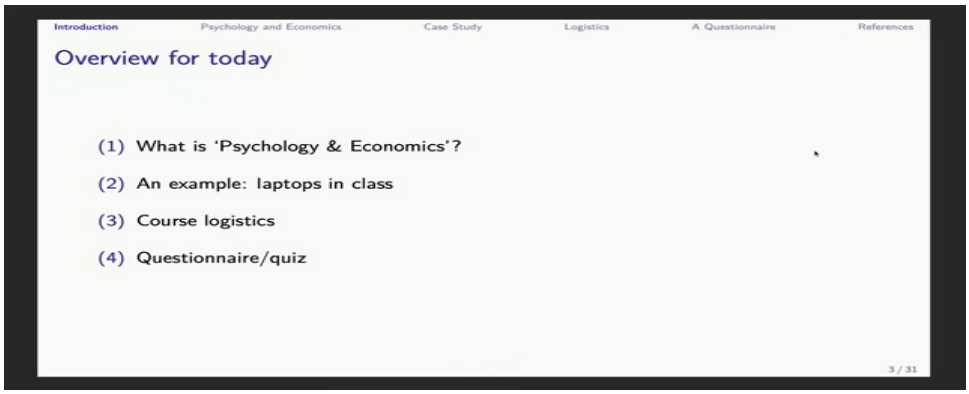
This is 14.13 Psychology and Economics, also known as Behavioral Economics.My name is Frank Schilbach.I'm a faculty member in the Economics Department, teaching and doing research in Behavioral Economics and Psychology and Economics and Development Economics.There's a syllabi over here in case anybody needs one.So let me sort of start with introducing ourselves, including myself.And so I study all sorts of issues related to poverty, how poverty itself affects people's behavior, and how conditions of poverty, or things that are associated with poverty might feed back into people's decision-making and their productivity or labor market behaviors.And then perhaps, sort of lead to the persistence of poverty through those kinds of effects.So I have some work on financial constraints, how financial constraints affect people's behavior, in terms of thinking about money itself.I have some work on sleep deprivation among the urban poor.I'm thinking about pain and substance abuse and how that might affect people's choices.



So that's why partially I'm using sort of the word psychology and economics.In some sense, it's sort of broader than that.One definition is, "it's a field of academic research that studies the joint influences of psychological and economic factors on behaviors." You could be sort of broader and say we're trying to integrate insights from not just psychology, but also anthropology, sociology, medicine, psychiatry, et cetera, and so on, into economics.

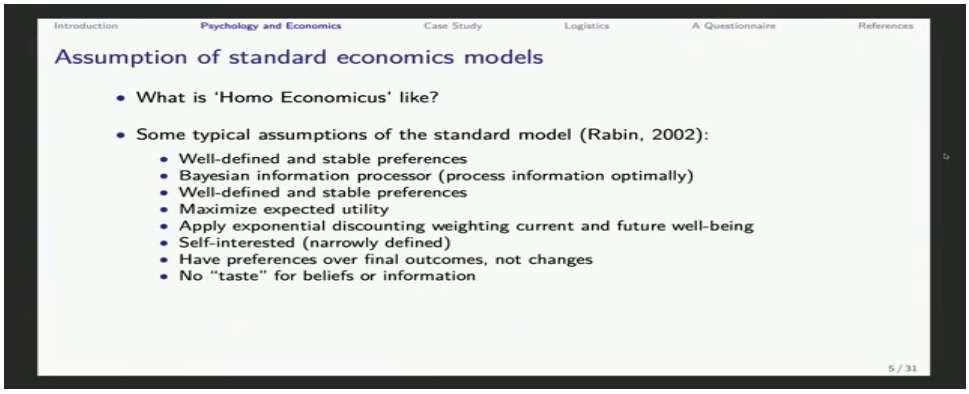
And trying with an attempt to make economic models more realistic, and therefore, more predictive and help us understand people's behavior better.And then help us make better policies, perhaps, in trying to influence people's behavior.Now, as I said, that's medicine, sociology, et cetera.Broadly, we're trying to use insight from those fields and try and understand how we missed something by

