Why do I have to take this course?

A Student Guide to Making Smart Educational Choices

By Robert Shoenberg
The OSU Experience

learning goals for graduates

1. Competence and Knowledge in Multiple Fields
   You will gain significant knowledge in your major, including its history, issues, intellectual approaches and language. You will also gain broad knowledge across the disciplines, including knowledge in the humanities and arts, science, social science and mathematics.

2. Critical Thinking
   You will evaluate and synthesize information from diverse sources and perspectives to make informed decisions and solve problems; you will engage in evidence-based reasoning and critical thinking.

3. Pluralism and Cultural Legacies
   You will acquire knowledge and appreciation of the diversity of cultural, historical and social experiences and be able to reflect on how your own life experience relates to human experience in other places and times.

4. Collaboration
   You will develop the ability to work in groups and share responsibilities in order to achieve common goals.

5. Social Responsibility and Sustainability
   You will develop life skills and values of service, citizenship and social responsibility and demonstrate global competence and understanding.

6. Communication
   You will be able to present and evaluate information, as well as devise and exchange ideas clearly and effectively so that you can communicate — orally and in writing — with diverse audiences in a variety of situations.

7. Self-Awareness and Life-Long Learning
   You will develop appreciation for your personal strengths, values and challenges, and you will cultivate the ability to use that knowledge to guide your future learning and development.

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Preface

This guide is written with undergraduate students in mind, particularly those toward the beginning of their college careers. In particular, the author has kept in mind the circumstances of students who complete their undergraduate educations at more than one institution, each with its own style of education and an often complicated set of course requirements. The guide is intended to take some of the mystery out of those requirements, to explain the common thread that underlies them and gives them coherence and a clear sense of purpose. It seeks to present the undergraduate academic experience as a whole that is much more than the sum of forty or so individual courses.

Others, too, may find the guide useful. Academic advisers may want to use it for their reference, particularly the appendix that lays out the rationale for the common elements of general education in more detail than many undergraduates may find useful. We hope that advisers as well as students will find there some well-grounded answers to their advisees’ question, “Why do I have to take this course?”

Parents, too, might want to consult the guide to get some deeper understanding of value of their investment in their children’s education. If the logic of the academic world is often incomprehensible to students, it may be even more so to parents. Perhaps they will recognize from their own experience the validity of the reasoning that underlies this guide.

The ideas presented in this volume represent a consensus of contemporary thinking about the purposes of undergraduate education. In particular, it reflects the thinking of the Association of American Colleges and Universities (AAC&U), under whose aegis it is published. AAC&U, an association of more than 1,000 colleges and universities of all types and sizes, has for ninety years been higher education’s principal voice for undergraduate liberal education. Its recent publication, Greater Expectations: A New Vision for Learning as a Nation Goes to College, is the source for many of the ideas in this guide and provides a more extensive and closely reasoned argument for them than is possible here.

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Why do I have to take this course?
Since you’ve arrived on campus, you’ve no doubt noticed that college is very different from high school. You have greater freedom and flexibility about what subjects to study and how to schedule and use your time. The flip side of that freedom, of course, is your greater responsibility for the choices you make.

Making good choices as you begin your college experience means facing seriously some questions you may not have thought about much: “Why am I here?”  “Why am I willing to invest four years of my time and a great deal of money in seeking a college degree?”  “How do I want to be different at the end of my time in college?”

If you are like most college students, you want to gain the knowledge and skills that will qualify you for a well-paying job, for an interesting career, or for graduate study. Perhaps you want to spend your time learning more about some things that have always fascinated you. You may also want to explore new horizons with the goal of becoming a more thoughtful person. Whatever your expectations, you expect your college or university to help you reach those goals.

But you’ll discover, if you haven’t already, that faculty members at your college or university have some goals for you that perhaps you haven’t thought of. In addition to helping you reach your own academic and career goals, your instructors want you to study broadly, to consider your place as a citizen in a diverse democratic society and a world community, and to further develop your ethical and moral sensibility. They want you to develop the skills to participate in the common life of the community and to enhance your whole life’s experience, as well as succeed professionally.

Furthermore, your advisers and professors know that this education beyond career preparation is expected by the community into which you will enter. Employers want the college graduates they hire to be able to work comfortably with people who may have beliefs and life experiences different from their own and to behave ethically. The community into which you will enter—and which in many cases will have paid a substantial portion of the costs of your education through taxes—expects some return on its investment in the form of active participation and contribution to fulfilling its needs. So your college education is not only about your interests: others have a stake in it, too.
Your college journey

If you think of college as a journey—which is a pretty good metaphor—then you will realize that it is not a kind of travel in which you backpack around the territory, moving whenever and wherever the mood strikes you. It is more like a guided tour, arranged by people who have expert knowledge of the area you are exploring and know what kinds of experiences will give you a full and coherent sense of the territory, or at least as full as can be encompassed in four years of study. You will have the opportunity to make many choices along the way, but the general itinerary is planned in advance.

You might think of this publication as a guidebook that is intended to help you understand how a thoughtfully designed undergraduate education can help you get the most from your journey through college. We want to help you understand the purposes of this journey and why those guiding it have picked out certain places for you to visit. They will be particularly anxious that you pay attention to some general skills, such as communicating clearly or thinking analytically, no matter what field of study you are visiting. You will learn more about the goals that the faculty has set for you, and—through the faculty—your future employers and the larger society. Since you have some choice of places to visit and little free time, we want to help you make the best use of the options available.

