the full professor or associate professor title or by their tweed jacket with elbow patches (just joking). That they are tenured means that they have produced scholarship that is important and original in the opinion of their peers. More practically, it means that they cannot be fired (or only for serious transgressions of university rules, not general incompetence).

While these are the most prestigious birds in the zoo, does that mean they will give you the best education? Possibly. On the positive side, you have some assurance that they really know their field and are (or once were) active contributors to it. And if you are a sucker for the confident, distinguished type, they epitomize it. On the negative side, they may be such active contributors to their field that they have little time for lowly undergraduates. And because they have tenure, no one can force them to do a better job. Indeed, insiders refer to a special subtype of this species as deadwood, meaning that because they have tenure and cannot be fired, they no longer devote energy to either scholarship or teaching.

The next category down on the totem pole is tenure-track full-time faculty. You can recognize them by the assistant professor title. They have been hired recently, usually fresh out of graduate school, and are given six years or so to prove—mostly through research—that they are worthy of

tenure.[19] Like law firms and the military, universities typically have an up or out rule so that either you get tenure and stay or don't get it and seek work elsewhere (almost always at a less prestigious school).

Because these faculty are more or less single-mindedly focused on tenure, they spend most of their free hours trying to produce serious research.[20] Because they are lower on the totem pole than senior faculty (senior means tenured, junior untenured), they often have to do a considerable amount of teaching. They are also likely teaching for the first time—as graduate students they mostly served as TAs—and developing their own courses from scratch.

While this may sound like an inauspicious combination for producing great teaching, such faculty do have advantages. They are fresh to the field and still have a large degree of enthusiasm that has often been worn away in older faculty. The content of their courses is closer to the state-of-the-art in knowledge, and they are more likely to come up with interesting, new courses. Because they are younger, you may be better able to relate with them on a personal level. You might also see them around the department more because they have fewer outside responsibilities.

Although tenure for assistant professors is mostly connected with research productivity, some colleges and universities do consider the quality of their teaching. The implicit standard, however, is usually a negative one—universities do not want to tenure teachers who inspire complaints—but they are relatively indifferent toward mediocre teachers. (Liberal arts colleges have higher standards here.) As a result, untenured faculty have some incentives to teach better, but not particularly strong ones.

These two groups used to form the heart of most colleges and universities, but there is a group of "others"—known generically as adjuncts—who carry an increasingly large share of the teaching load (our profession's version of outsourcing). They come in various forms. There are advanced graduate students who are allowed to teach their own classes. There are full-time lecturers who are typically hired for their teaching skills, but do not

19. This is referred to as their probationary period, and for some it feels like being on probation.

20. A movie called *Tenure* recently premiered at the Sundance Film Festival, but was a flop. The reason may be the lack of excitement in trying to get tenure. As one professor put it, "since my ongoing pursuit of tenure typically involves me sitting in front of my laptop until 1 a.m., I don't know how interesting that would be to watch." See Scott Jaschik, "Tenure, the Movie," *Inside Higher Ed*, March 18, 2008.

have tenure, are not expected to produce research, and are usually poorly paid. There are various visitors—whether postdoctoral fellows, foreign academics visiting America, or individuals with relevant real-world experience. And there are part-timers who are hired to teach a course or two that the department cannot cover without outside help. This other category typically goes under titles like lecturer, adjunct professor, or visiting assistant professor (sometimes tenure-track faculty who have not finished their dissertation use these titles, but only temporarily).

How should you judge these others? It is difficult to make any obvious recommendations. Permanent lecturers are often the best teachers in the department because that is the basis of their appointment and they do not have other commitments like research. They can devote all of their time to undergraduates. They do, however, lack the prestige of their tenured or tenure-track colleagues and usually are not as well versed in the latest developments in the field; they may be teaching material whose sell-by date is long expired.

