Listening Advanced
Answer Key

Project 1

Professor

OK. Uh, let's talk about organization and structure in a company. How are companies typically structured?

Female Student

Functionally.

Professor

And . . . ?

Female Student

By projects.

Professor

Right. By function . . . and by projects. Twenty years ago companies were organized in function groups, where people with a certain expertise worked together as a unit— the, uh, architects in one unit, the finance people in another unit. Well, nowadays a lot of companies are organized around projects—like a construction company could be building an office building in one city and an apartment house somewhere else, and each project has its own architects and engineers. Now, the good thing about project organization is that it's easier to change to adapt to the needs of the project—it's a small group, a dedicated team, not the whole company.

Now, with that in mind, here's a question for you: why do we continue to organize ourselves by function, even now, when in fact we admit that projects are the lifeblood of a lot of organizations? Why do some companies maintain a functional organization instead of organizing around projects? Yes?

Female Student

Because, um, if you don't have that functional structure within your organization, chances are you'd have a harder time meeting the goals of the projects.

Professor

Why?

Female Student

Why?

Professor

Listen, let's say we got four new cars we want to design. Why do we need a functional organization? Why not just organize the company around the four projects—these people make car number one, these other people make car number two . . .

Female Student

Yeah, but who's gonna be responsible for what? You know, the way you tell who's . . .

Professor

Well . . . well, we'll appoint a manager: new car number one manager, car number two manager—they're completely responsible. Why should we have a single engineering department that has all four cars passing through it?

Female Student

When you design a car, you need the expertise of all the engineers in the company. Each engineer needs to be in touch with the entire engineering department.

Professor

Yeah, but I keep . . . I keep asking why. I wanna know why. Yes.

Male Student

Well, to eliminate redundancies, probably one of the biggest factors in an organization. So that, uh. . . so that there's, there's . . . standards of . . . for uniformity and efficiency in the organization.

1. B 2. B 3. A 4. B

Project 2

Professor

OK, I, I want to begin today by talking about calendars. [jokingly] I know, some of you are

Listening Advanced
Answer Key

thinking it's not all that fascinating, right? But listen, the next time you look at a calendar, I want you to keep something in mind. There are at least three natural ways of measuring the . . . the passage of time—by day, by month, and by year. And these are all pretty easy to see, right? I mean a day is based on one rotation of Earth. A month is how long the Moon takes to move around the Earth. And a year is the time it takes for Earth to move around the Sun, right? So, they're all based on natural events. But, the natural clocks of Earth, the Moon, and the Sun run on different times, and you can't divide any one of these time periods by another one without having some messy fraction left over. I mean one lunar month—that's the time it takes for the Moon to go around Earth—one month is about 29 and a half days . . . not really a nice round number. And one year is a little more than 365 days. So, these are obviously numbers that don't divide into each other very neatly. And this makes it pretty difficult to create some sort of tidy calendar that really works.

Not that different cultures haven't tried. Have any of you ever been to Stonehenge? [pause] No . . . you know, that amazing circle of giant stones in England? Well, if you ever go, and find yourself wondering why this culture way back in prehistoric England would go to so much work to construct this monumental ring of enormous stones, . . . well, keep in mind that a lot of us think it was designed, at least partially, as a calendar—to mark when the seasons of the year begin, according to the exact day when the Sun comes up from a particular direction. I have colleagues who insist it's a temple, maybe, or a tomb . . . , but they can't deny that it was also used as a calendar . . . probably to help figure out, for example, when farmers should begin their planting each year.

The Mayans, in Central America, also invented a calendar, but for a different purpose. The Mayans, especially the royalty and priests, wanted to look at long cycles of history—so the calendar they used had to be able to count far into the future as well as far into the past. And not only were the Mayans keeping track of the natural timekeepers we mentioned before—Earth, the Moon, and the Sun—but another natural timekeeper: the planet Venus.