In other words, you will find answers to the question you may sometimes ask yourself or your advisers, “Why do I have to take this course?” You will learn how a bachelor’s degree is designed to prepare you both for work and for a life lived with other people. When you have finished, you will see your general education courses not as “hurdles to jump” or courses to be “got out of the way,” but rather as the educational journey of a lifetime, the base on which to build a life as well as earn a living.

This guidebook is for anyone who wants to earn a bachelor’s degree. The advice it offers applies no matter what kind of college or university you attend: two-year or four-year; public or private; for-profit or nonprofit. It applies especially if you plan to complete your degree at more than one institution, although it is entirely applicable if you expect to stay at one institution for your whole undergraduate career. The ideas here are relevant no matter how old you are, whether you are a full-time or part-time student, or if you have large breaks in your college attendance. They apply without exception to all majors.

Creating coherence

The key to making your college learning experience as valuable as possible is “coherence”—the integration of the academic and extracurricular components of your undergraduate education. Therefore, it is important that you understand the purposes of a bachelor’s degree and develop a coherent program to achieve those purposes.

Too often students think of the bachelor’s degree curriculum as consisting of two largely unrelated pieces: general education and the major. Only when you see them as parts of a whole does the journey—your college education—begin to make sense. And each individual traveler, with the help of the tour operators (faculty and advisers), has to make sense of it for himself or herself.

Making sense of it all is particularly difficult if you eventually find yourself wanting to transfer to another institution. At this point, you may not have considered this possibility, but transferring is more common than you might think. Well over half of all students who receive bachelor’s degrees—59.2 percent of 1992 college entrants surveyed in 2000—have completed substantial work at more than one college or university. Thus you have to create coherence from the particular curricular structures of the different institutions you may attend. These structures are likely to be designed with different emphases, different intentions. For example, the mathematics course you take at your first institution may be designed to increase your skills in algebra and statistics. Should you transfer to another institution, the parallel course at your second institution, for which you received transfer credit, may actually be a quite different course, one that is intended to improve students’ quantitative reasoning without necessarily expanding particular mathematical skills. If upper-division courses at your second institution call on this “quantitative literacy,” you may end up wondering why you don’t understand what is going on in class.

So you need to look at the purposes of the courses you choose, not just at their content. And you need to see how the purposes of individual courses relate to the intentions of the educational programs at your institution and at the one to which you expect to transfer. Courses may have similar titles, but that doesn’t guarantee that they cover the same material in the same way. You need to be aware of the way in which any course—and the curriculum of which it is a part—is designed to help you grow intellectually. Your courses—and your extracurricular activities, too—can and should complement each other in ways you can understand. The final product, your undergraduate education, should seem to you a harmonious whole rather than a miscellaneous collection of scattered bits and pieces.

Developing Your Intellectual Skills

All bachelor’s degree programs, no matter where or under what circumstances you earn them or in what field, have certain purposes in common. In brief, the common purposes of a bachelor’s degree are to teach you to hone your abilities to:

- Communicate effectively—both orally and in writing.
- Think analytically.
- Deal with unstructured problems—those for which you have to figure out the right questions to ask.

Of course faculty members in all fields of study will add to this list the expectation that you will master the knowledge, skills, and understandings of the field in which you specialize. However, those who will guide you through your college education will agree that these basic intellectual skills are at the heart of any bachelor’s degree. These skills have real-world applications, as well. Those people who hire and employ college graduates universally cite these same skills as those they most value in their employees.
Earlier in this book you read about the skills undergraduate education is intended to develop: effective communication, analytical thinking, and the ability to deal with unstructured problems. These intellectual skills do not directly address the subjects you study but what you can do with your knowledge when you have completed your bachelor’s degree.

On the other hand, curricula are always laid out in terms of subject matter—the content of courses. The best way to create coherence is to learn to connect the courses in the college catalog and the goals of a bachelor’s degree: yours, the faculty’s, your future employers’, and the larger society’s. Sometimes these connections are easy to make. Everyone, including you, wants you to be able to communicate effectively in writing, so the reason for a required writing course is pretty clear. On the other hand, you will probably be required to complete at least a couple of courses in the humanities, the arts, the social sciences, and the sciences. Why you are required to do so may not be very clear to you. If you are a chemistry major taking an introductory philosophy course or a history major taking an astronomy course you may be wondering why you have to be there. The answer is complicated, so be patient.

To begin answering this important question, let’s go back to the “big three” intellectual skills that should be destinations on your academic journey—effective communication, analytic thinking, and the ability to deal with unstructured problems.
Effective Communication

Higher education puts a premium on effective communication in a variety of forms. Indeed, there is no education without communication and no way to demonstrate learning except through communicating what one has learned to others. Functioning in the world of work, in the life of the community, or in one’s private life involves constant communication with others. Courses designed to help students develop the ability to communicate effectively tops every list of requirements for the bachelor’s degree.

The Written Word

Virtually every student at every college must complete an English composition course (or two) during the first year. Using the written word well is essential in higher education, and if you are going to succeed in college, you are going to have to learn to use written English effectively. Not only do colleges put a premium on good writing, but the world of work does so as well. Almost every occupation that requires a college degree requires that you be able to write clear English. Whether the task at hand is producing a lab report, a letter to a client, a proposal for an advertising campaign, a piece of scholarly writing, or a guide like this one, people will expect your writing to be clear, grammatical, well organized, and appropriate for your audience. You will also find that writing promotes learning. In the course of organizing and giving clear expression to your ideas you gain new insights. Writing is a process of discovery. Your “freshman composition” course will help you develop the writing skills you should have acquired in high school and earlier. You will write different things for different audiences and in different styles. But one or two semesters in college composition courses cannot get you to the level of sophistication with communication that you will ultimately need to achieve. Faculty in your major will expect that you to learn to write for the various audiences that people working in your field address will expect that you to learn to write for the various audiences that people working in your field address. Audiences that people working in your field address will expect that you to learn to write for the various audiences that people working in your field address. Audiences that people working in your field address will expect that you to learn to write for the various audiences that people working in your field address. Audiences that people working in your field address will expect that you to learn to write for the various audiences that people working in your field address.