Graduate students are under large pressures to finish their dissertation and get a job, so their attention may not be completely focused on teaching; they of course lack experience as well. They are, however, the most open to forming personal bonds with students because they are students themselves. The rest of this category is a mixed bag. Visitors can be very good or very bad. They may try to impress in order to get a full-time position, or they may view their visiting year as a vacation. What you should keep in mind about all of these part-timers is that they may not be around later if you need a letter of recommendation.

Having said all of this, I would note that recent research has shown that these distinctions do not seem to have systematic effects. As one study put it, "Whether an instructor teaches full-time or part-time, does research, has tenure, or is highly paid has no influence on a college student's grade, likelihood of dropping a course, or taking more subsequent courses in the same subject."[21] What does seem to affect these outcomes is rather the quality of a professor as evaluated by students. It is to these evaluations that I turn now.

21. Florian Hoffman and Philip Oreopoulos, "Professor Qualities and Student Achievement," NBER Working Paper 12596, October 2006. Another recent paper found that "adjunct and graduate assistant instructors generally reduce subsequent interest in a subject relative to full-time faculty members, but the effects are small and differ by discipline. Adjuncts and graduate assistants negatively affect students in the humanities while positively affecting students in some of the technical and professional fields." See also Eric Bettinger and Bridget

TIP 20

Learn to Be a Critical Reader of Student Evaluations of Faculty

Most universities have students fill out an evaluation of every course they take. The results are often (and definitely should be) made publicly available and can be a good guide to the best classes. In fact, a large number of studies have shown some of the benefits of these evaluations.[22] In the first place, they are reliable; students tend to agree with each other on which classes are good and even ten years later still rate the same classes highly.[23] They also appear to be correlated with performance; students perform better in classes they rate highly. In one study, two professors taught the same class and gave identical exams; students taught by the professor with higher evaluations performed better on the exam. For these reasons you should take these evaluations seriously.

On the other hand, there are a number of well-known biases in student evaluations. As you might expect, professors who give out higher grades get higher evaluations. In one survey, 70 percent of students admitted that their evaluation was influenced by their expected final grade. Evaluations are also influenced by extraneous factors like the teacher's looks and their use of acting techniques. In one study—called the Dr. Fox study—students gave high marks to a professional actor who was instructed to give a contradictory and nonsubstantive talk.[24] And in another a professor improved his evaluations considerably simply by incorporating gestures into his lectures. In short, the correlation between evaluations and education is less than perfect.

I would add that evaluations represent the opinions of the average student. Average students may be more influenced by the external charms of the class—its entertainment value—than by its substance. Average students may be bored by lectures that are too subtle and complicated or that re-

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Terry Long, "Do College Instructors Matter? The Effects of Adjuncts and Graduate Assistants on Students' Interests and Success," NBER Working Paper 10370, March 2004.

22. This section follows Michael Huemer, "Student Evaluations: A Critical Review," home.sprynet.com/~owl1/sef.htm.

23. Interestingly, when faculty observe each other, they tend not to agree on their evaluations.

24. This study has been criticized for asking misleading questions, and later replications have yielded weaker results. See Ken Bain, *What the Best College Teachers Do* (Cambridge, MA: Harvard University Press, 2004), pp. 12–13.

quire a lot of previous knowledge. I would guess that many of the very best scholars are not among the highest rated teachers though they may have the most to offer. To get the most out of college, it is often worth seeking out these professors even if their evaluations are not the best. What I would concentrate on is students' evaluations of how much a professor cares about students and devotes attention to them and the class; it is hard to get much out of a professor who feels disdain or indifference toward students.

