

Introduction

*Questions you cannot answer are usually far better
than answers you cannot question.*

—Yuval Noah Harari

From *21 Lessons for the 21st Century*

Dear Student:

I welcome you into what is going to be an exciting adventure in thinking. Before you jump in, let me provide some information that should help you understand what we are doing.

The curriculum is structured around four fundamental questions: (See the addendum for details.)

What is truth?

What is justice?

What does it mean to be human?

What is the “good” life?

When asked *Why are you at university?*, the most common response from students was to obtain preparation for a job, a career, to make a good salary. There is absolutely nothing wrong with this answer. Such preparation is an essential part of the mission of any institute of higher education.

But we also think a university education should have knowledge *and* meaning, and indeed “usefulness,” along with vocational preparation. This means pursuing a deeper understanding of your “self,” your values, and your humanity. Your life goes beyond what you do for a living.

Why These Four Questions?

Questions are the roots of human learning and advancement. From the time a primitive ancestor first consciously wondered *why*, we have searched continuously for

meaning and knowledge—and thus the birth of language, numbers, myths, religion, art, songs, poems, stories, philosophy, science, and ultimately, universities.

Like many people, you may not have thought seriously about these specific questions. They may seem only the sort of non-practical things that philosophers and professors argue about. But this course will ask you to apply what you are learning as a way to think more consciously and deeply about these questions. They have essential relevance to our academic disciplines, to our time—and to you.

The four big questions cut across the disciplines—sociology, psychology, political science, anthropology, government, literature, history, communications, philosophy, math, computer science, art, etc.—and are intended to be a connecting thread in a web of knowledge. This approach to learning is not perfect, but if you give it a chance, it can make your college experience more connected, coherent, memorable, and relevant.

Although they use a variety of methods, all of the courses and disciplines taught at universities share a common purpose: to explain and demonstrate who we are as humans—how we relate to each other and to the natural world, why we do what we do, what we believe and know, where we are now, and where we are headed.

When you start to think about these questions in the context of your courses, you will at first naturally rely mostly on your experiences in life so far. Your thinking will be influenced by your race, ethnicity, belief systems, gender, upbringing, and even where you are from. As you engage in the act of critical thinking, your answers will ultimately help determine who you are, how you relate to others, how you conduct yourself in the world, and how you live your life.

The Stories We Live By

In his book *Sapiens*, Yuval Noah Harari connects the beginnings of the universe to what were to become the scientific disciplines that emerged to study and understand it:

About 13.5 billion years ago, matter, energy, time and space came into being in what is known as the Big Bang. The story of these fundamental features of our universe is called physics.

About 300,000 years after their appearance, matter and energy started to coalesce into complex structures called atoms, which then combined into molecules. The story of atoms, molecules and their interactions is called chemistry.

About 3.8 billion years ago, on a planet called Earth, certain molecules

combined to form particularly large and intricate structures called organisms. The story of organisms is called biology.

About 70,000 years ago, organisms belonging to the species *Homo sapiens* started to form even more elaborate structures called cultures. The subsequent development of these human cultures is called history.

Notice Harari's use of "story." Although he refers primarily to science and by inference the "scientific method," we humans did not start with natural sciences as the basis for "stories" to describe our understanding of the universe and our place in it. We used myth, religion, and philosophy to explain things and created literature, music, and art for dramatic, aural, and visual representations. Each narrative has its own way of determining "truth," "reality," and "human experience." These "ways of knowing" became the search engines driving the evolving human quest for meaning and knowledge.

These disciplines trace their ancestry to what came to be called the "liberal" arts. Available to free citizens since antiquity, the liberal arts are intended to "liberate" us from ignorance and unveil reality and truth. And while science and the scientific method buttressed by mathematics opened up a new world of empirical truths and continue to provide astonishing facts and technological magic, our original narratives continue to inform and influence our experiences and views of ourselves in moral, ethical, and humanistic terms.

The topics may be diverse, but at the center of all these ways of knowing and believing is the *human* brain and the consciousness that is creating all the stories we live by. Universities historically have collected these stories, created many of them, continue to debate and add to them, and now we offer you the opportunity to participate in this uniquely human endeavor.