Some colleges also require a course in oral communication. Certainly the people with whom you work and live your life will care that you talk well. Indeed, in some fields, talking may be more important than writing. The ability to speak well is a necessary skill not only in formal situations, such as making a product presentation or giving an oral address at a meeting, but also in discussing ideas in a small group or interacting with colleagues in an office. Learning to listen effectively to other people in such situations is as important as presenting your own ideas and is an ability that can be learned and polished. If you aren’t good at some of these kinds of tasks or relationships, you should strengthen your skills, even if your college doesn’t have a formal requirement that you do so. And for the life you will live after college, you will certainly want to have excellent oral communication skills.

Mathematics

Mathematics is another form of communication—one through which everyone comes to understand our world. The media through which we get our information about the world are full of charts, graphs, and statistical information. Statistics and the various ways in which statistical information is represented are a major mode of argument and persuasion used by people from toothpaste manufacturers to politicians to editorial writers. Important decisions you will make about such matters as medical treatment, home buying, or voting will depend on your math skills. Understanding information and arguments presented mathematically requires a certain amount of mathematical knowledge, though if truth be told, not a great deal. Often day-to-day situations require no more than arithmetic and some high school algebra and geometry. But being a competent citizen and consumer requires a good degree of “quantitative literacy,” the ability to understand and use basic mathematics in sophisticated ways.

Some high schools are better than others in preparing students for analytic thinking, depending on the nature of the school, the program, or the individual teacher. In college, critical analysis is a skill that you will use constantly. Virtually every course you take will aim at getting you to think about new material in the context of what you know, to bring relevant knowledge to bear on understanding it.

Analytic Thinking

The most consequential difference between college and high school is in the style of learning. As a college student, you will read more and read in different ways from how you may have read in the past. Whereas you may have done quite well in high school simply by memorizing information—absorbing facts, formulas, explanations, plot lines, and the like—dealing with the material you study in college in this way will not get you very far. You will be expected to get inside what you are learning to apply it, make comparisons and connections, draw implications, and use ideas to understand or theorize about what you are reading. Rather than reading textbooks, you will deal with original materials, such as laboratory experiments, historical documents, philosophical arguments, or survey results. You will be expected to do the thinking about them rather than having someone—the teacher or the textbook writer—digest the raw material for you. Often you will be expected to have an informed, reasoned opinion about ideas, works of art, or behaviors. Gut reactions don’t count for much: your opinions have to be supported—and often corrected—by fact, observation, and logic.

Analyze This…

To illustrate how important it is to be able to think about material in context, consider the following example. It is not enough to know that President Abraham Lincoln gave one of the most famous speeches in American history at a ceremony dedicating the Gettysburg battleground and what he said in the speech. In order to fully appreciate the meaning and significance of the speech, you need to understand the politics during Lincoln’s personal history, the tradition of funeral orations, and the reaction of contemporaries. With this perspective, you can understand Lincoln’s Gettysburg Address not as an icon of American history, but as an artifact with multiple significances for many different audiences.

To analyze and understand in this way you need to bring to bear the insights of many different ways of thinking about objects and events. A full understanding of the Gettysburg Address requires the modes of analysis of literature, oral communication, history, and virtually all the social sciences. You do not need to master all these academic disciplines, but you do need to appreciate that each of them will have a different “take” on this single event and that your own understanding requires holding them all in balance. That is not to say that the different approaches are necessarily contradictory but rather that each “way of knowing” adds important understandings.

This is the reasoning that underlies the requirement that you take a few courses in the sciences, social sciences, arts, and humanities. Each of these broad areas of knowledge has its own characteristic ways of understanding the world and its own insights into human situations and events. If you see the world only as a physicist or a psychologist or a philosopher, not only will your human decisions be flawed, but you will often not be effective in your chosen field. You need to be able to understand the limitations as well as the strengths of any field which will form the basis of your life’s work and appreciate the ways in which other ways of knowing might change the way in which you habitually see the world.

Learning and using various modes and strategies of analysis is, then, a central element of a college education. This skill is essential for such occupational decisions as where to place a road, how to design a museum, how to sell a product, how to treat a patient, what legal argument to use, or how to deal with a difficult student. It is central to deciding what social or environmental causes to support, how to be a good parent, or how to behave ethically. The undergraduate years are, of all times in life, the ones for learning to think in a variety of ways.

Why do I have to take this course? 8

Dealing with Unstructured Problems

Everyone is familiar with mathematics problems in which the right answer requires simply plugging the right numbers into a memorized formula. There is a right answer to such a problem, the instructor or textbook author knows what it is, and there is a correct way to arrive at it. That is the quintessential structured problem.

A different kind of structured problem is one posed by thinkers who are sure they have the right answer to some social issue. Give all lawbreakers long jail terms and crime will be reduced. Genetic engineering is a “bad thing” and should be halted. All laws should be based on the principle of “the greatest good for the greatest number.” We know that the issues these principles are designed to address are more complicated than these simple formulations recognize, but their adherents try to structure all problems to yield their favorite “right answer.”