making the fairly stark assumptions that economic models usually make.That leads me to what are then the standard economics models? In some sense, what we're going to try and study to some degree is deviations from the classical, or sort of the standard economic model.So then, of course, we need to understand what is the standard economic model? To start with, which leads me to impart some prerequisites of the class, or you should have taken at least some economics or-- some economics to start with because I'm going to talk a lot about sort of deviations from those models and sort of-- if you haven't taken any class before, don't really know that very well, then understanding the deviations will be a little bit tricky.So for those of you who have taken economic classes, what do you usually assume about people's behavior? What are some of the assumptions that you make about economic behavior? Yes.FRANK SCHILBACH: Yes.And what does that mean? AUDIENCE: They behaved deterministically to optimize some utility function.FRANK SCHILBACH: Right, exactly.So people essentially optimize some utility function.So we say here, people have the utility function and know what that is.And you're sort of saying they maximize it to optimize in a certain way.They don't make mistakes in that maximization process.So that's to say if you tell me you like apples over bananas, and then you choose bananas, well then, something is sort of going wrong in some ways that we haven't fully understood.It might be that you sort of like just making mistakes that could be construed as irrational.It's hard to rationalize with a model.

One version of putting that is in some sense sort of going back to what you saying earlier is sort of to say stable preferences.If I'm telling you I'd like to exercise tomorrow, and that's my preference, tomorrow I'm not going to be like, oh, yeah, actually, I changed my mind and now I'm just watching movies, or the like, right? So that's the version of sort of preferences being stable.But the inherent underlying issue there is like self-control problems in the sense of like, if I like certain things, or make certain plans for the future, I have the self-control to follow through on those plans.That's usually an assumption.And that then shows up as preferences being stable.So usually, there is like a discount factor in terms of how much you like consumption today versus consumption tomorrow.That is usually in any economic model.Usually, we think of like the discount factor being constant, as like how you think about today versus tomorrow is the same as you think about today versus in two days from now, or like a year from now and a year and a day from now.So usually, there's a constant discount factor for the future.

Usually, we sort of employ economic-- sorry-- constant discounting or exponential discounting.But essentially, it's sort of-- for those of you know that-- it's sort of did they use Bayes' rule, essentially, which is to say if you gave a statistician a problem how to update information, people are able to do that in their heads.And that's a pretty stark assumption.But essentially, it's like when you people

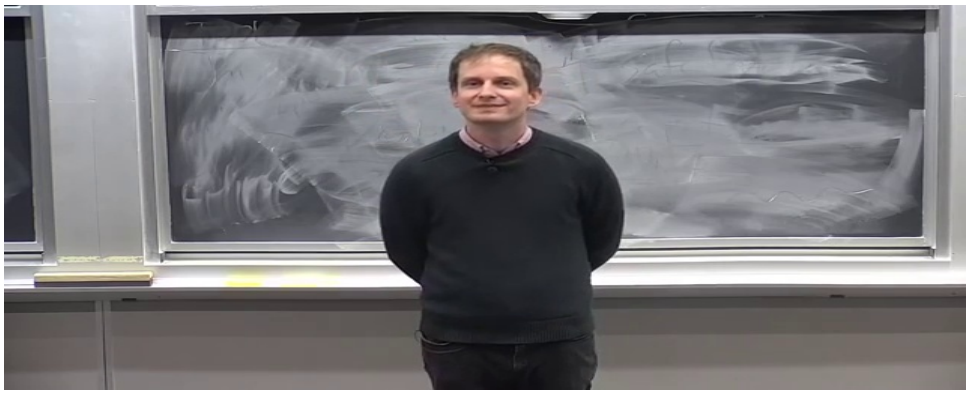
have certain information, standard economics does not necessarily assume that everybody has full information in a sense that everybody knows everything.But if you give them some information, then they update their beliefs accordingly, right? So they-- essentially, they optimally use new information and then form their beliefs, their posterior beliefs based on having new information and what they believe previously, their priors.There's another assumption, usually, and I sort of can actually sort of put these out for you, which is, there's another assumption.That is, people have no taste for beliefs or information.What do we mean by that? We mean by that is, essentially, people use information only to make decisions.So if you tell me something about like what's going to happen tomorrow, or if you tell me something about my health status, or the like, I use that to make better decisions.So if you tell me I'm sick, I'm going to use that information to go to the doctor.



People are narrowly defined in terms of their self-interest.And people have preferences for final outcomes, not changes.So what you care about is how the weather is today, not kind of how the weather changed between yesterday and today or tomorrow.And we'll talk about all of these.

