

The Foundations Book

Second Edition

ILLINOIS STATE
UNIVERSITY



The Foundations Book

A Reference Book for Foundations
of Inquiry and Other Courses

Second Edition

Edited by the Foundations of Inquiry Faculty

Kenton Machina, ~~Coordinating Editor~~

Illinois State University

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⇒ *Preface to Students* ⇒

Welcome to Illinois State University, and to a course that will serve as a cornerstone in your educational experience at Illinois State.

This small book has been prepared specifically to support the Foundations of Inquiry course, but there are many items contained here that will also be relevant to many other courses you will be taking throughout your college career, as well as to your life beyond and outside of college. The Foundations faculty encourage you to work with this book in your Foundations course, but also to keep this book as a handy reference whenever you have need of it later.

Some of the items in this book are essays, book chapters, and articles written for various audiences on various occasions. These deal with a diverse range of topics from the nature of the college enterprise, to student behavioral issues, to advice for incorporating source material into your own writing. A significant portion of this book, however, was written by Illinois State faculty specifically for this publication. That includes the first section on the nature of the course and the General Education Program at Illinois State, as you might expect, but also the essay, “What’s a University All About?”, the text materials, “What’s the Reason?”, and the substantial materials on gathering and using information, “Foundations of Information.”

The contents of this book are the result of collaboration on the part of the Foundations of Inquiry faculty. You can be proud of your university for having put forth the time and effort to present this course to you, and for fostering that kind of collaboration. Such things are, in my experience, quite unusual at a large state university.

If you have suggestions for improving the book, they are welcome. Now, I wish you every success in both Foundations of Inquiry, in your college experience, and in life beyond.

Kenton Machina,
1999–2000 Course Coordinator,
Foundations of Inquiry.



What Every Foundations of Inquiry Student Has Always Wanted to Know!

What Is the Point of This Course?

- ✓ To actively engage you in developing more sophisticated thought processes, and in being more intellectually alive.
- ✓ To develop your skills in reading, evaluating, and constructing arguments in favor of an opinion or theory.
- ✓ To develop your skills in listening to and objectively evaluating opposing points of view.
- ✓ To help you understand how reasons and evidence are used in every academic subject area, from the fine arts to the natural sciences, in application to a wide variety of issues—including issues of current social significance such as those dealing with race, class, gender, or the environment.
- ✓ To provide basic instruction in how to organize and carry out research projects.
- ✓ To ensure that you can use computer systems in support of various common academic activities.

When looking at what students need to be able to do in order to be successful in college, the faculty decided that these items are of crucial importance. By developing your skills and knowledge in these areas, you will be starting out on the right foot in college.

Why Is This Course Required of All Incoming Freshmen?

Many courses in the University require the skills mentioned above. By making Foundations of Inquiry a prerequisite for later courses in the General Education Program, those later courses can focus on the specific topics and issues they are designed to deal with. When an instructor in a later course asks you to write a position paper in which you effectively argue for one theory over another, or do research on a topic, you will already understand what you are supposed to do, because you have been through Foundations of Inquiry.

Why Aren't All the Sections of This Course Taught in the Same Way?

This is a course designed to develop certain skills and ways of thinking. It is not a course about some particular subject matter area. The way to develop the skills and ways of thinking is by practice. There is no one set of topics that is necessarily the best set to practice on. So one section of this course might be talking about health hazards from pollution while another section is doing library research on gun control.

Each faculty member is a unique individual who brings to the classroom a rich set of personal experiences and a huge background knowledge. Each set of students is also unique. The course is designed to take advantage of those differences. Instructors work from their own strengths, and they frequently make adjustments in their course plans to deal with particular issues unique to their students. This flexibility also allows instructors to try out new ideas and strategies, and to tailor the course to their students' needs and interests.