Very few problems we encounter in life have right answers. Almost all significant decisions, social or personal, are based on weighing one consideration against another. The choice of action depends on which of those considerations will yield the best result. In deciding whether or where to build a road, considerations such as the real costs of traffic congestion, the need for commercial development, damage to the environment, and displacement of homes and businesses all come into play. No one answer that meets everyone’s needs and harms no one is possible, so the thoughtful lawmaker has to decide which considerations are more important and vote accordingly, bringing to bear the best knowledge and analysis available. This is an unstructured problem in that there is no right answer and one even has to decide how to pose the problem before trying to deal with it.

Notice that we talk about “dealing with” unstructured problems rather than “solving” them. Very few problems of significance have single solutions, such as the treatment to choose for a medical problem, the physical principles to apply to building a bridge, or the working condition to change in order to satisfy disgruntled employees. Most problems can only be “dealt with,” not definitively “solved” like a math problem.

If personal experience has not done so already, the process of learning to analyze complex questions formally should certainly convince you that this last statement is true. How to go about dealing with such questions is perhaps the ultimate aim of an undergraduate education.

The relationship between these general intellectual skills and a curriculum organized in terms of subject matter is not always clear. Thus we have included in the appendix a somewhat detailed “translation” between the two kinds of curricular framework. You may want to consult that material to make sense of the purposes of particular courses or to help you choose the kinds of courses that will help you develop a complete set of intellectual skills.

Sometimes it may be hard to understand your education within the framework of these skills because colleges structure their curricula as a set of courses defined by the subject matter with which the course deals. During your undergraduate studies, you may take courses in American literature, or financial accounting, or educational psychology, or organic chemistry. In these courses you expect to study a certain body of subject matter or learn a particular professional skill. More than likely you will not be offered courses called “Asking Questions,” or “Problem Analysis,” or “Synthesizing Ideas.” Though it may not appear so in the way courses are titled, each one is designed to make a contribution to strengthening your intellectual skills as much as your base of knowledge and your professional skills. Keeping this underlying purpose of the curriculum in mind will help you make sense of your undergraduate education. When you have earned your degree, your level of mastery of these intellectual skills will determine your future success as much as mastery of the subjects you have studied.

But Isn’t My Major What Really Counts?

It counts for a lot! In many ways it will be how you define yourself as a college student: I’m a business major, I’m an English major, I’m pre-med. I have a double major in women’s studies and psychology. Your major tells people what you are really interested in. It identifies you as a part of a particular community and gives you a home base. It is a shorthand indicator for prospective employers or graduate school admissions officers of what you know a lot about and what you should be prepared to do.

But in addition to helping you develop deep knowledge in a particular field of study, your major will also make an important contribution to the development of those intellectual skills that this guide talks about. You may have writing or mathematics courses tied specifically to your major. Some courses in your major will involve you in dealing with the kinds of unstructured problems that people in the field typically encounter. Your teachers will constantly be asking you to make judgments, analyze arguments, consider multiple points of view, and make connections.

So the work in your major is not just about gathering facts and information. It is about sharpening your thinking skills, too. People often talk about an undergraduate education as having two parts: to increase your knowledge and to enhance your ability to use that knowledge in intelligent, creative, and responsible ways. They go hand in hand.

Being an Active Learner

How a course is taught is as important as what is being taught, if not more so. Your education as a whole and the courses that make it up are about much more than “information.” They are an opportunity for you to practice ways of learning that you will use throughout your life.

Colleges and universities are putting increasing emphasis on active learning. In many of your courses, you should expect to take part in “hands-on” activities and be presented with opportunities to develop your active inquiry skills. In many instances you will be asked (either by yourself or as a member of a group) to:

» Seek out solutions to complex problems.
» Engage in your own research project.
» Work in the community and write about what you have observed and learned.
» Integrate what you have learned into new ideas and understandings.

As you take part in these courses you will improve your skills in asking questions, gathering information and ideas, and formulating answers.

This kind of active learning is the essence of a contemporary undergraduate education.
TIPS FOR NAVIGATING UNSTRUCTURED PROBLEMS

1. Decide what you need to know » Framing productive questions
   The first step is stating clearly what questions you need to answer in order to address the problem. That requires stating the problem and analyzing it to see what its components are. The more experience you have with problem solving, the better you will be able to know what questions will be productive.

2. Investigate the possibilities » Accessing information
   You need to learn how to use libraries and computer databases to get relevant information and ideas. You also need to exercise the investigative skills of your area of concentration, such as laboratory experiments, survey research, social observation, or textual analysis.

3. Consider the source » Evaluating information and information sources
   Not all ideas and information are created equal. Since anything anyone puts on the Internet will be retrieved indiscriminately by a search engine, you must learn to be a discriminating consumer of data and opinions.

4. Consider all points of view » Having a working knowledge of a range of analytic modes and the strengths and limitations of each
   The sciences, the arts, the humanities, and the social sciences all involve different ways of approaching a given problem and yield different kinds of insights. You need to consider them all to the degree they are relevant. Particular problems may also require understanding how people from different cultures, races, or social groups may respond. You will need to take into account a variety of points of view.

5. Become a person who knows a lot » Bringing to bear a mass of general information as a source of connections, analogies, and frameworks of ideas
   The more you know about virtually anything, the richer your problem-solving resources will be. Very often an analogy or a connection between two quite different things will give you the insight you need. The more you learn and experience, the better you are able to work on problems. Clearly this process of storing up knowledge is the work of a lifetime, but college is the time to lay in a sizeable stock.

