



*Once dead, there will not lack pious hands to hurl me over the
banister; my sepulcher shall be the unfathomable air:
my body will sink lengthily and will corrupt
and dissolve in the wind engendered
by the fall, which is infinite.*

∞ J. L. Borges, *The Library of Babel*

∞ WHERE WE'RE GOING

This thing we call infinity fills our dreams and sparks our imaginations, yet it lies just beyond our reach, lurking in the shadows, evading our questions. Our curiosity compels us to ask: what is infinity? Whether it is something innumerable, something vast, or eternal, infinity shapes our philosophies and religions, influences our arts and literatures, and drives our mathematics and sciences. Blake sees infinity in a grain of sand; van Gogh glimpses it in starry nights; Cantor unlocks infinities within infinities; and Hawking finds it in the dark corners of our Universe. In this class, we will *imagine* the infinite and the infinitesimal by looking through the eyes of these and other great thinkers.

Falling from Infinity is designed with several learning objectives in mind. Some focus on tangible knowledge and skills while others are more abstract and long-term. All learning activities in the course rely and/or build upon one or more of these objectives. The overriding goal for the course is for you to begin to think critically about how people in different disciplines *imagine* infinity and to begin to shape your own view of infinity. In the process, you will:

- understand and be able to identify the different types of infinity;
- compare and contrast different visions of infinity;
- critically analyze literature, poetry and images;
- write thoughtful, critical reflections on the works encountered in the course;
- appreciate how different disciplines make sense of infinity;
- contribute productively to the on-going discussion about infinity;
- begin to form and creatively express your own vision of infinity.

∞ HOW WE'LL KNOW WE GOT THERE



“Space...is big. Really big. You just won’t believe how vastly hugely mind-bogglingly big it is. I mean, you may think it’s a long way down the road to the chemist, but that’s just peanuts to space.”

∞ *D. Adams, The Hitchhikers Guide to the Galaxy*

Throughout the course, you will have multiple opportunities to engage with the ideas we explore, play with them, reflect on them, and share them with others. The following activities will help guide you in this process and help you measure your progress as you move toward deeper understanding.

Class Participation. *Falling from Infinity* is a discussion-based course. Its success relies on everyone preparing for class—reading and thoughtfully considering all assigned course materials, jotting down discussion questions, and completing assignments on time—and actively participating in discussions. Class participation can take on many forms (one is not talking a lot). When you ask thoughtful questions, offer insightful comments, note relevant passages in texts, point out connections between ideas, listen with an open mind, and share personal experiences, you contribute to a healthy, productive discussion.

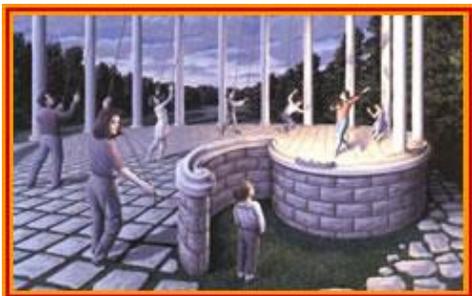
Journal. You will keep a reflective journal throughout the course, with opportunities to add a new entry each week. The entries, which should explore the course materials or the in-class discussions in more depth, provide a means for you to track your voyage through the infinite, record your questions, pose your answers, and document how your questions and answers change over time. For some of your journal entries, you’ll have choice in the topics you explore as well as the direction you take in discussing those topics. For others, you will be given small tasks to complete beforehand and then asked to reflect on the tasks. In general, you should expect to share entries with your classmates.

Reflection Tasks. From time to time, you will complete more complex tasks and then reflect critically on the experiences. Tasks include:

- Interview children, adults, friends, family, strangers about their views of infinity
- Create a photo essay which captures, in your minds-eye, elements of the infinite
- Write a short story centered around one of the works of art discussed in the course
- Create your vision of infinity through digital storytelling

Learning Portfolio. During the semester, you will explore from a variety of perspectives questions about the infinite and infinitesimal. Along the way, you will “play” with the ideas in discussion, in writing, and in art. To help you make the most sense out of these experiences, you will create a portfolio of your work to represent your evolving thinking in this course. The portfolio will include consciously and carefully selected samples of your own work and course materials and a reflective essay explaining what the collection as a whole means to you and how the portfolio reflects the changes in your thinking about the infinite.

∞ STOPS ALONG THE WAY



“Paradise is locked and bolted and the Cherub is behind us. We must make a journey around the world, to see if the back door has perhaps been left open”

∞ H. von Kleist, *On the Puppet Theater*

A tentative schedule of topics, reading assignments and due dates for *Reflection Tasks* is shown below. Nothing will be due earlier than indicated but some things may be pushed back or eliminated altogether, depending on time. All changes will be announced in class and on the course website.