And as an individual *Homo sapiens*, your thoughts, beliefs, ethnicity, nationality, culture, heritage—your history and condition—spring from *everything that has happened from the beginning of time*. YOU are a character in this story.

A Little Learning Is a Dangerous Thing

While all of us are characters in this universal play, we are primarily engaged in the drama of our own daily lives, following the stories we grew up with and were handed down to us. Your education so far has probably been mostly "passive"; that is, information was fed to you with the expectation that you would ingest it and remember enough of it to repeat it successfully on tests. It's the "will-this-be-on-the-test" model. This is one way to learn. But we are asking you to move to the next

level—taking more responsibility for thinking about what you are learning. In fact, learning that requires thinking is hard and can be dangerous. It can be especially threatening when the learning calls for unlearning. For example, when humans had to unlearn the proofs that “explained” how the sun and planets revolved around the Earth and had to accept new evidence that the Earth and planets orbit the sun, our whole place in the universe was upended.

Not only did Copernicus’ theory refute Ptolemy and question the unquestionable observation of one’s own eyes standing on Earth, it also challenged interpretations of Holy Scripture (and caused Copernicus trouble with the church). It changed the “story.” We humans were no longer the center of the universe. Those who believed the new findings had to accept a new, downgraded understanding of our relationship to the natural world and “unlearn” what had been “scientific” (and divine) Truth.

Even more so now than ever, what we think we know is changing. As you participate in the course and engage the four big questions, you may have to decide whether to “unlearn” or at least question what you think you know. This process may be unsettling. But it does not necessarily mean that *you* have to change. It does help you to know better who you are and where you stand on basic human values. In turn, knowing yourself, your values, with the ability to think independently and to communicate your thoughts, establishes a strong ethical and philosophical foundation for whatever you choose to do in life.

Knowing the Past; Understanding the Present; Becoming the Future

We live in a world of tweets, Snapchat, Instagram, TikTok, and layers of social media where the internet connects us constantly and instantly to information, people, places, and things on a global scale. Information floods and manipulates our daily lives.

On the employment front, it is predicted that in the next 10 to 20 years, 40% or more of jobs existing today will be automated—performed by machines/robots programmed with artificial intelligence. Sixty to seventy percent of today’s jobs will no longer exist. Self-driving cars are here. 3-D printers are making replacement body parts. Robot bricklayers are building houses. Software exists that recognizes faces better than humans can. And with the gene-editing tool CRISPR humans now have a simple way of manipulating our DNA. We are becoming more and more controlled by and dependent on *algorithms*.

Rapid and Radical Change

These examples only touch the surface of how science and technology are affecting the ways we live now, and changing the ways we will work and live in the future. Just as in all major transformative changes in our history—from agricultural to industrial societies, and now from industrial to technological—we are having to rethink not only our work but also what it means to be human. The changes are perhaps radical enough to cause our current geologic epoch—the Holocene, in effect for the past 10,000 years—to be given a new name: *Anthropocene*. This change is being proposed based on evidence of effects that humans are having on the planet.

The Past Is Still with Us

Yet, on the flip side, this sci-fi reality is taking place on a wounded planet threatened by overpopulation, human-induced climate change, racial and ethnic conflict, political disunity, economic inequality, religious divisiveness, and nuclear stockpiles that raise questions about our very survival as a species.

While astronomers are showing us unbelievable pictures of black holes millions of light years away in the universe, and artificial intelligence may be on its way to surpassing human intelligence, we are still engaged in the cultural, racial, social, religious, and political conflicts of our distant ancestors.

A Closing Note on the Possibility of Joy and Awe

As you engage in the adventure of thinking about the four big questions, we hope you will find time to appreciate the feelings of joy and awe that you will experience in being part of this human journey.

Consider the human genius we are heir to:

Letters abcdefghijklmnopqrstuvwxyz

26 squiggly signs the combination of which contains all of literature in English; all writings created or translated into English—the basic way we have to explain our thinking and converse with each other. You can find your own beauty and truth not only in knowledge but also through your imagination in the creation of words and their combinations.