6. Present ideas in many ways » Representing ideas in a variety of modes (verbal, mathematical, pictorial, schematic, etc.)
   Words aren’t the only way to convey ideas. Often an idea will be clarified or a solution present itself by representing the problem or the information you have gathered in some other form. So it is valuable to learn different modes of representation.

7. Connect thinking with doing » Understanding the relationship between the theoretical and the practical
   Theory and practice can reinforce or correct each other. But solutions arrived at purely on the basis of theory need to be tested by applying them. Practices that persist despite bodies of theory and evidence that they are ineffectual are destructive.

8. Think about what’s right » Being aware of the moral and ethical implications of concepts and decisions and how to determine one’s position in the face of them
   Many problems have moral and ethical dimensions. Dealing with them requires an ability to see those aspects of the problem and apply moral and ethical reasoning to them.

9. Draw the big picture » Relating ideas one to another and synthesizing them
   Dealing with a problem usually requires seeing patterns in data or connections among ideas that weren’t apparent earlier. Learning to make connections requires practice and the exercise of imagination.
Dealing with problems in the world of work, community, and family is not an abstract exercise or one that affects only the problem solver. We live in a world shared with others to whom we have obligations of understanding, compassion, and ethical behavior.

Often the other people involved in the moral and ethical dilemmas we face bring different life experiences and different values to those situations and will respond in unexpected ways to behaviors and attitudes that seem to us quite instinctive and normal. Our well-intentioned behaviors or actions founded in strongly held beliefs may be vigorously contested. College is a place to learn how people with different life experiences may think and feel and how to respond to those differences when you encounter them. That process gives you the opportunity to consider our own attitudes and beliefs and to understand them in a broader context.
Becoming a Citizen of the Nation

Achieving this purpose requires keeping two large goals in mind. The first goal is to learn the skills and capacities required in a democratic society and a world community. You are certainly aware of differences in lifestyles and points of view from your experience of the variety of races, ethnicities, beliefs, cultures, and sexual orientations of the people you meet and interact with on a daily basis. Throughout your life you will continually need to engage people with different life experiences, both at work and in your community. Understanding the differences in their life experiences and how those differences may affect their views and behaviors is basic to participation in a democratic society as well as in your chosen field of work. A well-functioning democracy requires not only that differing views be heard and discussed but that decisions be made with an appreciation for those differences. Seldom will everyone agree, but each person has an obligation to decide how to act with as full knowledge as possible of the effects on others who may think and be affected differently.

You may very well be required to enroll in a course or two that focuses on understanding cultural difference. At the very least, as a private individual, an understanding of difference will make the troubling events of the day seem more comprehensible. At best such understanding will help you do your part in making American society and the world more just and humane.

Becoming a Citizen of the World

Although some college programs treat the diversity of American society and that of world cultures as equivalent, placing both kinds of courses on the same list of choices, they are really quite different matters. American diversity is largely contained within Western cultural traditions. Courses centered on diversity in the United States focus on the relationships of different groups of people to what is considered the societal norm and usually on historical, social, and political issues. They raise questions about prejudicial treatment (of gays, of African Americans, of Jewish people) by groups dominant in a society.

In contrast, courses focusing on non-Western cultures will require you to learn about issues such as the religious beliefs, philosophical assumptions, social structures, and aesthetic principles of societies that are entirely outside Western traditions and are often at odds with worldviews common in Europe and the Americas. If you are going to consider yourself an educated person, your college experience must include at least some experience in getting your head around the nature and significance of both kinds of diversity.

Whatever means you choose to learn about ways of living and thinking other than your own, you will find that understanding and appreciating differences will be important to your life and work. Even if your life’s work will not involve direct contact with another culture, those cultures continuously have an effect, for both good and ill, on life in the United States. Your responsibilities as an informed citizen mean that you must acquire the skills to understand cultural difference. At the very least, as a private individual, an understanding of difference will make the troubling events of the day seem more comprehensible. At best such understanding will help you do your part in making American society and the world more just and humane.

The second essential skill for leading a responsive and responsible life is learning to be aware of the moral and ethical implications of concepts and decisions and how to determine one’s position in the face of them.

Until the end of the nineteenth century, in the classic American college, the culminating course (often taught by the president of the college) was a course in moral philosophy. For these colleges, mostly sponsored by religious denominations and focused on preparing clergymen, it was assumed that learning to think in moral and ethical terms and lead one’s life accordingly was the ultimate aim of a college education. This tradition of education as a process of developing capacities of moral reasoning is at least as old as Socrates and his injunction to “Know thyself!”

The dominance of the secular college and university throughout most of the twentieth century and into the current one has substantially eroded the notion of a college education as a moral education. However, in recent years there has been a movement toward paying attention to moral and ethical issues in the undergraduate curriculum, but not in the form of specific course requirements. These kinds of issues are likely to arise in studies in the social sciences, environment and ecology, literature, and, of course, philosophy. In these areas of study, questions of social justice, responsibility toward the environment, or moral personal action arise naturally from course texts and subject matter. The professional studies (such as business, nursing, and education) continue to raise questions of a moral and ethical nature specifically related to those fields, such as treatment of patients and clients and honest public disclosure.

Dealing with complex problems always has a moral and ethical dimension. To keep this awareness in your classes your instructors will often challenge your responses to their questions and the ideas you propose on moral and ethical grounds. Even if they do not, you will want to raise these questions yourself. The world expects you to behave ethically. Your college education should help you develop the capacities to see the ethical dimensions of problems and to weigh choices in ethical terms.
Chapter 3
Looking Backward: A Future Retrospective

The late nineteenth-century American writer Edward Bellamy, in his Utopian novel Looking Backward, writes from the point of view of an ideal society seventy-five years in the future. He imagines what that future society would be like, how the people who are living then would view his own time, and how they used the intervening years to change their society.