Week 1: Thursday, August 25

∞ **Echoes of Infinity:** What does infinity look like through the eyes of the artist, the poet, the scientist, the philosopher...?

Before class on Thursday, August 30...

1. Explore the course website.
2. Complete the [pre-course questionnaire](#).

After class on Thursday, August 30...

1. Read *The Infinite Book*, Preface and Chapter 1: Much Ado About Everything (pp. 1-12).
2. ♦ Familiarize yourself with [digication](#) by creating your own portfolio and personalizing your “Welcome to Infinity” page as indicated in the template. For more information and additional help on editing your portfolio, visit [here](#).
3. ♦ Journal Entry #1: Document your “interactions” with numbers during some 2-hour time span. Note anything you do or see or hear that involves numbers, either directly or indirectly. Reflect on this experience. You may be surprised and shocked at how numbers permeate so much of our lives. Post your Journal entry to your [digication](#) portfolio by **10:00 PM on Wednesday, September 5**. After you post it, be sure to submit it as an assignment. Here’s is a good set of [instructions](#) on how to do this. [Click here for the specifications for all journal entries.](#)

Week 2: Thursday, September 1

∞ **Number:** What is number? Are numbers real? What do they mean? Do they help us make sense of our world?

Before class on Thursday, September 1...

1. Read *Falling from Infinity*, pp. 43-47. Dantzig, T. (2007). *Number: The Language of Science*. Ed. Joseph Mazur. New York: Plume. 6-12.
 2. Read [I have Lost My Explanation](#) by Mark Jarmin.
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After class on Thursday, September 1...

1. ♦ [Reflection Task #1 \(Infinity Interviews\)](#): Email me (mpalmer@virginia.edu) the pre-assignment information by **10:00 PM on Monday, September 5**. ([click here for an annotated exemplar](#))
 2. ♦ Journal Entry #2: Reflect on whether you think numbers are discovered or created. In other words, do numbers really exist and we've just happened to find them, or do we overlay an abstract concept onto our reality to help us make sense of the world? Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, September 7**. After you post it, be sure to submit it as an assignment.
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Week 3: Thursday, September 8

∞ **Numbers Beyond Number**: What happens when numbers (or spaces or times) get bigger or smaller than we can even begin to imagine?

Before class on Thursday, September 8...

1. Read *The Infinite Book*, Chapter 1: Much Ado About Everything (pp. 12-22).
 2. Look closely at the following [works by M.C. Escher](#):
 - *Regular Division of the Plane #70*
 - *Smaller and Smaller*
 - *Circle Limit I*
 - *Circle Limit III*
 - *Circle Limit IV*
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After class on Thursday, September 8...

1. Look closely at the following [works by M.C. Escher](#):
 - *Snakes*
 - *Path of Life*
 - *Whirlpools*
 2. ♦ [Reflection Task #1 \(Infinity Interviews\)](#): Email me (mpalmer@virginia.edu) your final reflection by **10:00 PM on Wednesday, September 14**. [Click here for an annotated exemplar](#).
 3. ♦ Journal Entry #3: As a more open-topic reflection, focus your thoughts on whether you believe infinity is just "potential" or whether it can be "actual." Your ideas should be supported by our conversation last Thursday and the upcoming reading assignment (see below). Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, September 14**. After you post it, be sure to submit it as an assignment.
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Week 4: Thursday, September 15

∞ **Probing Infinity**: Are there really different types of infinity?

Before class on Thursday, September 15...

1. Read *The Infinite Book*, Chapter 2: Infinity, Almost and Actual, Fictitious and Factual (pp. 23-40).
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After class on Thursday, September 15...

1. ♦ Journal Entry #4: Begin by completing the reading assignment, “Welcome to the Hotel Infinity” (Chapter 3, *The Infinite Book*). Then, imagine that you are going to create a short film based on the story. As producer, writer, director you need to make a lot of decisions: what will be the film’s format, what set location(s) will you use, who will you cast, how will you depict the infinite hotel, what is the plot or back-story? Don’t view this as an “anything goes” assignment. The decisions you make should be grounded in your vision of infinity. In other words, what do you want your audience to see or learn about infinity? Write your thoughts in your journal and be prepared to share them with the class. Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, September 21**. After you post it, be sure to submit it as an assignment.
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Week 5: Thursday, September 22

∞ **Unlocking Infinity:** How is it possible that there are as many *even* integers as there are *total* integers? How can an infinite line fill an infinite volume?