By the way, these are all sort of some terms that seem maybe unfamiliar to you.We'll talk a little bit about in this class about sort of how political beliefs or other reasons why people might be motivated to believe certain things.One clear example would be climate change, not just because of political reasons.There's some interesting work about, when people live in flood areas, for example, what do they think about climate change? And you might sort of say, well, if you really live in an area that's potentially affected by floods, you might really want to know about climate change and know what's going on and really try to inform yourself.But what people tend to do is sort of try to ignore the issue and try to sort of be happy as long as sort of nothing happens.Now, that's one example, yes.Yes.AUDIENCE: Some purposes might not be well-defined.So say, I have a decision on what I want to eat.I want to eat steak over chicken if I'm presented with the opportunity.There's other issues, like, for example, that irrelevant other-- there's an assumption economics.But often, that's not the case.So if I offer you apples and bananas and you also can get cherries, now suddenly your choice between apples and bananas might change even if you can't get the cherries-- sorry, even if you don't choose the cherries eventually.Exactly.There might be sort of peoples' preferences might not be well-defined.

So one part is to say people have preferences of a final outcome, not changes, which is to say you might feel about the weather in certain ways, you know, depending on how the weather was yesterday.Another version of that would be you evaluate the outcomes that you get based on your expectations.And sort of if you thought, you know, today is going to be really nice or your day is going to be really good, but then it happened to be not as good for whatever reason-- the weather is bad or something bad happen to you today-- the typical assumption would be just say, well, you should just evaluate the final outcome.It shouldn't matter what you thought about previously what might happen.You're going to look at what happens at the end.Other stuff comes up.You're going to chat with your friends and so on and so forth.So now, in some sense, if you're as sophisticated, as in if you know what you're going to do in case you sort of make certain choices, you might say, I choose not to even allow myself to use a laptop at all.The reason being because I know that essentially I'm going to misbehave in the future.And that's we'll talk about this soon, I think in lecture three or four, which is essentially people's demand for commitment, as we call it, which is to say people have demand for restricting their choice.

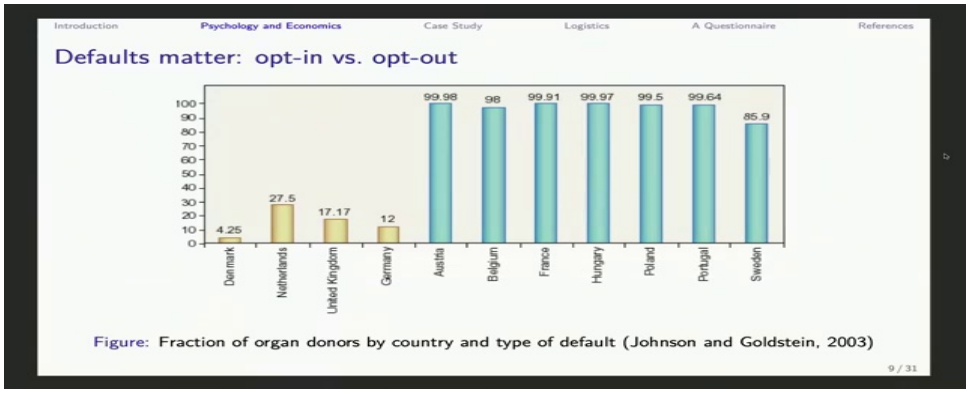


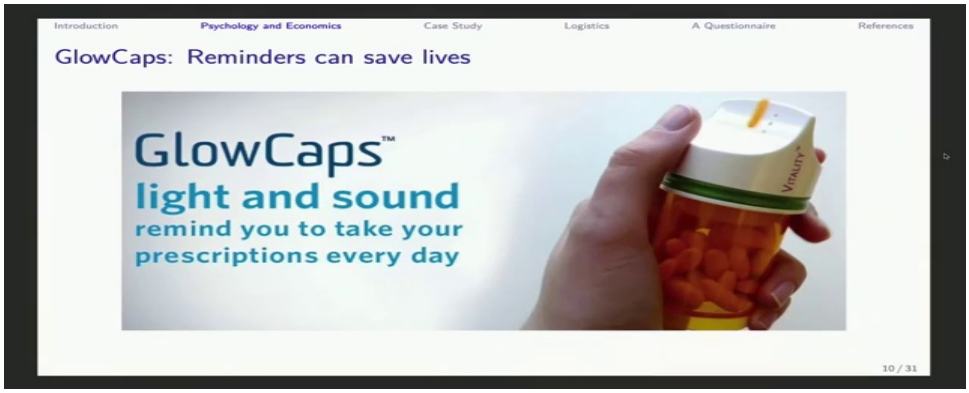
So in some sense, something is perhaps amiss here.When you look at sort of-- and this is one of my favorite things to do is-- or not quite as-- it's a fun thing to do, but maybe not one of my favorite things.