Numbers 0123456789

Think about the genius of the invention of zero. Ten digits basic to all mathematical processes. And now it is the arrangements of one (1) and zero (0) that create the algorithms by which our lives are changing. So simple. So revolutionary. And growing so powerful in your digital life.

Cosmos *Passengers in the universe*

As you read this, you may not realize that you are on a planet traveling about 67,000 miles an hour through space in orbit around the sun, and that you are spinning at about 900 miles an hour.

Moon Shot

Planet Earth going 67,000 miles an hour in orbit around the sun; spinning at over 1,000 miles an hour at the equator. Moon going 2,288 miles an hour in orbit around planet Earth. Your assignment: Create a manned spacecraft and then do the calculus it takes to hit “that” spot on the moon. The human mind at work!

Beauty and Emotion

A poem’s effect; shapes of paint on a canvas; a philosophical idea that challenges or inspires; lyrics set to music; music alone; a medieval cathedral; a beach sunset; a spirit wind in a chapel of trees. . . .

The adventure awaits you. Enjoy.

JACK CROCKER

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ADDENDUM:

Applied dimensions of the four questions

WHAT IS TRUTH?

Applied Dimension:

In a constant flow of information from multiple media and other sources, how do I determine what is “factual,” what is “true”? In an age that is being called “post-truth”—populated by “fake news,” hacked by unknown sources, manipulated by pernicious bots, harassed by seductive marketing, and threatened by environmental if not nuclear catastrophe—the need for students (and all of us) to recognize and analyze dogma, propaganda, lies, bias, hidden agendas, and falsehoods in general is more important than ever. Not only are these challenges the daily bread of 21st century life in politics, society, and global complexities but also in the “paradigm shifts” of cosmological reality evidenced by the empirical processes and mathematical equations of science.

But students cannot live by content alone. If we are serious about “seeking truth,” we academic people have an obligation to nurture curiosity, motivate questioning, and develop the intellectual skills needed to support independent thinking.

WHAT IS JUSTICE?

Applied Dimension:

How do I judge and define fairness and equity in complex social, cultural, political, economic, racial, ethnic, and environmental issues? What are my values and beliefs? Where do they come from and how do I express and apply them? The idea of justice becomes integral to the moral and ethical decisions I make that affect me personally, the community, and society in general. This includes my responsibility as a citizen. While a perfect condition of justice may be unattainable, how do I participate in its pursuit?

WHAT DOES IT MEAN TO BE HUMAN?

Applied Dimension:

Who am “I” in the context of my heritage and personal history, in relation to human and natural history across time, in concert and co-existence with the natural world and other living beings, and probable future interactions with humanoid robots cognitively empowered by artificial intelligence? According to Socrates, “The unexamined life is not worth living.” But exposure to the new ideas, broader vision, and critical insights that may be part of that examination carries threats, creates value conflicts, and confronts our given identity with uprooting choices toward deeper self-knowledge. It transcends the “selfie” by which the smartphone knows more about us than we do about our “selves.” How are science and technology affecting how I live? As evolving beings, how did we get to where we are today and in what direction are we headed? As new genetic research gains information of our DNA across time, will we move toward no longer defining ourselves by race? In addition to AI robots, will we come to accept “customizing” human beings by manipulating our DNA with gene-editing tools like CRISPR? If evolution is still at work, what will be next for me and the rest of Homo sapiens?

WHAT IS THE GOOD LIFE?

Applied Dimension:

What does it mean to me to have “life, liberty, and the pursuit of happiness”? In a future of possible diminished opportunities, what is the balance of material, social, and spiritual well-being that will provide me with the most happiness? How does the future of work in a world of constantly advancing technology fit into this balance? What are my career choices, and what preparation do I need to make a “good living”? What skills do I need to be successful? These decisions are fluid across time, and education can help you to make them. It generates personal, informed decisions that balance both short-term and long-term ideas about achieving a successful career and happiness.

The four big questions provide a common connective tissue across the credit hours of area content courses. By applying their content to these questions and to your experiences during the course, you will learn and demonstrate essential skills and will not only better comprehend how the disciplines are related to human understanding but will also reach a deeper understanding of yourself.