I would caution students, however, about taking independent Web sites like www.RateMyProfessors.com too seriously. Unlike university-sponsored evaluations that try to capture the opinions of all students who have taken a course, these sites rely on voluntary contributions and are therefore more likely to pick up those with a special axe to grind. A sense of what these sites collect can be found in one journalist's description,

> All across this great collegiate land, students want pretty much the same things. Don't play favorites, yet don't deny students extra credit or a second chance on a paper or test. Don't "get sidetracked by boring crap." Don't refer to yourself in the third person. Don't ever call on students. Don't be "mean," "hateful," or "ambiguous." Don't take attendance. Don't be "high on Viagra and full of yourself." Don't be "distractingly spastic." Very important: Don't talk about stuff in class and then put other stuff on the test. Most important: Don't give low grades. Do show slides. Do offer easy assignments. Do crack jokes and "provide a fun teaching atmosphere." Do show up at your office hours. Do give A's on all group projects. Do walk your dog around campus. Do resemble a celebrity of some sort. Finally, try your best to be "awesome."[25]

Finally, I would note that professors tend to be suspicious of student evaluations. Most believe they are only weakly correlated with learning. While research does not back this up, one can forgive them for getting this impression from the written comments they receive. Few comments are related to the substance of the course and many concern irrelevant issues like the professor's appearance or wardrobe. Most of us have our own set of favorite comments that seem to come from an alien planet. Here is how the sociologist Kieran Healy glosses a recent set of evaluations (even as he recognizes the value of the exercise):

> Arizona asks for freeform comments on two questions: What did you especially like about this course? And, What suggestions would you make to

25. Michael Agger, "The Hottest Professor on Campus: What Happens When Students Rate Their Teachers Online," *Slate*, November 17, 2005.

improve this course? Past highlights . . . include, "No more tucked-in shirts without a belt" and "This course would be better if it wasn't required." As expected, the comments from [last semester] cover a range. Some of the better ones:

Edifying: "Instructor knows his shit." "Actually interesting!"

Possibly misguided: "[Please provide] More suggestions for my own life with regard to my business decisions."

Praise or not? "Professor was ironic." "[I liked] the ability of the instructor to make a not so interesting subject somewhat interesting." "The teacher had his own way of teaching."

Campus identity politics scandal narrowly avoided: "Don't insult the Scottish. We may not have preserved the written word during the Dark Ages but we are a proud people none the less."[26]

The point is that if you want to improve the quality of undergraduate teaching, try to give your professors serious and constructive advice on these surveys. They are not your opportunity to get revenge, but to help the professor improve his or her teaching as he or she has presumably been helping you. (See text box "How to Improve Your Professors.")

TIP 21

Ask Professors You Know What Courses They Would Recommend

While student evaluations give you a sense of what other students think about classes, professors may also have a good idea of which ones are worth taking. It can thus be useful to ask your current or favorite professors which classes they would recommend. While they haven't taken classes in their own department, they often have a good sense of what their colleagues are like. They know who the acknowledged experts are and who is just faking it. They know who devotes time and energy to undergraduate teaching and who does not. They know who has won teaching awards and who has not. And they know each other's personalities, often too well.

As a result, they are particularly well placed to tell you what classes you should and should not be taking. If you tell them a little about your interests and plans, they can be even more helpful. Most professors will not mind giving this advice and will even be flattered that you want to know their

26. See Kieran Healy, "Student Evaluations," www.kieranhealy.org.

opinion and take more courses in their discipline. Note, however, that professors will be reluctant to badmouth their colleagues openly, so keep an eye out for subtle hints. If a professor doesn't mention a course or is reticent to speak about one you are interested in, that may be their way of telling you to avoid it.

TIP 22

Take Courses That Relate to Each Other

Students often have their most rewarding semesters when they take several courses that interrelate in synergistic ways. Often the courses have similar subjects but are taught in different departments—for example, a political science course on economic policy along with an economics course on the same subject. Or even two courses in the same department but taught by professors with different perspectives. This has several benefits. It forces you to confront multiple ways of thinking about a subject instead of the perspective of a single professor or discipline. Bringing insights from one class into another allows you to contribute more creative ideas to class discussion and write more thoughtful essays. More practically, often there is overlap in the readings for the classes, which gives you a chance to emphasize depth rather than jump around from subject to subject (the "if this is Tuesday, it must be biology" feeling).