When you sort of Google terms, this is calories or Weight Watchers or the like, where you say, well, what is people's interest in googling those kinds of terms over the course of a year? And as you can imagine, what you see are these spikes that are essentially January 1st.People start sort of

googling calories.They start googling Weight Watchers and so on and so forth.

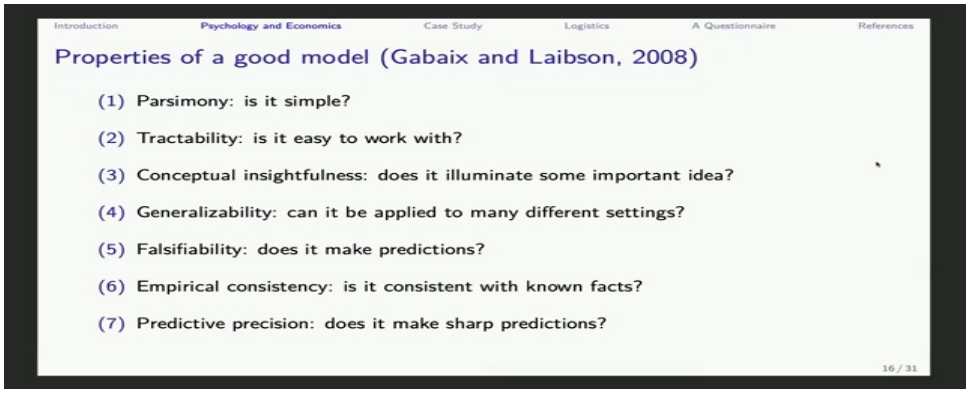
Any sort of neoclassical model would say, you should get that test.Why should you get the test? Why is that helpful? AUDIENCE: More information.FRANK SCHILBACH: And what's the information helpful for? AUDIENCE: [? It ?] [? would update ?] [? price ?] [? of action.?] FRANK SCHILBACH: Right, exactly.You would say information is good.You might sort of take better care of yourself.There's all sorts of really important decisions that might hinge on the fact your life will be dramatically different whether you have Huntington's disease or not.Now, Thirteen does not want to-- I think she actually does the test, and then doesn't want to see the result.And why is that? Yes.AUDIENCE: Even if you have the condition, there's no cure for the disease.On the right, there's opt-out policies, which means essentially, if you don't do anything, you'll be automatically registered or viewed as an organ donor.You can opt out, but only if you do so, you'll actually be opted out.Otherwise, if there's an accident or the like, you'll be viewed as an organ donor.Now, what's weird about this graph? Or why is this sort of potentially a violation of the neoclassical or the typical economics assumptions? Yes.AUDIENCE: Because assuming that the people have the same preference of whether they want to opt-in or opt-out, then there should be the same proportion across.





So that's essentially a rejection of perfect memory.Next one is charity.So if you think about people in all sorts of ways seem to care about others in the sense of just giving money, here's one charity that's called GiveDirectly, which is a very nice charity in a sense that what it does, essentially, is a very simple way of helping the poor by just directly transferring money to poor countries.So on the right, you see an actual recipient from GiveDirectly.That person has a phone.You just have others well-being in your utility function.Or it could be things like what we said previously.It could you sort of think it's appropriate thing to do.Maybe other people do.It's an important thing to do.And so what's interesting about this in some sense is-- so A, it proves, in some ways, that attention is limited.You just focus your attention on some things and not others.And you might miss important things.Now, that's OK in some ways.There's sort of a version of that that says, well, it might be sort of rational inattention.And in some ways, we want to kind of understand how relaxing some of these assumptions might make economic models more realistic.Now, in some sense, no economist would, in fact, argue that the assumptions of the standard models are exactly correct.The questions are, are these deviations important? Do they actually matter for something important in explaining people's behavior? And which of those assumptions or deviations actually matter? And that's kind of the name of the game here.In fact, when you talk to cognitive scientist, psychologist, et cetera, they will tell you the world is full of cognitive biases.And you might not be able to read this.In some sense, every choice that we make or any things that we do, there's lots of biases that interfere with people's choices.