Before class on Thursday, September 22...

1. Read *The Infinite Book*, Chapter 3: Welcome to the Hotel Infinity (pp. 41-50) and/or watch [The Infinite Hotel Paradox](#) by Jeff Dekofsky.
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After class on Thursday, September 22...

1. Read *The Infinite Book*, Chapter 4: Infinity is Not a Big Number (pp. 51-69).
 2. ♦ Journal Entry #5: Cantor was as shocked—maybe even more so than you—when he discovered that the infinite natural numbers, the squares, and the rational numbers all have the same cardinality, aleph-null. Immediately, Cantor wrote a letter to his only real friend, and one of his few supporters, Richard Dedekind. In his letter, he wrote—uncharacteristically in French: “Je le vois, mais je ne le crois pas.” I see it, but I don’t believe it! Because Cantor had figured out a way to “count” the infinite, he was now ready to say that some infinities are bigger than others. He would eventually show that there are an infinite number of sizes of infinity. While you may not yet *believe* it, I hope you are starting to *see* that Cantor’s ideas open up the possibility of actual infinities, at least in mathematics. Do you see it? Do you believe it? For your reflective journal entry this week, I’d like you to spend some time trying to help one of your peers—someone not in the class—*SEE* Cantor’s infinities. Show them how we can make use of one-to-one correspondence to measure cardinality and how this allows us to say some infinities are equivalent in size to others, even though they don’t look equivalent on the surface. Don’t try to make them *BELIEVE*, try to help them *SEE* the argument. Then reflect on the experience: what was the person’s initial reaction, what parts were hard for you to explain, did the exercise help you *see* or *believe*, etc.? Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, September 28**. After you post it, be sure to submit it as an assignment.
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Week 6: Thursday, September 29

∞ **Unlocking Infinity:** Is there a “biggest” infinity (and could that be god?)

Before class on Thursday, September, 29...

1. Read *The Infinite Book*, Chapter 4-5: Infinity Is Not a Big Number & The Madness of Georg Cantor (pp. 69-91).
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After class on Thursday, September, 29...

1. ♦ **Journal Entry #6:** First, read the short story (“The Disk”) and the essay (“On the Puppet Theater”) assigned for next week. Then, select at least one important passage from each. You get to decide what’s important. Next quote, paraphrase, or summarize the reading passage(s) that you are responding to. If quoting, use quotation marks. In all cases, add the page number(s) of the passage(s). Finally, explain why you chose each excerpt and discuss your reaction to it (i.e., agreements, disagreements, questions, and so on). Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, October 5**. After you post it, be sure to submit it as an assignment.
 2. ♦ **Reflection Task #2 (Photo Essay):** Begin taking pictures of infinity!
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Week 7: Thursday, October 6

∞ **Infinity’s Twin:** How can *everything* also be *nothing*?

Before class on Thursday, October 6...

1. Read *Falling from Infinity*, pp. 19-20. Borges, J. L. (1998). “The Disk,” *The Book of Sand and Shakespeare’s Memory*. New York: Penguin Putnam, Inc. 86-88.
 2. Read *Falling from Infinity*, pp. 86-89. von Kleist, H. (1982). “On the Puppet Theater,” *An Abyss Deep Enough*. Ed. Philip B. Miller. New York: E.P. Dutton. 211-216.
 3. Read [Keeping Things Whole](#) by Mark Strand. Then, draw your emotional response to the poem. In other words, draw how the poem makes you feel. No symbols are allowed and do not draw what you think the poem is about. Have fun with it!
 4. Look closely at [Möbius Strip II](#) by M. C. Escher.
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After class on Thursday, October 6...

1. ♦ **Reflection Task #2 (Photo Essay):** Post final photo(s) to your [digication](#) portfolio. Then, email me (mpalmer@virginia.edu) your reflection by **10:00 PM on Wednesday, October 12**. Please attach your reflection as a Word document and be sure to include your photos. [Click here for an annotated exemplar](#).
 2. ♦ **Journal Entry #7:** For this entry, I’d like you to consider what themes connect the readings and art assigned for next week (Millhauser, Pascal, Freidrich and Wigan) and how they are different. Remember, even if you choose not to complete the journal entry, you must come prepared, having read and looked
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at everything. Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, October 12**. After you post it, be sure to submit it as an assignment.

Week 8: Thursday, October 13

∞ **Infinity on High:** How small is small? How big is big? And, where do we fit in?

Before class on Thursday, October 13...