Venus rises in the sky as the morning star every 584 days, and the Venus cycle was incorporated in the Mayan calendar. So, the Mayans kept track of long periods of time, and they did it so accurately, in fact, that their calendar is considered about as complicated and sophisticated as any in the world.

1. C 2. A 3. A 4. D 5. B 6. A

Listening Advanced
Answer Key

Project 3

Female Student

Narrator

Excuse me, uh, I'm supposed to be having my physics class in the science building, but no one's in the classroom . . . Could you tell me where the class is? Physics 403? Has it been moved?

Receptionist

Well, there's a room assignment sheet on the bulletin board outside this office . . .

Female Student

Yeah, I know, but my class isn't listed there. There must be some kinda mistake or something. Could you look it up, please?

Receptionist

Mm, okay, let me check on the computer. It's physics, right? Wait, did you say Physics 403?

Female Student

Yeah.

Receptionist

Well, I'm sorry, but . . . it says here that it was canceled . . . You should've gotten a letter from the registrar's office about this . . .

Female Student

What? I never got it.

Receptionist

Are you sure? 'Cause it says on the computer that the letter was sent out to students a week ago.

Female Student

Really? I shoulda gotten it by now . . . I wonder if I threw it away with all the junk mail by mistake . . .

Receptionist

Well, it does happen . . . Um, let me check something. What's your name?

Female Student

Woodhouse. Laura Woodhouse.

Receptionist

OK, ummm, Woodhouse . . . let me see . . . ah, it says here we sent it to your apartment on . . . uh . . . Center Street.

Female Student

Oh, that's my old apartment . . . I moved out of there a little while ago . . .

Receptionist

Well . . . and I suppose you haven't changed your mailing address at the administration office. Well, that would explain it.

Female Student

Yeah, I guess that's it. But, how can they cancel a class after offering it? If I'd known this was gonna happen, I'd've taken it last semester.

Receptionist

I know, it's really inconvenient for you; I understand that, but, um . . . if we don't have enough students signed up for the course, the college can't offer it. You know, it's, um, a practical issue, like, we can't have an instructor when there're only a few students in the class. You see what I mean?

Female Student

I guess, but now I don't know what course I should take instead.

Receptionist

Okay, let's see . . . do you have any courses you were gonna take next semester? If you do, you might wanna take 'em now and sign up for Physics 403 next semester.

Listening Advanced
Answer Key

Female Student

Yeah, I guess I could do that. I just hope it won't be canceled again. Do you know how many people have to be enrolled in order to keep a class from being canceled?

Receptionist

Well, it depends on the class, but for that class, you have to have . . . um . . . let's see . . . usually it'd be at least 10 people, but since it was canceled this semester, they might even do it with less. But you know what you should do? Give the physics department a call a couple of weeks before the semester starts. They'll be able to tell you if they're planning to go through with it . . . It's their decision, actually.

Female Student

Oh, OK, I'll do that. Thanks for the info.

1. B 2. C 3. A 4. D

Project 4

Transcript:
Professor

Hey, Ellen. How are you doing?

Student

Oh, pretty good, thanks. How are you?

Professor

OK.

Student

Did you, um, have a chance to look at my grad school application . . . you know, the statement of purpose I wrote?

Professor

Well, yeah. In fact, here it is. I just read it.

Listening Advanced
Answer Key

Student

Oh, great! What did you think?

Professor

Basically, it's good. What you might actually do is take some of these different points here, and actually break them out into separate paragraphs. So, um, one: your purpose for applying for graduate study—uh, why do you want to go to graduate school— and an area of specialty; and, uh, why you want to do the area you're specifying; um, and what you want to do with your degree once you get it.

Student

OK.

Professor

So, those are . . . they're pretty clear on those four points they want.

Student

Right.

Professor

So, you might just break them out into, uh . . . you know, separate paragraphs and expand on each point some. But really what's critical with these is that, um, you've gotta let yourself come through. See, you gotta let them see you in these statements. Expand some more on what's happened in your own life and what shows your . . . your motivation and interest in this area—in geology. Let 'em see what really, what. . . what captures your imagination about this field.