Thinking more broadly about your academic career, another advice guide recommends putting together a "personal narrative called your transcript."[27] What they mean is that you should be able to tell a story that explains most (of course, not all) of your course choices. This is more than an explanation for your choice of major; it is an explanation that ties together a broad cross-section of your classes. For example, you might be a sociology major who focused on urban life and thus took courses in African American studies, economics, and politics, all of which focused on ways to improve cities. Having a narrative like this will not only teach you more—because of the synergies between the courses I just mentioned—but it will give you something to say to future employers who want to know that you have gotten an education rather than taken a random series of classes.

27. Peter Feaver, Sue Wasiolek, and Anne Crossman, *Getting the Best Out of College: A Professor, a Dean, and a Student Tell You How to Maximize Your Experience* (Berkeley, CA: Ten Speed Press, 2008), p. 54.

TIP 23

Study Abroad for at Least One Semester if Not an Entire Year

While universities try to be diverse, they are inevitably grounded in one place. If you are at Princeton, you are at Princeton with all the limitations that life in a small suburban New Jersey town entails. (I grew up in the town next door, so I know whereof I speak.) Further, most American universities—unlike those in foreign countries—are built around delimited campuses, the proverbial ivory tower, that tend to isolate you from the rest of the world.[28]

Indeed, a typical problem with American students is what the Princeton philosophy professor K. Anthony Appiah calls their "astonishing parochialism": "Too many of our students haven't the faintest idea what life is like anywhere outside the class and the community—let alone the country—they grew up in." While courses on other peoples and cultures may help overcome this parochialism, they are not enough.

One of the best antidotes that colleges offer to this problem is the study abroad program. As Professor Appiah puts it, "But parochialism isn't a matter of not knowing a bunch of cultural snippets about peoples everywhere. It's an attitude. And the fellow from Des Moines or San Francisco who spends a semester at Tallinn or Johannesburg or Berlin or even Canberra at least acquires the basic Another Country insight: They do things differently there."[29]

Some study abroad programs expose you to this insight better than others. A simple rule is the more foreign the better. If possible go to a country that does not speak English (don't follow the crowds to England, Scotland, Ireland, and Australia). Better yet is a non-Western country—just about anywhere in Africa or Asia. The cultural differences will be larger, and you will get a chance to test out a new language to boot. If you can, try to live with a family, which gives you more opportunities to learn about the culture. Dormitory life is pretty homogeneous the world over. Similarly, try to take classes with actual students at the university in their native tongue rather than courses set aside for foreigners. If you do go to a Western country, stay away from the large, cosmopolitan cities that are full of foreigners

28. European universities tend to be located in large cities and more integrated with the urban environment.

29. K. Anthony Appiah, "Learn Statistics, Go Abroad," *Slate*, November 15, 2005.

and choose a provincial city where you can encounter a more "authentic" or at least a more foreign culture.

No matter where you go, try to prepare in advance for your study abroad experience. If you can, take intensive language courses before you go. If you already speak a foreign language, definitely choose a country that speaks that language (though for French speakers Francophone Africa is as good a choice as France proper). Better still is to take courses in the art, culture, religion, history, and politics of the place you plan to visit. The more you know going in, the more you will take with you going out.