1. Read *Falling from Infinity*, pp. 60-64. Millhauser, S. (2008). "In the Reign of Harad IV," *Dangerous Laughter: Thirteen Stories*. New York: Alfred A. Knopf.
2. Read Pascal, B. (1660). *Pensées, Section II, 74*. Translated by W.F. Trotter.
3. Look closely at [Monk by the Sea](#) by Caspar David Friedrich.
4. Look closely at the following works of art by [Willard Wigan](#):
 - Alice in Wonderland
 - Humminbird
 - Skyline

After class on Thursday, October 13...

1. ♦ **Journal Entry #8:** Borges' *The Aleph* (assigned for next week) is a short story about a mystical sphere that allows the viewer to see every corner for the universe from every angle. One can also argue that is a love story. What evidence in the story is there to support this argument? What does this story tell us about the infinite nature of love—or other emotions for that matter? How does Borges' other short story, *Funes, His Memory*, complicate this? Finally, what is your take on whether emotions can be infinite? Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, October 29**. After you post it, be sure to submit it as an assignment.

Week 9: Thursday, October 20

∞ **Infinity on High:** How small is small? How big is big? And, where do we fit in?

Before class on Thursday, October 20...

1. Read *Falling from Infinity*, pp. 9-17. Borges, J. L., (1970). "The Aleph," *The Aleph and Other Stories, 1933-1969, Together with Commentaries and an Autobiographical Essay*. Ed. Norman Thomas di Giovanni. New York: E.P. Dutton, 15-30.
2. Read *Falling from Infinity*, pp. 25-29. Borges, J. L. (1998). "Funes, His Memory," *Collected Fictions*. New York: Penguin, 131-137.
3. Look closely at [Starry Night](#) by Vincent van Gogh. Then, on a sheet of paper, create two columns: one labeled *Monk by the Sea*, the other labeled *Starry Night*. Compare these two works. What are the similarities and differences in what you see? What are the similarities and differences in your emotional responses to the paintings? **Bring this to class.**

After class on Thursday, October 20...

1. Skim: *The Infinite Book*, Chapter 7: Is the Universe Infinite (pp. 115-154).
2. ♦ Journal Entry #9: Come up with at least two discussion questions, one question for each of the two things we're reading for next week (The Library of Babel and The Hitchhikers Guide). Author questions that you think will lead to interesting conversations about what these pieces have to say about infinity. For each question, write a little about why it is interesting to you and what you hope to learn by discussing it. Post these to your [digication](#) portfolio by **10:00 PM on Wednesday, October 26**. After you post it, be sure to submit it as an assignment.
3. ♦ [Reflection Task #3 \(Short Story\)](#): Solid draft due in class on **November 3**; post your final story to your [digication](#) portfolio by **10:00 PM on Sunday, November 13**.
4. Optional: Watch [Stephen Wiltshire: The Human Camera](#).
5. Optional: Listen to *Everything* by Muse ([lyrics](#)) and *Blue Jeans* by Lana Del Ray ([lyrics](#)).

Week 10: Thursday, October 27

∞ **Infinity on High:** If the answer to Life, the Universe and Everything is 42, what is the question?

Before class on Thursday, October 27...

1. Read *Falling from Infinity*, pp. 2-8. Adams, D. (2002). "Hitchhiker's Guide to the Galaxy," *The Ultimate Hitchhiker's Guide to the Galaxy*. New York: Ballantine Books. 111-121.
2. *Falling from Infinity*, pp. 30-35. Borges, J. L. (1962). "The Library of Babel," *Ficciones*. Ed. Anthony Kerrigan. New York: Grove Press. 79-88.
3. Look closely at M.C Escher's [Depth](#) and [Cubic Space Division](#); and Rob Gonsalves' [Written Worlds](#) and [The Library](#).

After class on Thursday, October 27...

1. Read *The Infinite Book*, Chapter 8: The Infinite Replication Paradox (pp. 155-176).
2. Optional: *Falling from Infinity*, pp. 20-22. Borges, J. L. (1998). "The Book of Sand," *The Book of Sand and Shakespeare's Memory*. New York: Penguin Putnam, Inc. 89-93.
3. ♦ Journal Entry #10: Part of the reading assignment for next week is a couple short chapters out of Alan Lightman's wonderful book, *Einstein's Dreams*. The story I find most intriguing is the dream about time being concentric circles. Where is it better to live life: at the center, at the edge, or at somewhere in between? What if you were forced to make a decision and stay there forever? Where would you live life? What would your decision allow you to gain and force you to lose? Reflect on these questions and post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, November 2**. After you post it, be sure to submit it as an assignment.
4. ♦ [Reflection Task #3 \(Short Story\)](#): Solid draft due in class on **November 3**; post your final story to your [digication](#) portfolio by **10:00 PM on Sunday, November 13**.

