



**SATURDAY ENRICHMENT SPRING 2019**  
**TAKE BACK YOUR BRAIN!**  
**HOW TO DECIDE WHAT (NOT) TO BELIEVE**

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Location: Loew Hall 220

### **Course Description**

All day, every day, we're forced to make quick choices about what to believe. In some ways we're really good at it; but modern psychology has shown that we live in a fog of "cognitive bias," accepting positive evidence more than negative evidence, seeing meaning in meaningless patterns, trusting our memories too much, trusting experts too much (and too little), and getting probability all wrong. These and other flaws in our thinking can make us gullible. In this class we'll get better at spotting cool claims that don't pass the smell test.

### **Essential Questions**

- What is knowledge anyway? How do our beliefs hang together?
- Why are doubtful or false beliefs so common and so tempting?
- How do you become skilled at navigating around mistakes, lies, hype, and fake news?

### **Learning Outcomes**

- *Students will explore* some key cognitive illusions involving bias, memory, math, and more.
- *Students will learn* how to assess all kinds of alleged knowledge more confidently, even in areas where they have no factual expertise.
- *Students will apply* simple, practical strategies for eliminating or reducing the effect of common illusions in thinking about health, science, personal relationships, and the news.

### **Instructional Strategies**

As in any philosophy or critical thinking class, our chief goal is to help each other think more clearly, through the medium of respectful but dynamic discussion. I will "lecture" in very short bursts of two to five minutes, set the scene with a puzzle or question or exercise, and then, to the greatest extent possible, let the students themselves run the show. The tentative schedule is very tentative: the point is not to cover a particular amount of "material" but to use the material to build sophistication and self-confidence in navigating our informationally confusing world.

### **Student Assessment**

In education, assessment is often necessary, but it can also be corrosive: too often, what's easiest to enumerate or grade drives and shapes what's taught. Because *Take Back Your Brain* stands outside the school curriculum, this is an excellent opportunity to stand back from all that and allow students to focus exclusively on exploring *the very idea of what knowledge is* for its own

sake. So, there will be no formal assessment; students can expect that I—and their peers—will be focused continuously on helping them improve their understanding, and their ability to navigate our complex “knowledge environment” with self-confidence.

## Resources and Materials

Everyone should bring to class a couple of their favorite pens or pencils and, if you have a favorite type, a fresh notebook. If you prefer, I’ll supply you with one of the type I like to use. (They’re a convenient medium size, and have pages with perforated edges, which is useful.) But any spiral-bound notebook or even a regular composition book works too.

There are no standard texts for this class. I’ll be providing some handouts as we go. We will also watch some short videos and may listen to some clips from science-related or other podcasts.

## Tentative Course Schedule

Date	Topic(s)	In-Class Activities
Week 1 April 6	A Map of the World (Inside Your Head).	We’ll start to create nothing less than a sketch map of all our knowledge (along with some thought-provoking examples of not-knowledge) and meet the Gullibility Monster.
Week 2 April 13	How Wrong Can You Be?	We’ll work on building up our knowledge map, have fun with optical (and other) illusions, and ask whether—oops—we might be wrong about <i>everything</i> .
Week 3 April 27	Beware the Wooh. (Can 10% of your brain be seen from space?)	We’ll play a game to see who can make up the most amazing story—and investigate why that’s a worrying skill.
Week 4 May 4	Pretty Patterns Everywhere: Why ordinary stuff keeps lying to us.	This week we’ll throw popcorn around the classroom to investigate one key reason why reality is so hard for our brains to get a grip on.
Week 5 May 11	Sure I’m Sure! Confidence, confirmation, expertise—and some potentially lethal bad math.	A game with tricky evidence (that routinely trips up doctors and journalists) will lead to some tips for not being quite so wrong quite so often.
Week 6 May 18	Amazing But False! (Media literacy in complicated times.)	A practical skill-building exercise in news-skepticism and Yeah-What-They-Said skepticism.
Week 7 June 1	Forget It! (Life in the Memory Hovel.)	We’ll test how much we can trust that internal YouTube channel we call memory... and look at the implications for what we should believe.

Week 8 June 8	How Wrong Can You Be—and How Right?	We'll finish by walking around with our eyes closed, learning a five-syllable word for the human condition, and reviewing our best practical tricks for going back out into the world better prepared against the Gullibility Monster.
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