TIP 24

Don't Succumb to the "Two Cultures"

The phrase "two cultures" was coined by the physicist and novelist C. P. Snow to refer to the different worlds of the sciences and the humanities. He saw that the two had become increasingly disconnected in the modern world. In his own words,

> A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is about the scientific equivalent of: Have you read a work of Shakespeare's? I now believe that if I had asked an even simpler question—such as, What do you mean by mass, or acceleration, which is the scientific equivalent of saying, Can you read?—not more than one in ten of the highly educated would have felt that I was speaking the same language. So the great edifice of modern physics goes up, and the majority of the cleverest people in the western world have about as much insight into it as their neolithic ancestors would have had.[30]

Of course the knife cuts both ways. Unlike Snow, many brilliant scientists are all but ignorant of the works of Shakespeare, Plato, and other milestones of human civilization. And each side has its own smug way of looking at the

30. C. P. Snow, *The Two Cultures and the Scientific Revolution* (New York: Cambridge University Press, 1993), pp. 14–15.

other. Those in the sciences see the humanists as lacking rigor and standards, while the humanists see the scientists as lacking soul and judgment.

Most undergraduates place themselves on one or the other side of this boundary line. They are either science types and take most of their courses in fields that use equations and laboratories or they are humanistic types and focus on courses with heavy reading and writing requirements.

I think the second type is more prevalent. Too many students are afraid to take classes that use math. This is a mistake. As Professor Appiah, himself a humanist, remarks, "Many [humanities majors] don't know how to evaluate mathematical models or statistical arguments. And I think that makes you incompetent to participate in many discussions of public policy."[31] The reason is that almost all policy proposals are based on models of likely consequences that are nearly impossible to evaluate without some mathematical background. More generally, in the words of the Harvard psychology professor Steven Pinker,

> General science education, often an afterthought, needs to be reconsidered, because scientific literacy is more important than ever. It's not just essential to being a competent citizen who can understand, for example, why hydrogen fuel cannot solve energy shortages. . . . Science is also critical because it is blending with the other realms of human knowledge.
>
> One . . . example is the sciences of human nature, such as cognitive neuroscience, behavioral genetics, and evolutionary psychology. They are illuminating the mental processes that go into creating and appreciating art and that drive the social contracts underlying economic and political systems.[32]

Part of the problem is with professors. Scientists and mathematicians often don't take the first step by offering comprehensible and stimulating courses that would attract students without a background in science—both Professors Appiah and Pinker agree on this. But there is also a reluctance among students to seek out the challenges of these subjects. Indeed, in his survey of graduating seniors, Richard Light found that one of their biggest regrets was not taking more science courses.[33]

On the other side, many science and engineering majors stay away from courses that require heavy reading or writing. This is a mistake as well. These skills are necessary in just about any occupation as Tip 14 showed.

31. Appiah, "Learn Statistics, Go Abroad."
32. Steven Pinker, "The Matrix, Revisited," *Slate*, November 16, 2005.
33. Light, *Making the Most of College*, pp. 69–73.

Moreover, familiarity with the cultural life of a society is probably as necessary as technical knowledge for being a successful person much less a useful citizen. It is these classes that will teach not only what your society is, but who you are and what you truly believe. Only in encountering the great works of literature, philosophy, music, and art will you find out what it is to be human.

While this may not seem important now, you neglect it at your own risk. When your dark night of the soul comes—and it comes for just about everyone—you will be glad to have these works to find solace in. Telling is the case of John Stuart Mill. Trained by his father almost from birth in the classical languages, math, and economics—he could read Plato in the original at age ten—Mill had a nervous breakdown when he was twenty-one. He found his way out of it only when he turned to the Romantic poet Wordsworth whose verses showed him another side of the world. Mill of course became one of the greatest philosophers of modern times.

In short, it is easy to get stuck on one side of these "culture" wars, but you should resist that temptation. Even if you are bad at math or writing, you are shortchanging both yourself and society by avoiding them.

TIP 25

Don't Try to Get All of Your General Education Requirements Out of the Way in Freshman and Sophomore Year

Most schools have general education requirements that require you to take courses in a variety of different fields (see Tip 8). These are good things. They do something like Tip 13; they force you to take courses outside of your comfort zone.[34] But they are not a be-all and end-all. Many students assume that because these courses are requirements they need to be gotten out of the way as soon as possible.