Week 11: Thursday, November 3

∞ **Eternity! O, dread and dire word:** What is time?

Before class on Thursday, November 3...

1. Read *Falling from Infinity*, pp. 53-58. Lightman, A. (1993). *Einstein's Dreams*. New York: Warner Books. 8-12, 70-74, and 163-165.
2. Read *Falling from Infinity*, pp. 36-42. Borges, J. L. (1962). "The Garden of Forking Paths," *Ficciones*. Ed. Anthony Kerrigan. New York: Grove Press. 89-101.
3. Read [An Eternity](#) by Archibald MacLeisch.
4. Read [Eternity](#) by Mark Jarmin.

After class on Thursday, November 3...

1. ♦ [Reflection Task #3 \(Short Story\)](#): Post your final story to your [digication](#) portfolio by **10:00 PM on Sunday, November 13**.
2. ♦ Participation Assignment + Journal Entry #11: To receive credit for "participation" for our November 10 class, answer one of the following prompts (400-600 words). To also receive credit for Journal Entry #11, answer both prompts (600-800 words total). Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Thursday, November 10**. After you post it, be sure to submit it as an assignment.
 - Prompt #1: Discuss your thoughts on whether time only exists for the present or whether it only exists for the past and future. Support your ideas with the St. Augustine piece as well as other things we've read (e.g., The Garden of Forking Paths and other stories/poetry).
 - Prompt #2: Compare the two Dali paintings assigned for next week, *The Persistence of Memory* and *The Disintegration of the Persistence of Memory*. To help guide your eyes a bit, consider several of the following:
 - line
 - shape
 - color
 - space
 - texture
 - size
 - What time of day is it?
 - What is the temperature?
 - What is the sense of distance?
 - Where does your eye go to first?
 - What other differences do you notice?
 Finally, assume that the clocks represent the past, present, future and memory. Which clock is which? Why?

Week 12: Thursday, November 10

∞ **Eternity! O, dread and dire word:** When did time begin and when will it end?

Before class on Thursday, November 10...

1. Read *Falling from Infinity*, pp. 72-85. St. Augustine. (2002). "Confessions," *Classics of Western Philosophy, 6th Ed.* Ed. Steven M. Cahn. Indianapolis: Hackett Publishing Company. 353-365.
2. Read [Wild Iris](#) by Louise Gluck.
3. Look closely at the following works by [Salvador Dali](#):
 - The Persistence of Memory
 - The Disintegration of Persistence of Memory

After class on Thursday, November 10...

1. ♦ [Reflection Task #4 \(Infinity Digital Story\)](#): Begin developing project ideas!
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Week 13: Thursday, November 17

∞ **Eternity! O, dread and dire word:** Would you want to live forever?

Before class on Thursday, November 17...

1. Read *Falling from Infinity*, pp. 48-52. Joyce, J. (2004). "A Portrait of the Artist as a Young Man," *A Portrait of the Artist as a Young Man and Dubliners*. New York: Barnes & Noble Classics. 111-117.
 2. Read *Falling from Infinity*, pp. 24. Borges, J. L. (1998). "Delia Elena San Marco," *Collected Fictions*. New York: Penguin, 183-195.
 3. Read *Forgetfulness* by Billy Collins.
 4. Look closely at [At Eternity's Gate](#) by Vincent van Gogh.
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After class on Thursday, November 17...

1. Read *The Infinite Book*, Chapter 11: Living Forever (pp. 247-260).
 2. Optional: Read *Falling from Infinity*, pp. 25-29. Borges, J. L. (1998). "[The Immortal](#)," *Collected Fictions*. New York: Penguin, 183-195.
 3. ♦ Journal Entry #12: Using the texts and poetry we've read and the art we've explored, answer the question: Do you want to live forever? Post your critical reflection to your [digication](#) portfolio by **10:00 PM on Wednesday, November 30**. After you post it, be sure to submit it as an assignment.
 4. ♦ [Reflection Task #4 \(Infinity Digital Story\)](#) OR [Learning Portfolio](#) (click here for exemplars: [example #1](#), [example #2](#), [example #3](#)): Begin/continue working on your final project!
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Week 14: Thursday, November 24

∞ **Pausing Infinity:** When considered from eternity's perspective, would someone even notice our Thanksgiving break?

Week 15: Thursday, December 1

∞ **The End of Infinity:** If you're falling from infinity, would you know it? or want to know it?