You might take the same approach in thinking about the skills and capacities you want to have four years from now—how you will be different from what you are now, and how you will get that way. This guide offers a somewhat Utopian—but in this case attainable—view of the kind of educated person you might want to be when you receive your bachelor’s degree. Of course you will want to have the skills and expert knowledge that will allow you to move into a specific occupation or go on to further studies in graduate or professional school. But you know that undergraduate education is about a life, not just a living, about a career, not just a first job. Your undergraduate years are the time for you to become a broadly informed, reflective person, a competent citizen of the several communities of which you are a member, and a responsible human being in your dealings with others.

If you have come to understand your undergraduate education in these terms when you look backward from your graduation day, you will see some remarkable growth. Perhaps the greatest change you may notice in yourself is that you no longer look for the one correct answer to questions that do not have correct answers. You will take it as a matter of course that questions have many different sorts of answers, depending on how you frame the question and the terms in which you try to answer it.

You will have understood that the answers to significant questions and the solutions to complex problems depend on circumstances and analytic strategy. You will accept the idea that many problems have only partial solutions and that few solutions, especially to societal problems, are completely satisfactory.

In recognizing that belief and action require conscious choices among alternatives that are partial and contingent, you may feel overwhelmed by the range of possibilities that present themselves, none of them entirely satisfying but all with something to be said for them. You will, however, recognize that you have to make choices and that your decisions will inevitably be made by weighing alternatives and choosing the most persuasive. In making choices based on a balance of competing alternatives, you will be aware of what you are giving up as well as what you are gaining.
The Path of Discovery

This guide attempts to show you how the parts of an undergraduate program relate to each other and, taken together, cover all the bases. But the “bases” are general intellectual skills rather than subject matter. No bachelor’s degree program can offer more than a smattering of general knowledge and an apprentice’s acquaintance with some particular field. But it can provide you with

- Basic ways of understanding and talking systematically about the world in which you live.
- The skills to present your understandings in a clear and coherent way.
- Practice in bringing your knowledge, information-gathering skills, analytic, and synthesizing abilities to bear on dealing with complex problems.
- An awareness of the diversity of human life and world views and the difference those differences make.
- Practice in considering the ethical and moral basis of actions.
- A sense of the power of knowledge in depth in one or more fields.

Coherence lies in the complementarity and reinforcement of intellectual skills as you exercise them in increasingly sophisticated ways throughout your undergraduate years. Hopefully you’ve gained ideas from this guide that will keep you thinking about why you are being required—or are requiring yourself—to take certain courses. Good luck in your undergraduate career. Each year will bring new challenges, opportunities, and discoveries as you travel the path to becoming an intellectual adult.

Reaching Intellectual Adulthood

If you can make such choices, you will have reached intellectual adulthood. You will have learned how to employ a range of analytic frameworks, weigh the results of those analyses against each other, see where the different ways of understanding the circumstances reinforce or contradict each other, and decide what position you will take or what you will do. Your decision will take into consideration the impact on all people who may be affected by it and your sense of what is ethically and morally right. But you will make a choice and you will know why you have made it.

Growing intellectually in this way does not mean you have to give up cherished beliefs. But intellectual adulthood does mean that you have earned your principles, beliefs, and values by honest thought and reflection. Your sense of what is true will be governed not by what you are told you should believe but by your own thinking about as full a range of possibilities and points of view as you can bring to bear.

In defending the right to publish ideas freely, the seventeenth-century English poet and essayist John Milton declared, “I cannot praise a fugitive and cloistered virtue.” People have to be exposed and open to ideas. If they are shut away or run away from ideas and base their idea of “virtue” only on what they are told is good and right, then their right behavior is not praiseworthy. Virtue lies in making hard choices based on principles fully considered in light of many possibilities and tested by engagement with the world.

Many of the matters you discuss will be controversial. You may even be shocked by some of the ideas put forth. But you will learn to argue the points with others respectfully, supported by fact and logic. That is what academic freedom is all about: the freedom to express freely a reasoned opinion, no matter how unpopular it may be. You enjoy that right as much as your professors do.

A good undergraduate education will provide the intellectual guidance and support you need to begin to act as an intellectual and moral adult. The coursework you do in both your major and general education will point you in this direction and help you along the way. It will instill the habits of mind that you will continue to develop throughout your life. It will help make you more interesting to yourself.

Being able to look backward and see how much you have grown in this way will depend in part on your own efforts to seek out the experiences—outside the classroom as well as in—that are most likely to help you reach intellectual maturity.

You will want to look for teachers who pose problems, not provide answers. You will want to find instructors who engage you actively in the learning process, not make you a passive recipient of knowledge. You will gravitate toward those learning activities that expand your intellectual skills. You will choose courses that help you to make connections.
Appendix

Sharpening Your Problem-Solving Skills

1. Decide what you need to know » Framing productive questions

Most instructors will invite you to ask questions. They may do so informally or, often in large courses, ask you to write down the questions. Not only do they want to help you understand the material better, but they want you to think about the material and its implications. You will help yourself to develop inquiring habits of mind if you use this invitation as an occasion to explore the ideas of the course rather than simply take them in.