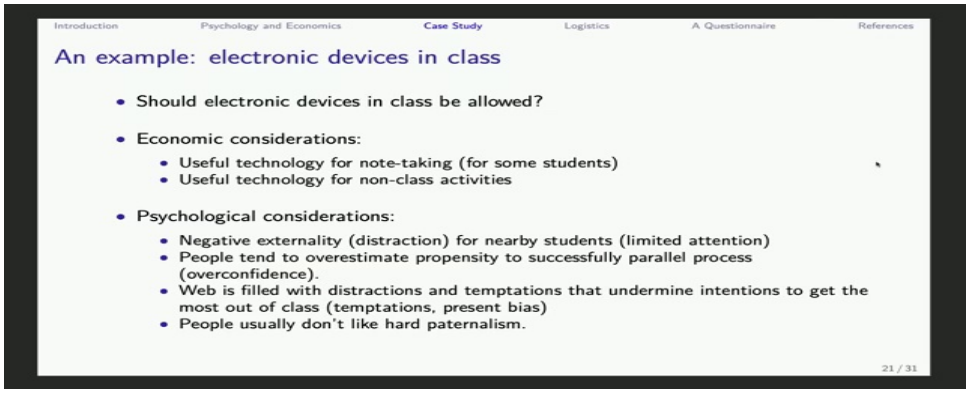
And almost any choice you can think of or any behavior they can think about, there will be psychology or other experiments showing that people do not behave perfectly.Now, the key question then is, which of those assumptions are important? And which of those violations of assumptions should we focus on? And for that, I want to step back a little bit and say, OK, what is actually a model? What are economic models trying to do? And so what is a model? A model is a simplified representation of the world.And we know, in some sense, that the assumptions of the models are not true.They're sort of supposed to be approximately true and exactly false.



The reason why economists have made those assumptions to start with is not necessarily because they thought people are perfectly rational or that there are not these psychological issues going on.The reason is actually simplicity.It's an easy thing to do.You model how you think people should behave and how they behave perfectly.And making some of these models sort of richer in their psychology is actually complicated and makes the models more complex and harder to analyze.We know that these assumptions are wrong.The question is, can we make somewhat simple assumptions or improvements of those assumptions based on insights from psychology and other fields that help us improve those models and then make better predictions and all of that in a tractable way? So now, this is very important here.A good behavior economist or a good student in this class is also a good economist.Behavioral economics is not sort of trying to replace standard economics.So I don't want you to go to my colleagues and say, you know, 1401, 1402, and so on, this is all garbage.

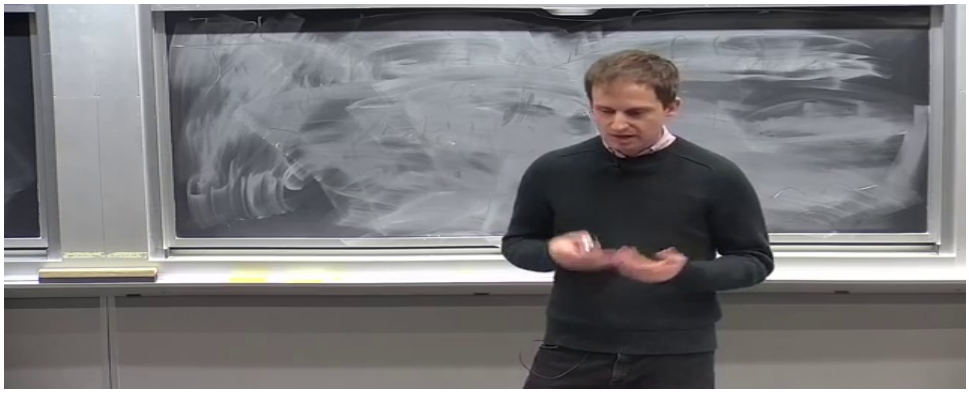
And you see these are relatively large and persist over time.And you see the treatment effects of the moral suasion treatment, which happens to be reasonably large to start with, but essentially just goes away.What did we learn from that? We've learned from that prices matter.And maybe in this case, moral suasion is just not that important.And that's perfectly fine.Some other times, you also just start from the classical model of economics, look at the predictions, and say, well, can we reject that? Or do we make certain predictions that are just not true? And then say, can we sort of improve those types of assumptions? And then, overall, we're trying to think about then how these hypotheses or deviations might be able to explain how people behave in markets and what choices they make and how, perhaps, we can think about policies that might affect the people's well-being, their welfare, or any other consequences.Any questions so far? OK.So now, I want to give you one very simple, in some sense, stylized example which sort of demonstrates a little bit what sort of the neoclassical economic standard economic assumptions are and how sort of enriching a model with psychological considerations might be more powerful.So when you think about laptops in class, what are sort of standard economic considerations? Should you allow laptops? Should there be laptops in class? Is that a good thing or a bad thing? Or what do you think about that? And now, I'm asking for standard, non-psychological issues, just saying, if you went to a classical economist and say, should we allow laptops in class, what would be considerations for that? Yeah.AUDIENCE: Externalities-- if you're distracting people who are around you? FRANK SCHILBACH: Yes.