Before class on Thursday, December 1...

1. *Falling from Infinity*, pp. 64-71. Millhauser, S. (2008). "The Tower," *Dangerous Laughter: Thirteen Stories*. New York: Alfred A. Knopf. 145-158.
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2. Look closely at [The Tower of Babel](#) by M.C. Escher.
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After class on Thursday, December 1...

1. ♦ [Reflection Task #4 \(Infinity Digital Story\)](#) OR [Learning Portfolio](#); click here for exemplars: [example #1](#), [example #2](#), [example #3](#)): Email your final project to me (mpalmer@virginia.edu) no later than **10:00 PM on Thursday, December 8.**
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∞ TIPS FOR SUCCESS



*“But there is attraction in forbidden knowledge, as in the edge
the of the abyss. Where the footstep cannot tread, the
eye may reach; where the eye can
penetrate no further,
the mind may
soar.”*
∞ V. Hugo, *Toilers of the Sea*

∞ General Tips

1. Learning is hard work, often frustrating, but also fun. To do well in this course, you’ll need to dedicate yourself to grappling with difficult concepts and new ways of thinking. If you do this, and I keep up my end of the bargain—to create an interesting, engaging and challenging learning environment—then the work you put in will pay off. Not only will you learn a lot, but you’ll likely earn an A.
 2. The more you prepare for each class, the more you think about and play with the ideas, and the more you reflect on your thinking and experiences, the more you’ll get out of our time together in class (and the more fun you’ll have).
 3. It’s worth repeating: Have fun! Evolutionarily, we humans would be in big trouble if learning wasn’t fun. It turns out the act of learning taps pleasure centers in our brain, which encourages us to solve complex and creative problems rather than always run in fear!
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∞ Attendance

Because *Falling from Infinity* is a discussion-based course and many of the foundational ideas will be introduced and explored in class, attendance is required. Because life happens, there are mechanisms for you to “pay” for unexcused absences. For details, see [specifications grading](#).

∞ Discussion Ground Rules

The following discussion ground rule were initially developed by students in the fall 2018 semester and augmented in fall 2019.

1. Be always respectful, but especially when exploring different beliefs about ways of thinking, religion, and other sensitive topics. Specifically, this means...
 - respect what other people are saying even though you might disagree with them;

- strive to see and understand other's points of view;
 - don't take different opinions personally;
 - don't cut someone off;
 - try to use people's names.
2. Embrace disagreement. If you disagree with something someone says, speak up and discuss your opinions, don't just shut down. Don't be afraid to challenge other's beliefs, but at the same time don't be afraid to challenge your own beliefs. Back up what you're saying.
 3. Foster a "no judgement zone." Be open to listening and trying to understand opinions that differ from yours. Don't think someone else's opinions are wrong.
 4. Listen carefully when someone is talking. Ask them clarifying questions, if necessary. No talking over each other. And, remember, tone matters.
 5. Don't talk the entire time.
 6. Try to bring others into the conversation who haven't spoken much.
 7. Don't get angry if you don't like something that was said. Don't feel like you have to always defend yourself.
 8. Be willing to have the difficult conversations (e.g., on religion, etc.).
 9. Take a break if necessary (make sure you check in with yourself during difficult conversations to see how you feel on the topic).

∞ Feedback

You will receive regular feedback on your work from me (your instructor), your classmates, yourself, and even others. This feedback will generally be framed in the form of questions that will help you move to deeper understanding. Think of this feedback more as a guide than a commentary on rightness or wrongness.

∞ Evaluation

Details about how your grade is determined using our specifications grading scheme are [here](#). Keep in mind, your final grade reflects how well you meet the learning objectives and specifications, not a comment on effort or self-worth.

∞ A Note About Honor

I trust every student in this course to fully comply with all the provisions of the UVA Honor System. With that said, you will often work with others in the course. While the experience should be collaborative in nature, the final version of all graded assignments must be entirely the work (and writing) of each individual student. Also, be sure to cite all sources using APA format. Here's a handy website which details how to do this: <https://owl.english.purdue.edu/owl/resource/560/01/>.

∞ INSTRUCTOR

Michael Palmer
Professor, General Faculty
Office Phone: 982-2784
Email: mpalmer@virginia.edu

Office: Hotel D, 24 East Range
Office Hours: TBA

∞ TIME AND LOCATION

Class meeting time: Tuesday 3-4:50pm
Class location: TBD

∞ REQUIRED TEXTS

- Barrow, John D. *The Infinite Book: A Short Guide to the Boundless, Timeless and Endless*. New York: Vintage Books, 2005. Available at the Student Bookstore, 1515 University Avenue, 293-5900. (\$15.95)
- *Falling from Infinity* course packet. Available at NK Printing, 5 Elliwood Ave #B, 295-8337. (\$10.75)

All other course materials will be handed out in class or accessible on the course Collab site.