Why You Might Find Foundations Confusing at First:

Foundations may be different from courses you have experienced. It is not a course about some particular subject area. Instead, it is a course to develop skills in thinking straight, seeing connections and differences between different approaches to issues, and gathering reliable information. Many students have never considered the possibility that those processes of intellectual inquiry constitute skills that one can improve with practice. This means most students taking this course are being asked to stretch, to leave their zone of comfort, and to move beyond merely memorizing a set of facts so they will do well on the next test. Initially this may make you uncomfortable, but in the end, if you catch on, you may find it exciting. One freshman recently wrote that during the first part of the semester this was the course he loved to hate, but by the end of the semester, this was the course he truly loved because it taught him so much not just about college, but about life. (Inquiry goes on in life, not just in college!)

What Do I Need to Do in Order to Be Successful in Foundations?

You will need to read and discuss, to write papers, give presentations, do research. There may be exercises to do. You need to engage in these activities in order to achieve the course goals. Success will be measured by whether you are able to carry out these activities well. This is not a course in which you can skip class, get lecture notes from someone, and then memorize the notes.

This means you need to stay actively involved in the course, keeping up with what is going on. If you work on this course only occasionally for an hour or two, you are not heading for success. By keeping on top of things, you will avoid boredom, and you will gain something. You will also avoid the panic that usually arises after too much procrastinating.

GENERAL EDUCATION AT ILLINOIS STATE UNIVERSITY

Why Is General Education Important for You?

General Education prepares you for whatever major you choose by focusing on skills and knowledge that all educated people use. The General Education Program develops the abilities that you will need to adapt to changes in your career field and in your life. General Education makes you a better life-long learner by encouraging intellectual curiosity, developing your analytical reading, writing, and thinking skills, and broadening your perspective.

What Is the General Education Program at Illinois State Like?

The General Education Program at Illinois State consists of three interconnected parts called the Inner, Middle, and Outer Core. In each part of this program you will develop skills which are reinforced in other related courses and on which later courses in the program build. General Education courses are taken mostly in the first two years of college.

During your freshman year you and your classmates take a group of classes in the Inner Core which will provide you with a common educational experience: an interdisciplinary Foundations of Inquiry course as well as courses in writing, oral communication, two science courses and a mathematics course. You also begin taking Middle Core courses (5 required) in quantitative reasoning, the humanities, and the social sciences. The courses in the Outer Core (4 required) in a variety of subject areas provide a bridge to more specialized courses in your major.

Especially in the Middle and Outer Core you will choose which courses in a particular group you want to take. You are strongly encouraged to choose courses that will give you the broadest possible general education and to explore new subjects and challenge yourself through your course choices.

What Will You Learn in General Education Courses?

Through the work you do in General Education courses you develop the ability to . . .

- ✓ think critically and analytically in order to evaluate ideas and arguments
- ✓ read many kinds of texts thoughtfully and reflectively
- ✓ write effectively to present your point of view with convincing arguments and evidence
- ✓ present ideas effectively in oral communication through speeches, presentations, and discussions
- ✓ use quantitative skills and analyze data
- ✓ make extensive use of computer technology as a tool for learning
- ✓ integrate ideas from several subject areas to examine historical, cultural and scientific issues from a variety of perspectives
- ✓ appreciate other cultures and the diversity within our own culture in terms of gender, race, ethnic background, class, and age

In General Education courses you will be actively involved in learning by participating in frequent class discussions, working to solve problems and doing projects in small groups.

GENERAL EDUCATION PROGRAM REQUIREMENTS

ILLINOIS STATE UNIVERSITY

Introduction

General education is the broad foundation for undergraduate education. Thus, students are expected to complete the program as early as is practical in their degree program. The overall structure of the program is designed to ensure that the program objectives are achieved through a coherent interrelationship of courses within the program. The program is constructed to encourage many perspectives on a subject or issue. It is designed to challenge students and faculty alike and to provide the best general intellectual support for a student's disciplinary focus.

Program Structure

The Program requires 45 semester hours from 15 courses chosen from the following groupings. Note that an important feature of the Program is its prerequisite structure. Prerequisites are not shown here.