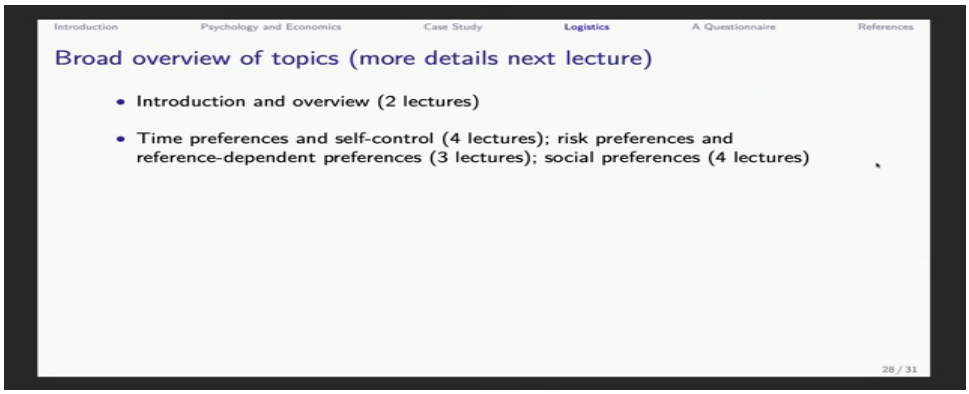
And as you say, each student should be able to choose for themselves what's good.And that may involve paying attention or not.Now, what are sort of some psychological considerations? We had one of them, which essentially distracting others, which essentially is the externality.What else? Yeah.AUDIENCE: Temptation and not valuing your future learning? FRANK SCHILBACH: Right, exactly.



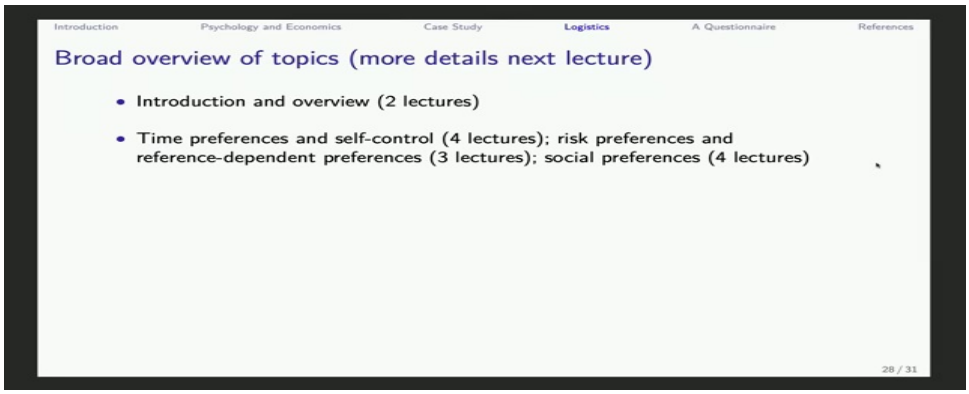
And you might be so inclined to do all sorts of things.Yes.AUDIENCE: I've had professors say a hard no on laptops, but if you have special needs or if you think you're a special case, you can tell the professor [INAUDIBLE].FRANK SCHILBACH: Right.So that's sort of like hard paternalism with some exceptions potentially.There's some experiments I'll show you in a second.Educational interventions tend to actually not work particularly well.So essentially, just giving people information tends to not change behavior often in the way we'd like to do that.You could tax laptop use.You say, it's costly to, but that would be the typical sort of public economic sort of solution.