But as George Dennis O'Brien puts it, "It hardly seems an exhilarating entrance to higher studies to spend one's initial years in getting things out of the way."[35] Your first goal in college should be to find out what fields you

34. The claim about these courses is that they produce well-rounded students. The joke is that like billiard balls, they roll in whatever direction they are stroked.

35. George Dennis O'Brien, *All the Essential Half-Truths about Higher Education* (Chicago: University of Chicago Press, 1998), p. 78.

love and have a talent for. General education requirements can be a means to that end, but only a means. Don't take a class just because it fulfills a requirement. Take it because the topic interests you or the professor is great or it provides you with an important skill.

The benefit of postponing some distribution requirements is not only that you can better determine what you really care about early in your college career and devote more attention to that subject. It is also that as a junior or senior you can pick required courses that better complement your studies. Once you are a more experienced student you will be better able to choose courses that both satisfy requirements and provide you with useful training. This is much harder to do as a freshman who knows neither what she wants to study nor how the university works.

TIP 26

Audit Classes That You Don't Have Time to Take

The George Mason economist Bryan Caplan has a bit of advice for people who care only about learning rather than the credential of a diploma. He says this, "The best education in the world is already free of charge. Just go to the best university in the world and start attending classes. Stay as long as you want, and study everything that interests you. No one will ever 'card' you. The only problem is that, no matter how much you learn, there won't be any record you were ever there."[36]

You can apply his insights to life at a university. A typical student will take maybe thirty-two courses during her four-year college career—four courses per semester over eight semesters. This out of the several hundred or thousand that the university offers (my university has more than two thousand courses in the catalog that are purportedly offered regularly plus hundreds of others offered as "special topics"). You may feel that you are working hard to keep up with those thirty-two courses and all of the reading and writing that they entail. But in my experience students still have a good amount of free time, and it would be a shame not to take advantage of all the great courses being taught at a university, particularly when you are paying so much for the privilege to take them "legally."

36. See Bryan Caplan, "Get the Best Education in the World, Absolutely Free!" econlog .econlib.org.

My suggestion is to audit a course or two every quarter. Auditing means that you go to the lectures (audit is Latin for "listen"), but don't complete the assignments and don't receive a grade.[37] Sometimes this is formally noted at registration time; sometimes it is on your own initiative. In the latter case, you should typically ask the professors if they mind your sitting in. Usually they won't, but they may ask you to keep up with the reading if it is a seminar class.

In any case, your main investment is showing up for the three hours a week when the class meets and perhaps doing an occasional reading that interests you. The payoff, however, is large—you get to absorb all of the professor's hard work in preparing the lectures and organizing the material. It seems like a good deal to me and lets you sample far more of the university's enormous offerings than the thirty-some courses you take for credit. Indeed, you will sometimes meet professors doing the same thing.

TIP 27

Consider Independent Study Classes

At some point in the career of ambitious college students, they have either learned about all they can from the courses offered in their field or discovered topics that are not well covered by existing course offerings. When this happens, you should be proactive and start to create your own courses. Most universities allow students to do this through independent study classes.

This does not mean going off and studying by yourself, but instead creating an actual syllabus and set of assignments that you proceed to complete under the supervision of a professor. This gives you the freedom to focus on things you care about and to forge a relationship with a professor with whom you will be meeting personally several times during the course of the semester. And since most independent study classes culminate in a research project, you have the opportunity to produce original scholarship and learn by doing rather than hearing (see Tip 43).

You need to be careful in approaching professors to supervise your course. Many professors are skeptical of independent study classes because they fear that students won't devote serious effort to them and because it means extra work for which they are usually not compensated. You need to make the

37. This is a cheaper alternative to the tapes of "great lectures" mentioned earlier.

case that you are a serious student who is not taking this lightly. You are on firmest ground when you address a professor who both knows you well and is an expert on the subject you want to study. In all cases, you should prepare a preliminary syllabus before you visit the professor. Determine what the main works you want to read are. Outline the research project you want to undertake and your timeline for completing it. Then ask for advice on what else the professor thinks you should read or do. A demonstration of your seriousness of purpose along with an interesting topic that is not covered by existing course offerings will help to persuade professors that you deserve their mentorship.