Inner Core

(6 courses required)

- ✓ IDS 100: The Foundations of Inquiry. Offers a basic orientation to intellectual inquiry across the disciplines. Students are expected to take IDS 100 the first semester of their freshman year.
- ✓ ENG 101: Language and Composition
- ✓ COM 110: Language and Communication. Students are expected to complete ENG 101 and COM 110 by the end of the freshman year.
- ✓ One *Mathematics* course chosen from:
 - Data and Chance
 - Dimensions of Mathematical Problem-Solving
 - Finite Mathematics
 - Calculus I
- ✓ Two approved *Natural Science* courses. Students should complete the Mathematics and Natural Science requirements *as soon as possible* during their first two years.

Middle Core

(requires 1 course from each of 5 categories)

- ✓ *Quantitative Reasoning* category. Courses in this category examine principles, practices, and systems of mathematics and logic in application to problems from a variety of disciplines. Students pursuing the BA rather than the BS must complete the equivalent of third-semester Foreign Language, or higher, instead of this course category.
- ✓ *Language in the Humanities* category. Courses in this category ask students to exercise and develop skills in writing within the context of the humanities.
- ✓ *United States Traditions* category. Courses in this category study the historical traditions which influence or explain contemporary American society. Special emphasis is placed on cultural influences as well as political ones.
- ✓ *Individuals and Civic Life* category. Courses in this category focus on the complex relationships between people, political structures, and other dimensions of organized society.
- ✓ *Individuals and Societies* category. Courses in this category develop an understanding of the complex interrelationships between individuals, groups, and the various contexts in which these function. Special attention is paid to global diversity.

Outer Core

(requires 4 courses, one from each of 4 categories, including one Global Studies)

- ✓ *Science, Mathematics & Technology* category.
- ✓ *Fine Arts* category.
- ✓ *Humanities* category.
- ✓ *Social Sciences* category.

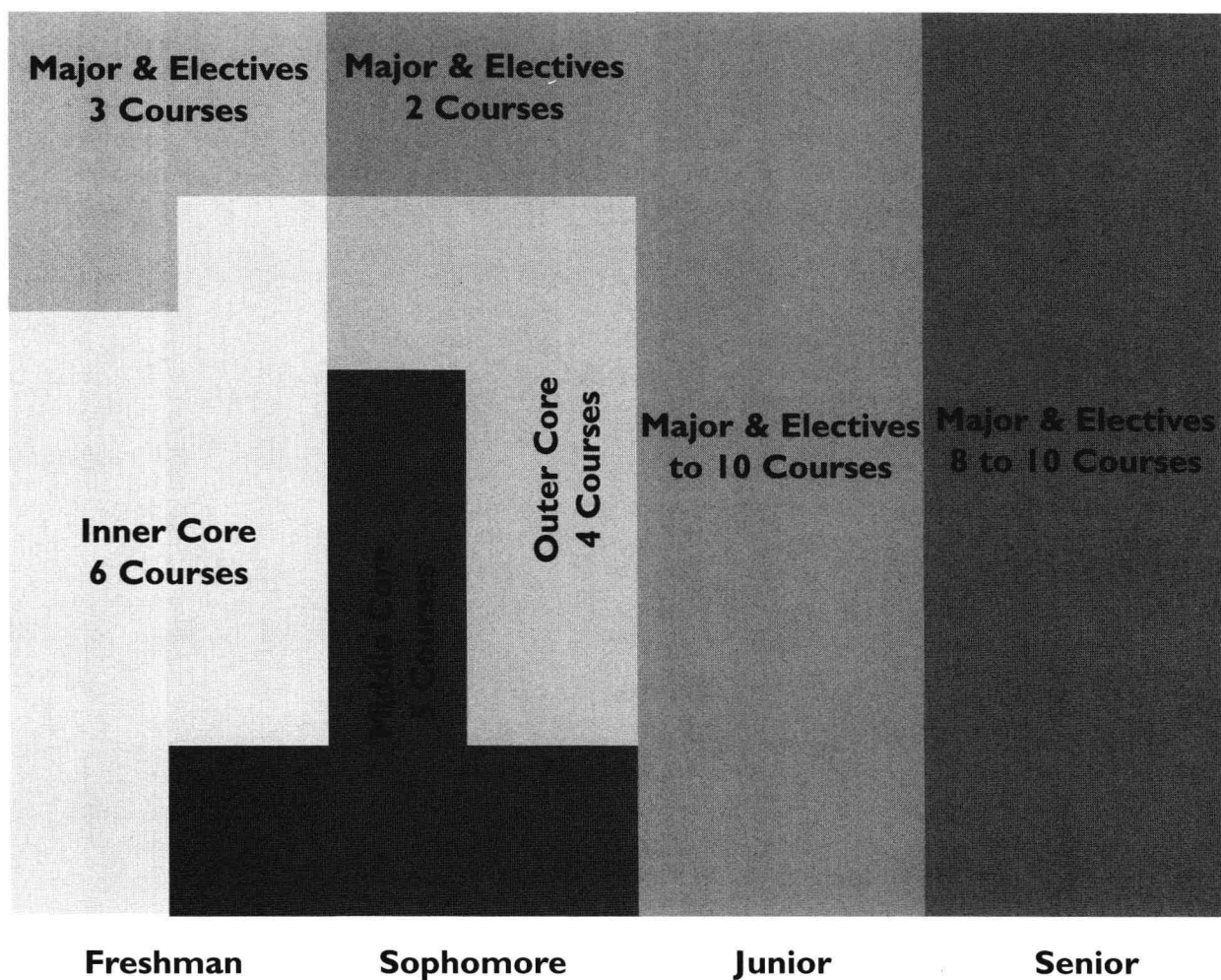
Each Outer Core course falls into one of two kinds:

Knowing in the Disciplines. These courses are designed to develop in students the ability to use the methodology appropriate to a specific discipline or disciplinary grouping in approaching problems and questions posed within a disciplinary context.

Disciplinary Knowledge in Cultural Context. In these courses, students explore the interplay between academic disciplines and the cultural context in which those disciplines develop and function.

Some Outer Core courses are additionally designated as Global Studies courses. Students must complete one Global Studies course from the Outer Core.

Four-Stage Model with General Education



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The Difference Between High School and College



Jack W. Meiland

Chapter 2 from College Thinking: How to Get the Best Out of College, by Jack W. Meiland, Mentor Book/The New American Library, New York, 1981. Jack Meiland was a professor of philosophy at the University of Michigan, Ann Arbor.

Since you know what high school work is like, we can approach the nature of college work by comparing college with high school. College freshmen believe that there must be a difference between high school and college, but their ideas about what the difference is are often radically mistaken. Students often see the function of high school as the teaching of facts and basic skills. They see high school as a continuation of elementary and junior high school in this respect. In senior high school, one learns physics and chemistry, trigonometry, American and world history—all subjects in which the “facts” to be learned are harder, but in which the method is much the same as in elementary and junior high school. The method of study most commonly used is memorization, although students are also called upon to apply memorized formulas in working problems and to make deductions in mathematical proofs. There are some exceptional high school classes, and some exceptional high schools, in which this is not so. But by and large, the perceived emphasis in secondary education is on learning facts through memorization. The secondary school teacher holds a position of authority because he has mastered factual information. Tests demand recitation of facts, papers require compilation of facts.

It is only natural, then, that the typical student sees college along these same lines. Reinforced by the relation between elementary school, junior high, and high school, the students usually believe that the relation between high school and college is the same as that between junior high school and high school. They believe that the difference between high school and college is that college courses are simply more difficult and that they are more difficult because they present more difficult factual information; they examine more difficult topics; they go over topics covered in high school but in a more detailed and painstaking way. College is taken to be different from high school *only* in being more difficult. Unfortunately this belief is reinforced by the actual content and method of presentation of typical freshman courses and programs. For example, in the first semester a freshman might take a course in English composition, a beginning physics course, a course in a foreign language, and perhaps a lower-level survey course in social science or history. These courses are often indistinguishable from high school courses.