Be sure to read the course syllabus and policies carefully.

∞ IMPORTANT DATES

Classes Begin: TBD
Classes End: TBD

∞ HONOR

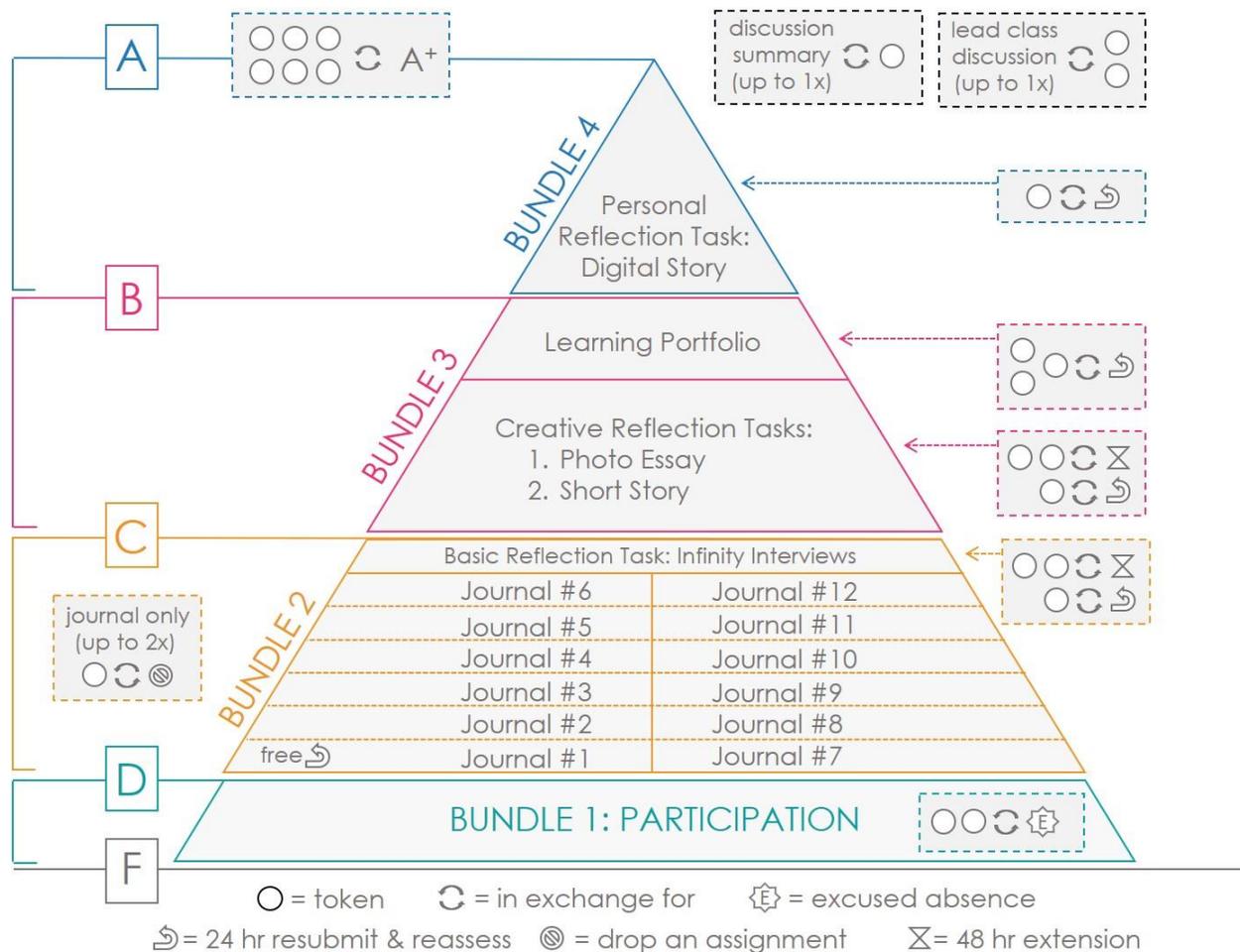
I trust every student in this course to comply fully with all of the provisions of the UVA honor system. All work should be pledged, stating that the student neither received nor gave aid on the assignment. If it is shown beyond a reasonable doubt that a student has committed an honor violation with regard to any assignment, that student will receive an immediate grade of '0' (zero) for that work, irrespective of any subsequent action taken by the Honor Committee.