In the process of fulfilling your requirements, you will also want to look for courses that give you an opportunity to develop and explore questions on your own. In lower-level courses this process may go on in small groups that are given a body of information and assigned the task of formulating questions that might lead to productive explanations. This process of learning to ask your own questions gets more complex in courses that feature formal research activities or that ask you to reflect on experiences in community settings. Whatever your general education or major requirements may be, you want to use every opportunity to ask as many questions as possible.
In most of your courses, you will become familiar with the principal sources of information in that field, both in libraries and through the Internet. What your classes may not teach you is how to evaluate those sources. Such evaluation requires some understanding of the way experts in the field go about establishing facts or creating new knowledge. You need, then, to look for courses, even introductory ones, that put some emphasis on how people in that field go about trying to answer questions. These courses, even the introductory ones that you encounter as part of your general education program, will include discussion of the way experts deal with the kinds of questions and issues on which that field focuses.

Take, for example, a biology course that deals with evolution. Virtually all biologists agree in general with the fact of biological evolution over many millennia, though there are some disagreements about the mechanisms of change. You need to understand why there is such strong agreement and the research on which it is based. You need to understand what scientists mean by a “theory” and why rejecting the biologists’ concept of evolution by saying, “It’s only a theory,” completely misunderstands how they use that word.

In many of your courses, you will be presented with competing interpretations of facts, documents, or ideas. Learning to evaluate differing interpretations and opinions is essential to any life. Differentiating between bogus and genuine facts, between shoddy and well-reasoned arguments are skills essential to a successful life. Seek out courses that challenge you to develop reasoned opinions based on reliable information and interpretation. “Just the facts, ma’am” is not a good motto for a college education.

In a rough way, the academic disciplines that constitute each of the four “domains of knowledge,” i.e., the sciences, social sciences, arts, and humanities, share some ways of analyzing the world that are unique to the domain. The sciences have their experimental methods, the social sciences their surveying and behavioral data accumulation and statistical analysis, the humanities their textual analysis, the arts their focus on individual inspiration and insight. These brief characterizations don’t begin to explore the special and overlapping characteristics of the domains of knowledge or the reasons why some disciplines have a foot in two (or more) camps, but they provide some idea of the broad differences among the domains.

We might look at general education as a process of learning new languages: the languages of the social sciences, the sciences, the humanities. Each domain and each field of study within the domain has its own specialized vocabulary. These vocabularies reflect the key concepts of the field and provide insights into the way people in that field think about the world. The more “languages” you can learn in this sense, the broader your understanding is likely to be.

Understanding the different ways of analyzing and talking about the world we experience is the reason the great majority of colleges require that you distribute a portion of your courses across the four domains of knowledge. Intellectually and socially mature people understand the events in their own lives, in the nation, and in the world in complex ways. They can, for instance, see war in military, economic, and political terms, in its historical and sociological context, and in terms of the consequences for individual lives. They can weigh the insights from the different ways of knowing and bring them to bear on their own decisions about whether to support or oppose a war, and how they might express that support or opposition. Your undergraduate years should equip you with the knowledge and the languages of the different ways of understanding the world that will contribute to your intellectual maturity.

Not all the courses that are designated as appropriate for fulfilling your distribution requirements will be taught from this point of view. Unfortunately, some introductions to, say, biology or political science or fine arts are just that: courses to introduce you to the content of the field. They do not take the larger view: to introduce you to the nature of the field of study or to the domain of knowledge. They dwell on the content of the field rather than going on to make you aware of the nature of its particular language and modes of analysis. They are likely to focus on what the field can tell you, but not on its limitations. You should seek out those courses that spend at least some time standing outside the field to look at it objectively as a powerful but inevitably incomplete way of understanding the world.

The nature of the courses that you take to fulfill distribution requirements is particularly crucial if you will be transferring from one college to another. Schools—even departments within a school—differ widely in the kind of thrust they give to their general education courses. You will need to be aware of those differences and try to find the ones that help you develop the kind of mature understanding that you should have when you graduate.
4. Become a person who knows a lot
Bringing to bear general information as a source of connections, analogies, and frameworks of ideas

You never know when you will be able to make good use of your knowledge. A particular skill or a bit of knowledge can help you in everyday situations to understand a joke or talk to a stranger. It can also help you professionally as you make the breakthrough that leads to a new invention or a business deal. Facts and experiences by themselves have limited usefulness, but they are essential to anything productive. Growth lies in the connections of facts and ideas. College is a time for making a major push toward acquiring a storehouse of knowledge and ideas that leads to productive thinking throughout life.

Hamlet admonishes his friend, “There are more things in heaven and earth, Horatio, / Than are dreamt of in your philosophy.” Take Hamlet’s advice. Use your opportunities to choose courses to find out about things you know little about. Open yourself to new subjects and new ideas. Make yourself culturally literate by acquiring scientific, societal, and historical knowledge, and becoming acquainted with landmark works in literature and the arts. Having some command of this shared knowledge will enhance your ability to communicate with others and to understand and interpret what is happening in the world around you. Continuing to develop this habit of knowing about things can be a source of satisfaction throughout your life and is the raw material of creative ideas and understandings. Be curious about the “things in heaven and earth” and make them part of your “philosophy.”

5. Present ideas in many ways
Representing ideas in a variety of modes (verbal, mathematical, pictorial, schematic, etc.)

You cannot communicate knowledge, directions, ideas, or opinions in any circumstances without facility with words. In a college or university, words, particularly written words, are the common medium of communication. If your command of precise written English is shaky, take every opportunity to improve it. The world will have little patience with unclear and sloppy writing, whether it is a simple memorandum, a long report, a letter to the editor, or a scholarly article. (The only commonly studied college subjects exempt from this requirement are the fine arts and crafts, music performance, and skilled technical trades. Even then, moving to high-paying work in those fields usually requires verbal skill and fluency.)