TIP 28

Don't Take Too Many Classes with One Professor

Students often fall in love (I hope not literally) with one of their professors and wish to take all of their classes with him or her. While it is not a bad idea to take an additional class with a professor you know is good and whom you would like to know better, there are also disadvantages. In my own case, students can imbibe most of my wisdom in the course of a semester. During the second class, I start to repeat myself—if not my exact words and examples, at least my general philosophy (and certainly my jokes). It is important to sample as much wisdom as you can at university, so it is a good idea to try a variety of professors. Of course, if one of us seems to you an unending font of wisdom, by all means help yourself to another cup.

TIP 29

Don't Be Afraid to Exceed Requirements

The idea behind requirements, both general education ones and majors, is that on their own students will not get a broad enough or deep enough education. They might specialize too narrowly or skim the surface too much. But remember that requirements are only trying to ensure a minimum of breadth and depth. There is no reason why you should merely fulfill requirements. Feel free to go beyond the official requirements—take extra courses in your major or overfulfill distribution requirements. Don't assume that wise social planners have manufactured these requirements to produce the perfect education; they have not. Requirements are there (hopefully)

to correct some of students' biases in course selection—their tendency to stick with the familiar and easy—not to ensure that everyone gets what they need. Only you know the answer to that question, and requirements are at best an imperfect guide.

TIP 30

Unless You Plan to Major in Chemistry or Biology, Leave Medical School Requirements until Later

It is hard to overemphasize how many students start college as pre-med, take all eight semesters of required courses (four chemistry, two biology, and two physics), and only then realize that they don't wish to become a doctor. (I was one of these.) About a quarter of students show up as freshman thinking that they are pre-med, but only a handful end up going to medical school. Almost everyone drops their initial plan after taking two, four, six, or eight semesters of courses that they would not otherwise take and which they rarely remember with fondness. If you think that this does not apply to you, then think again.

Why so many freshmen believe they need to prepare for medical school is a bit of a mystery to me. The reasons are typically vague. "I want to help others" is the most common one I hear. But what do other professions do, hurt people? I would guess that the underlying reasons are a failure of imagination—few freshmen have any idea of the possible careers they may pursue—the seduction of the high esteem in which doctors are held (and the high salaries they receive as a consequence), and lack of confidence in their ability to forge their own career path. But it is usually not long before most students abandon these ideas.

The question is whether they abandon their pre-med plans before or after spending a quarter of their education (almost the equivalent of another major) on courses for which they have little alternative use. I would add that many of these courses are designed only for pre-med students, not for teaching the particular science as it should be taught. Physics departments, for example, typically have a watered-down version of physics for pre-med students and another for those truly interested in physics.[38] The pre-med

38. The pre-med version uses algebra instead of calculus, which makes the concepts even harder to understand.

version is designed entirely around the MCAT (Medical College Admissions Test), not the principles of physics.

I would thus advise students to defer their pre-med courses until they are fairly certain that they wish to become doctors. It is easy enough to take the required courses in summer programs or after college. If you are convinced that they need to be completed during your undergraduate career, put them off to junior and senior year when you are convinced that medical school is for you. By this time, you will have sampled many other fields and learned a little more about other career possibilities (see Tip 70). More likely you will simply become confident enough in your own abilities that you no longer need the safety net of a predefined career like medicine or law.