Student

OK. So, make it a little more . . . personal? That's OK?

Professor

That's fine. They look for that stuff. You don't wanna go overboard . . .

Student

Right.

Listening Advanced
Answer Key

Professor

. . . but it's critical that . . . that somebody sees what your passion is—your personal motivation for doing this.

Student

OK.

Professor

And that's gotta come out in here. Um, and let's see, uh, you might also give a little, uh—since this is your only chance to do it, you might give a little more explanation about your unique undergraduate background. So, you know, how you went through, you know, the music program; what you got from that; why you decided to change. I mean it's kind of unusual to go from music to geology, right?

Student

Yeah. I was . . . I was afraid that, you know, maybe the personal-type stuff wouldn't be what they wanted, but . .

Professor

No, in fact it's . . . um, give an example: I . . . I had a friend, when I was an undergrad, um, went to medical school. And he put on his med school application—and he could actually tell if somebody actually read it 'cause, um, he had asthma and the reason that he wanted to go to med school was he said he wanted to do sports medicine because he, you know, he had this real interest. He was an athlete too, and . . . and wanted to help athletes who had this physical problem. And he could always tell if somebody actually read his letter, because they would always ask him about that.

1. B 2. A and C 3. D 4. B 5. C

Project 5

Okay, we've been discussing film in the 1920s and '30s, and, ah, how back then, film categories as we know them today had not yet been established. We, said that, ah, by today's standards, many of the films of the '20s and '30s would be considered "hybrids"; that is, a mixture of styles that wouldn't exactly fit into any of today's categories. And in that context, today we're going to talk about a, a filmmaker who began making very unique films in the late 1920s. He was French, and his name was Jean Painlevé.

Jean Painlevé was born in 1902. He made his first film in 1928. Now, in a way, Painlevé's films conform to norms of the '20s and '30s; that is, they don't fit very neatly into the categories we use to classify films today. That said, even by the standards of the '20s and '30s, Painlevé's films were a unique hybrid of styles. He had a special way of fusing—or, or some people might say confusing—science and fiction; his films begin with facts, but then they become more and more fictional—they gradually add more and more fictional elements. In fact, Painlevé was known for saying that "science is fiction."

Painlevé was a, a pioneer in underwater filmmaking, and a lot of his short films focus on the aquatic animal world. He liked to show small underwater creatures displaying what seemed like familiar human characteristics—what we think of as unique to humans. He might take a, a clip of a mollusk going up and down in the water and set it to music—you know, to make it look as if the mollusk were dancing to the music like a human being. That sort of thing. But then, he'd suddenly change the image or narration to remind us how different the animals are, how unlike humans. He confused his audience in the way he portrayed the animals he filmed, mixing up our notions of the categories "human" and "animal." The films make us a little uncomfortable at times because we're uncertain about what we're seeing. It gives his films an uncanny feature . . . the familiar made unfamiliar, the normal made suspicious. He liked twists; he liked the unusual. In fact, one of his favorite sea animals was the sea horse because with sea horses, it's the male that gets pregnant, it's the male that carries the babies. And he thought that was great. His first and most celebrated underwater film is about the sea horse.

Susan? You have a question?

1. A 2. D 3. B 4. C 4. B

Project 6

Professor

We've been looking at colossal statues—works of exceptionally huge size—and their essentially public role, in commemorating a political or religious figure. We've seen how some of these statues date back thousands of years . . . like the statues of the pharaohs of ancient Egypt—which you can still visit today—and how others, though surviving only in legend, have fired the imagination of writers and artists right up to our own time, such as the Colossus of Rhodes, that 110-foot statue of the Greek god Helios [HEE-lee-us]. Remember, this same word, colossus—which means a giant or larger-than-life-size statue—is what today's term colossal derives from.

