



COURSE 3

SIMULATION SKILLS



INSTITUTE FOR THE FUTURE

FUTURES THINKING

taught by Institute for the Future with **Jane McGonigal**



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SIMULATION SKILLS

Humans are the only living creatures with the ability to think about and make plans for the long-term future. Even so, our brains don't always make it easy. Over the past decade, scientists have discovered a number of neurological “road blocks” to effective futures thinking. These glitches in the brain make it harder for us to accurately predict how we'll feel, and what we're likely to do, when a particular future arrives. They lead us to make faulty assumptions about which futures are likely or unlikely to happen. And they convince us we have less power to shape and influence the future than we actually do—leaving us stuck in the present.

In this course, you'll learn how to overcome these obstacles so you can think about the future more strategically and creatively. You'll practice simulation techniques for “unsticking” the mind when it comes to seeing what's possible in the future, and accepting how things could be different. You'll also learn how to lead others through “first-person future” simulations, which have been shown in scientific studies to increase motivation and hope for the future. Along the way, leading futurists from the [Institute from the Future](#) will share some of their most challenging forecasts to help you stretch your imagination and improve your simulation skills.

This course will ensure that you can put all of your new forecasting skills to the best possible use, by helping you nudge your brain toward more effective ways of simulating and preparing for the future.



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SIMULATION SKILLS

This deck is your summary, or “**CHEAT SHEET**”, for everything you’ll learn in this course.

Here's how to use it:

1. **Skim this deck now** to get a preview of what you’ll be learning and practicing in “Simulation Skills.”
2. **Review it again at the end of the course** to “lock in” your learnings.
3. **Come back any time** to refresh your memory, and to share what you’ve learned with others!

What are the key future simulation skills?

- **Predict the past** (counter-factual memory)
- **Remember the future** (counter-factual prospection)
- Use **hard empathy** (counter-factual perspective)
- **Specificity training** to strengthen neurological pathways
- Think in **first-person** about the future, not just in facts.
- Develop **personal foresight** around a future challenge
- Find **100 ways anything could be different** in the future
- Envision four **alternative futures** for your topic ("the future of X")
- Use the **experiential ladder** to create full-body simulation



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Predict the Past

“**Predicting the past**” means thinking about a decision you made in the past and wondering “**What if** I had made a different decision?”

How would the past and present have been different as a result? What would it feel like to be in this alternate reality? Would it be better? Worse? How and why?

Predicting the past is also called “**counter-factual memory**”, because you are thinking about a past that didn’t actually happen. It’s a *memory* that is “counter” to the “facts” of what happened.

This is an excellent skill to practice to get better at stretching your imagination for what can happen, and to understand the ripple effects and surprising consequences of any decision.



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Remember the Future

“**Remembering the future**” means thinking about something that could possibly happen in the future, even though it has never happened before -- and imagining it as vividly as if it had already happened.

What if you did a thing you've never done before? Can you picture all the details in your mind's eye? What do you see? What do you hear? How does it feel? What are other people doing? Can you imagine it all as clearly as if you have already lived this possible future, even though you've never actually experienced it?

Remembering the future is also known as “**counter-factual prospection**”, because you are “prospecting” (or thinking about the future) about something that has never been true, something that is “counter” to the “facts” of your life so far.

Remembering the future is a great skill to practice to get better at conjuring up realistic details and vivid scenarios for futures you've never directly experienced.



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Use Hard Empathy

Using hard empathy means trying to figure out how you personally would feel and do if your life were more like someone else's.

To practice hard empathy, look for a real-world situation in the news or your social networks that is dramatically different from anything you've ever directly experienced. The more different, the better. **What if** it happened to you? What if your life were more like this other person's? What choices would you make? What actions would you take?

Hard empathy is also called "**counter-factual perspective**", because you're looking at the world from a perspective, or point of view, that is "counter" to the "facts" of your own life.

Using hard empathy will help you simulate what other people will think, feel and do in any possible future, so you can get better at planning futures that benefit all.



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Specificity Training

“Specificity training” is a scientifically validated technique for strengthening the neurological pathways that allow you to mentally simulate the future. Originally created for patients suffering from traumatic brain injuries and dementia, this technique has been shown in studies to create improvement for anyone who tries it.

Here’s how it works: Instead of thinking about the future, you first practice remembering your past or imagining other hypothetical scenarios as vividly as possible. You answer a series of questions designed to draw out highly specific details involving all five senses: sight, sound, touch, smell, and taste. Your responses are scored based on how many different specific details they contain. Your goal is to increase your score each time you try.

Brain scans of patients who have completed specificity training show increased brain activations and connectivity in the common core network that enables mental simulation.



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Think in first person, not just in facts.

When you create a future forecast or scenario, you are thinking in “facts” about the future. You are describing what might be true in the future that isn’t true today.

To create a more personal connection to any forecast, you also need to think about it in “first person.” This means asking yourself questions like: How old will you be in a given forecast? Where might you be living? What work might you be doing? What might your family or home situation be like? What might your biggest goals and challenges be? What will you still care deeply about in this future and work to protect and defend?

First-person thinking is like creating a virtual reality machine in your mind, so you can take a mental trip to any possible future, look around and see it from *your* unique point of view, try things out, and “feel” the future before it happens. First-person thinking overrides your brain’s bias to imagine the future will be like today, and its tendency to take actions that benefit present-you at the expense of future-you.