New Types of Intellectual Work

At the same time, college freshmen sometimes suspect or expect that college is or should be different *in kind* (not just in difficulty) from high school—that somehow intellectual activity in college is or should be of a distinctly different and higher level. And this expectation is fulfilled when the student gets beyond the introductory survey courses. There the instructors do seem to expect something different *in kind* from the student, though without telling the student explicitly and in detail what this is.

The good college teacher presents some information, in the sense of “what is currently believed.” But he also spends much time talking about *the basis* on which this information is currently believed. *A large part of college work consists of discussing and examining the basis of current beliefs.*

The difference between high school and college is not that there is intellectual activity in one and not in the other. The difference is that college work requires that students engage in a *different kind* of intellectual activity, *in addition* to the activity of understanding the material that is presented. The first type of intellectual activity in both high school and college is understanding the material. Even here, though, college requires a different and higher type of understanding, a type to be explained to some extent in later chapters of this book. Once the material is understood, the college student must perform another sort of intellectual work on the material, namely critical examination and evaluation. A main difference, then, between high school and college is that *new types of intellectual work* are required at the college level.

To see why new types of intellectual work are required, let’s look again at the way in which materials are presented in high school and college. In high school, they are presented in an authoritative manner—almost as if they were absolutely and eternally true. This mode of presentation is reinforced by the fact that the content that is presented in high school is, typically, material about which people feel very, very sure. The laws of optics, the basic facts of American history, the structure of a plant, the operation of the Federal Reserve System—these are matters about which people feel great assurance, perhaps even certainty. They can be presented on the basis of authority. They are not controversial. Of course, we all know that once in a while, something about which we are very sure in this way turns out to be false—or at least subject to revised beliefs. Nevertheless, revisions of this sort are infrequent.

But in college a different attitude prevails toward the material being presented. Rather than being treated as unchanging fact, it is treated as beliefs or conclusions that have been reached on the basis of investigations.

At this point I must pause for a moment in order to talk about the kinds of statements that I’m making here. I have made, and will make, statements that assert that college work has such-and-such features or that college differs from high school in this or that way. And some of you might find that in some of your courses, or indeed in your whole college career, the work is not of this kind. In fact, some or all of your college work may seem not so different from your experience in high school. This may, of course, be due to your mistakenly approaching college work as if it were just the same as high school work. But I must admit that some college work really is no different from high school work. So how can I be justified in claiming so confidently that the two are different? My answer to this depends on first making a certain important distinction, the distinction between a descriptive statement and a normative statement. A *descriptive* statement tells how things in fact are. A *normative* statement tells how things *should be*, regardless of how they in fact are. If you say to me, “Things in my college *are not* the way you describe them,” my reply is that they *should be* the way I describe

them. Thus, some of my statements look like descriptive statements but they are to some extent normative statements too. My statements on this topic are intended to describe the way things are at the best colleges (not to be confused with the best-known colleges) and the way they should be in every college. I admit that some college teachers treat their materials as if they were teaching high school. And I admit that some exceptional high school teachers treat their materials in a college manner. What I am trying to do is not so much describe what actually goes on in the places called “high schools” and in the places called “colleges” as describe two different types of work and then say that the more advanced work is what ought to be going on in colleges. Only this more advanced work ought to count as “higher education.” So my statements are partly descriptive (of the best teachers and the best colleges) and partly normative (in claiming that this is what ought to go on in college).

Now let’s return to the difference between high school and college just mentioned. I said that in college materials are treated as beliefs or conclusions reached through investigation. Modern people take a certain attitude toward beliefs, namely that if a person believes something, he should have a basis for such beliefs. This can be put in the following way: it is rational to believe something only if one has a basis for that belief. One basis is what we call evidence. Most people today believe that, in secular or nonreligious matters at least, one should have evidence for one’s beliefs, that it is right to believe on the basis of evidence and wrong to believe that for which there is not sufficient evidence. W. K. Clifford, a nineteenth-century English mathematician and philosopher, put this point very directly when he said: “It is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence.”¹ Clifford puts this point with perhaps greater moral fervor than most people would, but I think that no one would deny that he expresses a view that is quite widespread in contemporary thought.