Now, it was one thing to build such statues, at an equally colossal cost, when the funds were being allocated by ancient kings and pharaohs. But if we're going to think about modern-day colossal statues, we need to reexamine more closely their role as social and political symbols, in order to understand why a society today—a society of free, taxpaying citizens—would agree to allocate so much of its resources to erecting them. A good example to start out with would be Mount Rushmore. Now, many of you have probably seen pictures of Mount Rushmore; perhaps you've actually visited the place. Mount Rushmore, in South Dakota, is a colossal representation of the faces of four U.S. Presidents: George Washington, Thomas Jefferson, Theodore Roosevelt, and Abraham Lincoln, carved directly into a mountain. Imagine: each of those faces in the rock is over 60 feet high! Now, carving their faces took over six and a half years, and cost almost a million dollars. And this was in the 1930s, during the worst economic depression in U.S. history! Does that strike any of you as odd?

1. C   2. A   3. C   4. A   5. B

Project 7

Professor

I'm sure y'all have been following the news about Mars. A lot of spacecraft have been visiting the planet recently—some have gone into orbit around it, while others have landed on it. And, they've sent back a . . . an abundance of data that's reshaping our knowledge . . . our vision of the planet in a lot of ways. Is there anything that you've been particularly struck by in all the news reports?

Female Student

Well, they seem to mention water a lot, which kinda surprised me, as I have this picture in my head that Mars is dry . . . sorta dry and dead.

Listening Advanced
Answer Key

Professor

You're not the only one. You know, for centuries, most of our knowledge of the planet came from what we saw through telescopes, so, obviously, it was pretty limited—and our views of the planet were formed as much by writers . . . as they were by serious scientists. When the first science-fiction stories came out, Mars was described as being a lot like Earth except [pauses to let students finish his sentence]

Male Student

I know: the planet was red and, uh, the people were green. I've seen some of those old movies. [half laughing, half sarcastic] What were they thinking? I mean really . . . they . . .

Professor

[interrupting] Well, it seems silly to us now, but those ideas were quite imaginative and, occasionally, scary in their time. Anyway, we began to rethink our image of Mars when the first spacecraft flew by the planet in 1965 and sent pictures back to Earth. Those pictures showed a planet that looked a lot more like our Moon than Earth—lots of craters and not much else. It was bitterly cold, it had a very thin atmosphere, and that atmosphere was mostly carbon dioxide. So, the view of Mars after this first flyby mission was that dry, dead planet that Lisa mentioned.

But, then there were more visits to the planet in the 1970s—and this time the spacecraft didn't just fly by; they orbited . . . or landed. This allowed us to receive much more detailed images of the planet, and it turned out to be a pretty interesting place. Mars had . . . has a lot more than craters—it has giant volcanoes and deep canyons. It also showed signs of dried-up riverbeds and plains that had been formed by massive floods. So, we concluded that there must have been water on the planet at one time—billions of years ago. Now, what does it take for water to exist?

1. C 2. A 3. B and D 3. C

Project 8

Professor

So, I wanted to discuss a few other terms here . . . actually, some, uh, some ideas about

Listening Advanced
Answer Key

how we manage our resources.

Let's talk about what that . . . what that means. If we take a resource like water . . . well, maybe we should get a little bit more specific here—back up from the more general case—and talk about underground water in particular.

So, hydrogeologists have tried to figure out . . . how much water can you take out from underground sources? This has been an important question. Let me ask you guys: how much water, based on what you know so far, could you take out of, say, an aquifer . . . under the city?

Male Student

As . . . as much as would get recharged?

Professor

OK. So, we wouldn't want to take out any more than naturally comes into it. The implication is that, uh, well, if you only take as much out as comes in, you're not gonna deplete the amount of water that's stored in there, right? Wrong, but that's the principle. That's the idea behind how we manage our water supplies. It's called "safe yield." Basically, what this method says is that you can pump as much water out of a system as naturally recharges . . . as naturally flows back in. So, this principle of safe yield—it's based on balancing what we take out with what gets recharged. But what it does is, it ignores how much water naturally comes out of the system. In a natural system, a certain amount of recharge comes in and a certain amount of water naturally flows out through springs, streams, and lakes. And over the long term, the amount that's stored in the aquifer doesn't really change much. It's balanced.