But words are not the only medium of communication that well-educated people have to use and interpret. Much of the information we receive or need to convey is presented mathematically. Statistics, charts containing numbers, graphs representing them, and the like come before us every day in newspapers, in advertisements, in the words of people who want to persuade us of something. In many fields of work—and not just obvious ones like engineering, the sciences, automotive technology, or economics—numbers are an important form of communication. Consider all the fields of business, building trades, medicine, or social work where an understanding of mathematical forms of communication is necessary. Consider how easy it is to be misled by numbers and the way they are represented, whether in work or as a consumer or a voter. Learning to use numbers effectively and responsibly and to interpret them with insight is essential to any education.

Increasingly we live in a visual world, one in which pictures are an important form of communication and persuasion. Being visually literate, understanding media (such as film, television, and photography) is important to knowing what is going on around us and to avoiding manipulation by false or biased visual messages. An educated person will know how to analyze and construct visual representations.
6. Connect thinking with doing
Understanding the relationship between the theoretical and the practical

Many arts, technology, and professional fields involve movement back and forth between classroom study and practical application, whether in the laboratory, workshop, studio, or world of professional practice. These fields often have culminating work in which students complete an assigned major project of professional quality or actually function in the field, as in practice teaching. But in the modern college and university, students are required or strongly encouraged to validate or test their learning in any field by participating in activities in the surrounding community. Thus, for example, students in a sociology class might spend time in a community agency that helps people in need, or political science students might become involved in a campaign. Chemistry students may do a wildlife census.

Increasingly, colleges are using work outside the classroom to get students involved in their communities as a matter of civic responsibility. They believe that gaining a lively sense of each citizen's obligations to serve the community is central to a college education. Thus institutions encourage or even require a “service-learning” experience. The idea is to broaden students' understanding of the world around them by engaging thoughtfully in work that is of value to their society. The key word here is “thoughtfully.” Engaging in the service activity may be valuable and rewarding in itself, but it has little educational validity unless students think about it and put their insights into words. Try to avoid courses that require the service experience but do not require you to write or talk about it in a systematic way. All of these kinds of experiences are designed to help you become a “reflective practitioner,” a person who thinks constantly about what he or she is doing, whether as a professional or as a citizen. Successful people are always looking at their actual experience in terms of ideas and concepts, improving both their ideas and their practice by careful reflection.

7. Draw the big picture
Relating ideas to one another and synthesizing them

The British novelist E. M. Forster famously advised us to “Only connect.” Putting pieces together, often from many sources, is the ultimate step in problem solving. You will want to use your undergraduate years to get plenty of practice in connecting, not only within fields but across them as well. Some courses are “interdisciplinary,” perhaps focused on problems such as environmental protection or poverty, and encourage you to look at several different points of view or different kinds of analysis to see how they fit together or illuminate each other. Courses that involve work in the community ask you to connect what you have learned in the classroom to what you observe in action. Courses that involve you in research will often ask you to connect what you learn in your investigations in novel ways.

But whether you choose these kinds of experiences or not, you should think about the connections among your studies. You lose one of the great values of your college education if you think of it as simply the collection of so many individual courses. You will want to consider how they relate to each other, indeed to choose them so that they do have some connection. You can develop some sub-themes within your program by choosing three or four courses that have some clear connections (e.g., the same historical period, the same area of the world, the same social issue). Such a strategy adds depth and coherence to your program and makes it less fragmented. It makes the relationships among facts and ideas more obvious and pushes you to connect.

Many colleges and universities offer “capstone” courses to students at the end of their college studies that help them pull together the knowledge and skills acquired in earlier studies. Increasingly such courses are required, at least in the major and sometimes in forms that bring in general education studies, as well. These culminating activities take a variety of forms such as independent research, a group problem-solving exercise, an interdisciplinary seminar, or a major work assignment in the community.

Capstone courses will give you an opportunity to show both yourself and your teachers what you can do. Whatever your academic record early in your college career, outstanding performance in the courses that culminate your studies will show your instructors that you ultimately “get it,” that you have successfully achieved the purposes of an undergraduate education.

No matter how good a student you are, achieving this kind of success requires careful planning on your part so that you have acquired the requisite elements for success. Presumably, the faculty of your college will have laid out a set of requirements which, if successfully completed, will give you what you need to succeed in your capstone experience. However, you need to understand what you should focus on in your earlier courses in order to do well in the later ones. You need the help of your teachers and advisers to define what is important, since the ultimate point of any given course—or the entire curriculum—is not always obvious when you are in the middle of it. While you are baking the cake, you need to have a lively sense of what it will taste and look like when it is done.

If you plan on transferring to another institution, you need to find out what sort of capstone experience is offered or required so that you can begin to prepare for it in the early stages of your program, before you even get to the college from which you wish to receive your bachelor’s degree.

Using your opportunities to apply your knowledge and skills to dealing with a problem—practical or academic or both—will show you just how far you have come intellectually and as a budding professional over the course of your academic career. The greatest satisfaction will come from what you have demonstrated to yourself.

Why do I have to take this course?
**About the Author**

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Why am I in college? Why is college supposed to be different from high school? Why can’t I study just what I want to? What is the point of all these required courses outside my major? How should I go about choosing courses? How can I make my courses fit together? Why am I spending all this time and money? What kind of person do I want to be when I graduate? Why do I have to take this course anyway?