TIP 31

Either Take Foreign Language Classes Seriously or Try to Place Out of Them

Many universities have a foreign language requirement, usually one or two years of a particular language. The problem with these requirements is that they are neither here nor there. Unless you have good prior training, you don't learn enough of a language to use it with facility, but the requirement is burdensome enough that it does detract from your education. Or as George Dennis O'Brien puts it, you learn "enough French to order from the menu, not enough to compliment the chef."[39]

My advice is to push through this requirement to the next level. Do try to become fluent in a foreign language. This means starting the foreign language at the most advanced level you can, exceeding university requirements, and attending a study abroad program in a country that uses the language you study.

This may seem extreme, but graduating students say that their language classes were among their most satisfying.[40] The reason is that they closely approximate the kind of teaching that I have advocated here. They are taught in small sections, feature a lot of student participation, require daily assignments, and provide loads of feedback on your progress. This is what

39. O'Brien, *All the Essential Half-Truths about Higher Education*, p. 80.

40. Light, *Making the Most of College*, pp. 77–80. Alumni concur on this. They are strong advocates of continued foreign language requirements.

you should be seeking in all of your classes, but foreign language classes actually provide it. And this is not to mention the most important point: that you will gain a lifelong skill that will both broaden your horizons and help you practically.

If, however, you believe that you are unable to push through to a higher level—I am suspicious of this; a majority of human beings speak more than one language—then don't waste your time in introductory Spanish. A low-level introduction to a foreign language will not get you very far, and you would be better off devoting those hours to other pursuits. If this is your case, then try to place out of these requirements. This is a second-best solution, but is still better than a perfunctory acquaintance with a foreign language. If you decide to do this though, do seek out courses about foreign cultures to make up for your lack of language training.

TIP 32

Be Discerning in Choosing Internships for Credit

Some universities offer students the opportunity to take internships for credit. If they are well designed, internships can be an excellent way of learning, often better than a classroom experience because you learn by actually doing something. You also get a sense of a particular career and whether it is the right one for you (see Tip 70). Students tend to be woefully uninformed about the sorts of jobs out there and the skills needed to succeed in them. Research has shown that internship experience helps students develop more career-related skills and makes them more employable.

My worry is that many internships have you doing secretarial or clerical work or little work at all. They are not designed to teach much less challenge you, but to make a profit off of your tuition dollars or take advantage of your free labor.[41] This is not to say that even just hanging around a profession you are interested in can't be worthwhile; it can, even if only to show you that it is not the one for you. But do consider whether an internship will actually allow you to engage in substantive tasks. Do the same sort of preliminary research on an internship that you would do before taking a class at college.

41. Sonia Smith, "Biting the Hand That Doesn't Feed Me: Internships for College Credit Are a Scam," *Slate*, June 8, 2006.

TIP 33

Take Prerequisites with a Grain of Salt

Many classes require you to take certain prerequisites before you enroll. The idea is that you already need to know certain things to make sense of the course material. These requirements, however, are more a word to the wise than a definitive judgment. It is a professor's way of saying: I am not going to hold your hand if you don't understand the concepts. That said, if you don't think you need the prerequisite, then go ahead and take the class. Why should you waste your limited course budget on classes you prefer not to take? Explaining to the professor your reasons for wanting to take the class and your commitment to work hard are usually enough for you to be allowed to enroll.

TIP 34

Consider Graduate Courses

As chapter 8 describes, graduate school is quite different than undergraduate study. Students are typically highly motivated and willing to work very hard. Professors in turn devote more attention to graduate students and push them harder (see Rule C in chapter 9). Both circumstances lead to a much more intense academic experience than undergraduate study. Class discussion sparkles, assignments come fast and heavy, and feedback is constant. Plus only full-time tenure-track professors are teaching these classes.

For all these reasons, you may wish to sample some graduate classes in fields that you know well. You should expect these classes to be hard, and you should not expect special treatment because you are an undergrad. There is relatively little hand-holding; those who can't keep up are left by the wayside. But if you feel ready for them—the undergraduate curriculum is no longer challenging you—then a graduate course will provide a better and more concentrated learning experience.