Now, humans come in . . . and start taking water out of the system. How have we changed the equation?

Female Student

It's not balanced anymore?

Professor

Right. We take water out, but water also naturally flows out. And the recharge rate doesn't change, so the result is we've reduced the amount of water that's stored in the underground system. If you keep doing that long enough—if you pump as much water out as naturally comes in—gradually the underground water levels drop. And when that happens, that can affect surface water. How? Well, in underground systems, there are natural discharge points—places where the water flows out of the underground systems, out to lakes and streams. Well, a drop in the water level can mean those discharge points will eventually dry up. That means water's not getting to lakes and streams that depend on it. So, we've ended up reducing the surface water supply, too.

1. A 2. C 3. C and D 4. A 5. B

Project 9

Male Student

OK, so . . . what do you think we should go over next?

Female Student

How about if we go over this stuff about how bacteria become resistant to antibiotics.

Male Student

OK.

Female Student

Um, but first of all, though, how many pages do we have left? I told my roommate I'd meet her at the library at seven o'clock.

Male Student

Ummm . . . There's only a few pages left. We should be finished in a few minutes.

Female Student

OK. So, ummm . . .

Male Student

About how bacteria become resistant to antibiotics.

Female Student

Oh yeah, OK. So you know that some bacteria cells are able to resist the drugs we use against them, and that's because they have these special genes that, like, protect them from the drugs.

Male Student

Right. If I remember correctly, I think the genes, like . . . weaken the antibiotics, or, like . . . stop the antibiotics from getting into the bacteria cell, something like that?

Female Student

Exactly. So when bacteria have these genes, it's very difficult for the antibiotics to kill the bacteria.

Male Student

Right.

Female Student

So do you remember what those genes are called?

Male Student

Umm . . .

Female Student

Resistance genes.

Male Student

Resistance genes. Right. Resistance genes. OK.

Female Student

And that makes sense, right? Because they help the bacteria resist the antibiotics.

Male Student

Yeah, that makes sense. OK.

Female Student

OK. But the question is: how do bacteria get the resistance genes?

Male Student

Listening Advanced
Answer Key

How do they get the resistance genes? They just inherit them from the parent cell, right?

Female Student

OK, yeah, that's true. They can inherit them from the parent cell, but that's not what I'm talking about.

Male Student

OK.

Female Student

I'm talking about how they get resistance genes from other cells in their environment, you know, from the other cells around them.

Male Student

Oh, I see what you mean. Umm, is that that stuff about "hopping genes," or something like that?

Female Student

Right. Although actually they're called "jumping genes," not "hopping genes."

Male Student

Oh, OK. Jumping genes.

Female Student

Yeah, but they have another name, too, that I can't think of. Umm . . . lemme see if I can find it here in the book . . .

Male Student

I think it's probably on . . .

1. D 2. A 3. A and C 4. C

Listening Advanced
Answer Key

Project 10

OK. If we're going to discuss goodness and justice—what makes an individual good or a society just or virtuous—then we need to start with the ancient Greeks. So we'll start with Plato—Plato's philosophy. Now, some of you may have studied Plato's philosophy in some other course, so this might be easy. OK. At the risk of boring you, let me give you just an overview of Plato's ethical theory. Plato says the soul has—and by "soul" he simply means that which animates the body, gives it life—anyway, he says that the soul has three separate parts . . . called, um, "faculties," which I'll come back to. He believed that goodness in an individual was to be found when the three parts of the soul worked together, when they weren't in conflict, but existed in harmony. A good or just person will have a soul in which the three faculties work well together. So how does he arrive at that analysis? Well, he starts out in his very famous work

The Republic , um, he starts out by saying it's very difficult to get a grasp on what the individual's soul looks like. So, to get some idea of what the individual human soul is like, he says we should study the structure of society—what kinds of people and activities every society has to have. He argues that every society has to have three groups of people: workers, soldiers, and leaders. And each has a sort of defining characteristic. Every society has to have workers like farmers or, um, people who work in factories, producing all the things that we need for everyday life. And according to Plato, the key feature of workers is that they're focused on their own desires or appetites— interested in satisfying the needs of the body. So workers are associated with desire

. . . OK?