Material is presented in college not as something to be believed on the basis of authority but as something to be believed because such belief is rationally justified and can be rationally defended. Thus, much work in college—and, I would say, the work that is characteristic of college—deals with the rational justification of belief. College teachers are concerned not merely with imparting information but also, and mainly, to present and examine the basis on which this information is or should be believed. They do this because they want this material to be believed on the basis of reason rather than on the basis of authority. It is a basic presupposition of the modern mind that rationally based belief is better than belief based on authority, on faith, or on some other nonrational process. Thus, much time in college is spent investigating the rationality of this or that belief.

It is important to notice that once we make this shift from authority to rational evaluation, the mode of presentation of the material—and the way in which we regard the material—also changes. Material that is presented on the basis of authority is presented as factual and is given an air of being absolutely and unchangeably true. Material that is presented on the basis of rational justification is presented as belief, as theory, as hypothesis, sometimes as conjecture—as material supported to a greater and lesser degree by argument and evidence. And this difference in mode of presentation makes an enormous difference in how the material is regarded. What is treated in high school as eternal and unchangeable fact that human beings have discovered in their continual and relentless progress toward total knowledge will be treated in college as belief that may perhaps be well supported at the present but that could turn out to be wrong. Another way of putting this is: what is fact in high school is often only theory—perhaps well-supported theory but nevertheless only theory—in college. And theories must be treated as such: one must

examine the evidence to see how much support it gives the theory; and alternative theories must be examined to see which is better, that is, to see which theory should be believed.

Basis of Belief

Why do we believe that beliefs should be rationally based? Is this belief itself rationally based? Or is this belief itself merely an arbitrary presupposition or assumption? After all, someone might claim that what matters about a belief is not whether it is rational but instead whether it is true or false. If a belief is true, then it does not matter whether or not it is held on a rational basis. A true belief that is irrational will be as effective in our lives as a true belief that is totally rational. Consider the following example. Suppose that a businessman has been kidnapped and is being held for ransom. His wife has a dream in which she sees her husband being held captive in an old warehouse by the harbor, and she wakes believing that he is indeed there. At the same time, the chief of detectives has been working all night on the case, gathering evidence, tracing the car used in the kidnapping, questioning witnesses, and interviewing suspects. By daybreak the chief of detectives comes to believe that the businessman is being held captive in that very same abandoned warehouse. He and his men break into the warehouse and rescue the businessman. So it turns out that the wife's belief is true and that the detective's belief is true, even though the first is irrational and the second is rational. But what difference did the rationality or irrationality of the belief make? If the police had followed up on the wife's belief instead of the detective's belief, they would have gone to the same warehouse and rescued the businessman anyway. This seems to show that it is the truth of the belief, not its rationality, that matters.

This would be a good argument if our beliefs were always true and never false. But beliefs can be false, and our problem is to separate the true from the false. What we must do is find good reasons for believing what we believe. We think that if we base our beliefs on good reasons, our beliefs will turn out to be true more often than false. The wife does have a reason for believing that her husband is being held in the warehouse: she dreamed it was so. But we believe that this is not a good reason because many of the things that we dream turn out to be false. Dreaming does not, for most of us, provide a reliable guide to the truth. Hence the wife's belief is considered by modern persons to be unjustified, that is, irrational. But it is felt that evidence is a reliable guide to the truth, and that the more evidence we have, the more we are justified in believing what we do believe.

Since college students are expected to believe on the basis of good reasons, they are expected to know what those good reasons are. They are expected to know not only facts but also the reasons those are believed to be facts. Therefore, much time in college is spent in examining reasons to see if they are *good* reasons. For example, a high school text on American history might state that Alexander Hamilton was one of the chief architects of our Republic, that Hamilton's ideas were extremely influential in shaping our form of government. A college teacher covering this period of American history would not let a statement like this pass without examination—he would demand to know the reasons for believing this claim to be true. This is, in part, why college courses beyond the initial survey courses usually cover a small specialized topic: it takes time to examine and evaluate reasons, to consider and discard alternative theories, to look at a theory from many sides before deciding that the reasons are good enough to accept the theory.