There's a very nice article by Susan Dynarski in The New York Times.We'll put this online as well that you could read.But essentially, one of these studies is a randomized controlled trial that, actually, an MIT grad student, a former MIT grad student had done, in an intro econ class.This is Carter et al.And essentially what they find is that allowing computers in class reduced test scores by 0.18 standard deviations.

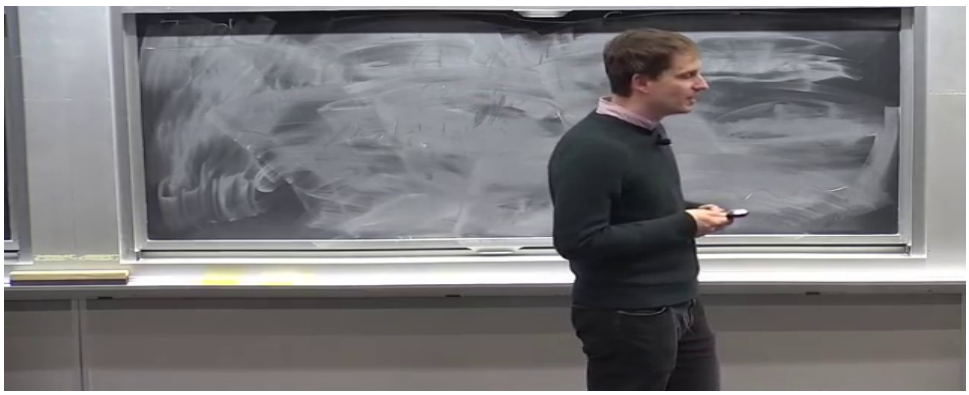




Then we're going to talk a lot about preferences.You can think about essentially, when people make choices, there's a utility function.



And sort of one set of behavioral economics issues are changes to the utility function.This might be time preferences and people's self-control, which we already discussed.It might be risk preferences, how people think about risk, how they think about gains and losses and how their preferences are reference-dependent.



This is sort of mostly the research that I do and thinking about poverty issues through the lens of psychology.Again, I'll tell you a little bit about the work I do myself.Partially, we get to talk a little bit about so how financial constraints or just thinking about money affects people's behavior and then, second, how others' issues related to poverty might shape people's choices, decision making, and their labor market outcomes, earnings, and so on and where there's potentially something that you might want to call a psychological or behavioral poverty trap.Any questions on these topics? OK.So then readings for next time, this is Wednesday.For example, when people are depressed, it's very hard for them to think about how it might feel when they're not depressed anymore in the future.So we'll talk about sort of projection and attribution bias, which is kind of these biases and how to think about people states of the world.How about limited attention, that people sort of don't pay attention to certain things in the world and sort of how that might affect people's behavior, how we might sort of exploit that potentially if we're taxing them or how we might sort of direct their attention to certain things and might improve their behavior? Similarly, then we talk about beliefs and learning.This is kind of like what information do they have available-- A, how they update their beliefs when they get information.And are they able to process information well? B, is there demand for information? Do people get utility from beliefs? This is what I was talking about like health behaviors or the health information where people might have motivated beliefs in the sense that they like to believe certain things when, in fact, they're not true in part because it makes them happy or in part because they want to be right about something or their party or whatever.We'll talk a little about augmental accounting, which is people tend to sort of narrowly bracket their choices.They might sort of have certain accounts in their behavior and decide sort of separately as opposed to aggregating their behavior as a whole.And that's sort of an issue that's less researched, but quite interesting overall.Then we're going to move towards sort of more radical deviations, if you want, from the standard model, which is things malleability and accessibility of preferences, which is to say people might not actually know what they want.And that makes things a lot trickier.Because then, in some sense, it's much harder to sort of say should the government or any sort of other policy maker choose A or B if we don't even know what people's preferences are, when people don't even know what their own preferences are? We're going to talk about happiness and mental health.Just kind of broadly speaking, what makes people happy? And can we think about that, in particular, sort of financial choices and others? I'll tell you a little bit about some of the work on mental health that I have been doing, thinking about kind of how mental health might affect economic behaviors and choices and, in part, how people's demand for mental health interventions might be shaped by influences of others.We're going to talk about gender and racial discrimination, which sometimes there's sort of classical and neoclassical models of discrimination.But we, in particular, think about sort of issues of discrimination that are sort of not rational in the sense of think about unfair, in some sense, discrimination.