Now, if you live in a society that has a good amount of wealth—um, good agriculture, good industry—other societies are probably going to try to take it. So you need a class of soldiers, who are supposed to protect the state from external threats. Well, these soldiers, well, they're going to be in dangerous situations quite frequently, so

you need people with, um, a . . . a lot of high spirit—uh, an emotional type of individual. Emotion is what characterizes this group.

And then, Plato says, the third group you need is leaders. Their main role will be to think rationally, to use their reason or intellect to make decisions. As decision makers, leaders determine what the state is to do, how the affairs of the citizens are to be run.

1. D 2. B and C 3. A: no/ B: yes/ C. yes 4. A

Listening Advanced
Answer Key

Project 11

Professor

Sandy, how's class been going for you this semester?

Female Student

Oh, it's great. I really like your business psychology class, but I have one major concern about the last assignment: you know—the one where we have to interview a local business owner, uh, I mean entrepreneur?

Professor

Are you having trouble coming up with interview questions?

Female Student

Well, that's just it. I mean I worked on my high school newspaper for years, so I actually have great questions to ask. The thing is . . . I'm new to the area, and I don't know people off campus . . . So, I was wondering if . . . well, could you possibly give me the name of someone I could interview . . . ?

Professor

You don't know anyone who owns a business?

Female Student

Well, yeah, back home . . . my next-door neighbors—they own a shoe store, and they're really successful—but they're not local.

Professor

Well, it wouldn't be fair to the other students if I gave you the name of a contact—but I could help you figure out a way to find someone on your own. Let's see . . . Do you read the local newspaper?

Female Student

Sure, whenever I have the time.

Listening Advanced
Answer Key

Professor

Well, the business section in the paper often has stories about local business people who've been successful. If you find an article, you could call the person who is profiled.

Female Student

You mean, just call them up . . . out of the blue . . . and ask them if they'll talk to me?

Professor

Sure, why not?

Female Student

Well, aren't people like that awfully busy? Too busy to talk to a random college student.

Professor

Many people enjoy telling the story of how they got started. Remember, this is a business psychology class, and for this assignment, I want you to get some real insight about business owners, their personality, what drives them to become an entrepreneur.

1. B **2. D** **3. C** **4. D**

Project 12

Professor

OK. So, we've talked about some different types of root systems of plants, and I've shown you some pretty cool slides, but now I want to talk about the extent of the root system—the overall size of the root system . . . the depth. I want to tell you about one particular experiment. I think you're going to find this pretty amazing. OK. So, there was this scientist . . . this very meticulous scientist decided that the best place to see a whole root system—to actually see how big the entire system got—the best place would be to grow it . . . where?

Female Student

Um, water?

Professor

Listening Advanced
Answer Key

In water. So, he took rye plants—it was rye plants—and he started growing them in water. Now, you've all heard of growing stuff in water before, right?

Male Student

It's done commercially, right? Uh, like to grow vegetables and flowers?

Professor

Right. They grow all kinds of commercial crops in water. So, if you're growing things in water, you can add the fertilizer. What do you need to do to that water besides put fertilizer in it? Anyone ever actually tried to grow plants in water? You must bubble water through it. Bubble gas through it. I'm sorry, you must bubble gas through it. So, gas, you have to bubble through. Think about the soil we talked about last week, about growing plants in soil. Think about some of you who have killed your favorite houseplants, 'cause you loved them too much. If you overwater, why do your favorite houseplants die?

1. A 2. C 3. B 4. D