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Develop personal foresight around a future challenge.

Many forecasts and scenarios describe problems society might face in the future. What would YOU do in that future to help solve these new problems?

Make a list of things you know a lot about, or care a lot about. See if you can find a way to connect these skills and passions to the future problem. The ideas you come up with will often spark new possibilities you can experiment with today.



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Find 100 Ways Anything Can Be Different

This is a powerful way to “unstick” your mind and think more creatively about any topic.

First, pick a topic, like “how we eat in the United States”, “how our company finds and hires new employees”, or “how people celebrate birthdays”, and list 100 things that are generally true about it today. (“Most people eat 3 meals a day.” “We come up with a job description and then we look for someone to fill it.” “People receive presents on their birthday.”) It’s easier to get to 100 in a group! If you’re working by yourself, try to come up with at least a dozen.

Now, pick one of the “true things” and reverse it, or describe an alternative. For example, if you said “Most people eat 3 meals a day”, you could say “Most people eat 1 meal a day” or “Most people eat a 4 meals a day.” If you said “People receive presents on their birthday”, you could reverse it to “People give presents on their birthday.”

Explore whatever new possibilities you’ve come up with as real possibilities for the future. How would these new “truths” work? Describe them in detail, why they are now true, and how the world is different as a result.



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Envision four alternatives futures for your topic ("the future of X")

When you think about a future topic, you get a clearer picture of multiple possible outcomes when you envision at least four different types of futures.

1. A "**growth**" future, in which current trends continue along the same trajectory
2. A "**collapse**" future in which a large-scale problem throws everything into chaos
3. A "**constraint**" future, in which one new challenge or value determines how things must change and adapt
4. A "**transformation**" future in which a new technology or social change makes things that seem impossible today suddenly possible.

You can use the Institute for the Future's **Envision Alternative Futures** tool to find signals and drivers for each of these types of futures for whatever topic you're looking at.



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Use the “Experiential Ladder” to create full-body simulation

The **experiential ladder** is a technique for designing “**full-body**” **immersive experiences** of the future: real, physical spaces that people can visit and spend time in to get an idea of what the future might look and feel like.

Designed by Stuart Candy and Jake Dunagan, the Experiential Ladder consists of 4 steps:

- 1: Setting** What time and place are you creating an experience of?
- 2: Scenario** What is different in this time and place, specifically?
- 3: Situation** What specific type of space or experience are you simulating in this scenario – for example, a restaurant, wedding, job interview, doctor’s visit, first date...?
- 4: Stuff** What physical things might exist in this situation, in this scenario, in this setting, that you can create for people to see, feel, hear, touch, and smell?



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What strengths are you developing by building your future simulation skills?

hope

strategy

practical skepticism

empathy

mental flexibility

foresight

creativity

Simulation skills are particularly useful for developing more **mental flexibility** and **empathy for your future self**.

Mental Flexibility – You accept that things can be different than they are now, that virtually anything can change. (This is the opposite of having a “fixed” or a “stuck” mindset.)

Self-Empathy – You have more compassion for your future self. You can see more clearly what will bring you happiness in the future. You are more motivated to take actions that benefit your future self.

WHEN should you use your future simulation skills?

In the **Foresight-Insight-Action** cycle, simulation skills are especially important to use **after you've developed a forecast or scenario**.

Simulation skills allow you to immerse yourself in the forecast. Look around, check your assumptions, and “feel” the future before it happens.

Use your simulation skills if, when faced with a scenario, you're not sure how you feel about it – is this a future you want? What would you do to thrive, or to make a difference, if you woke up in this future?



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And depending on your future state of mind...

Simulation skills are a good place to start if you've landed in **square #2 of the Future Four-Square Tool**:

"Things are generally getting worse in a future I care about, and I have no personal power to make it better."

Simulation skills can help you push the boundaries of what you believe can be different in the future, so you can find realistic reasons for hope.

And they can help YOU identify concrete ways YOU can play a direct role in making a better future today.



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I'm
Superpowerful

The future is getting worse, and you don't think you have any power to influence it?

Use your **SIMULATIONS SKILLS!**

it's getting
Worse

I have
no power

The future is getting better, but you don't think you have any power to influence it?

Use your **FORECASTING SKILLS!**

it's getting
Better

About this Specialization

The Institute for the Future is declaring 2020 “The Year of the Future,” because we believe that foresight is a human right. Every human should have the chance to develop the creative skills needed to imagine how the future can be different, and to participate in deciding what the future will be. We believe futures thinking shouldn’t be something that only happens in Silicon Valley. With our specialization in Futures Thinking on Coursera, we are the first organization ever to offer massively open, free training in futures thinking. We aim to upskill the entire planet in future thinking and future making, by teaching one million online learners via the Coursera platform. This text is one of 100 free readings distributed as part of our “Year of the Future” training.

Institute for the Future

Institute for the Future is the world’s leading futures thinking organization. For over 50 years, businesses, governments, and social impact organizations have depended upon IFTF global forecasts, custom research, and foresight training to navigate complex change and develop world-ready strategies. IFTF methodologies and toolsets yield coherent views of transformative possibilities across all sectors that together support a more sustainable future. Institute for the Future is a registered 501(c)(3) nonprofit organization based in Palo Alto, California.

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