∞ ASSESSMENT

In *Falling from Infinity*, we will use a grading scheme known as *specifications grading*. Specifications grading allows students to choose the grade they want to earn in a course based on the amount of effort they want to put in. In a specifications grading system, the professor creates “bundles” of assignments for each letter grade, often giving students choices of assignments within each bundle. In order to earn the grade of their choice, students complete the bundle of assignments aligned with that grade. For every assignment, the professor shares a clear and comprehensive set of criteria for successful completion (aka, the assignment’s specifications). **No letter grades are given for individual assignments; rather, each assignment a student turns in either meets the specifications or it does not.** Instead of a letter grade on each assignment, the instructor offers plentiful feedback. Specifications grading systems also often utilize tokens students can exchange for extensions, re-submissions, etc.

∞ Overview

The figure shown below provides a high-level overview of the specifications grading scheme used in *Science of Learning*. Detailed descriptions of the grade bundles, specifications, and tokens follow.



∞ Bundles

The four grade bundles are:

- I. Participation (required for a D)
- II. Journal + Reflection Tasks (required for a C)
- III. Creative Reflection Tasks (required for a B)
- IV. Portfolio (required for an A)

You must complete and meet the specifications for all assignments in a particular bundle (and those that proceed it) to achieve the designated letter grade and to be eligible for a higher one. For example, if you complete Bundles I-III to specifications, you will earn at least a B. If you also complete the specs for Bundle IV, you will earn an A.

No minus (-) grades are available. Plus (+) grades may be earned by successfully completing a minimum number of assignments in higher bundles. The exact number will depend on the complexity of the assignments completed and will be determined by the instructor. For example, if you only complete Bundles I and II, a C is the highest grade you can earn. But, if you complete some of Bundle III to spec, you may be eligible for a C+.

∞ Specifications

Bundle I: Participation (To pass the course, you must complete Bundle 1 to spec)

Falling from Infinity is a discussion-based course and its success relies on everyone preparing for class—reading and thoughtfully considering all assigned course materials, jotting down discussion questions, and completing assignments on time—and actively participating in discussions. Class participation can take on many forms; one is not talking a lot. When you ask thoughtful questions, offer insightful comments, note relevant passages in texts, point out connections between ideas, listen with an open mind, and share personal experiences, you contribute to a healthy, productive discussion. To earn a passing grade in the course, you must meet these specifications:

- have no unexcused absences;
- complete pre-course questionnaire;
- attend 30-minute instructor meeting at the start of the semester;
- attend 15-minute mid-semester check-in meeting;
- come to each class prepared, having carefully read all assigned material and completed all assigned work;
- engage deeply during discussions:
 - ask well-formulated and critical questions of the text and your peers;
 - listen thoughtfully to your peers and generate insightful, constructive responses to the debates that might ensue;
- actively participate during in-class activities;
- complete self-assessments of participation;
- complete end-of-course evaluation.

Bundle 2: Journal + Basic Reflection Task (To earn a C in the course, you must complete Bundles 1-2 to spec.)

Regular entries in your Reflective Journal will help you explore the course materials or the in-class discussions in more depth, provide a means for you to track your understanding of learning, document your experiments, record your questions, and pose your answers. To meet spec, your Reflective Journal should have twelve (12)

well-developed entries that...

- are between 400-600 words each;
 - address the assignment prompt for the given week, be relevant to the topic, and directly connect to the course readings and discussions by referring to specific sections and/or passages (cite in-text using author's name, title of reference material, and page numbers);
 - be personally reflective, focusing on your current or evolving thinking about the topic as it relates to infinity;
 - make serious efforts to grapple with the ideas and demonstrate critical reflection, integration of ideas from the readings and class discussions, and original thought.
-

Basic Reflection Task: Infinity Interviews

This reflection task involves interviewing children, adults, friends, family, strangers about their views of infinity and comparing their answers to your own.

- [assignment description and specifications](#)
- [annotated exemplar](#)

Bundle 3: Creative Reflection Tasks (2) + Learning Portfolio (To earn a B in the course, you must meet the Bundles 1-3 to spec.)

This reflection task involves taking photos that captures, in your minds-eye, elements of the infinite and then reflecting on the limitations of your photos.

- [assignment description and specifications](#)
- [annotated exemplar](#)

Creative Reflection Task: Short Story

This reflection task involves writing a short story centered around one of the works of art discussed in the course that explore a theme of infinity.

- [assignment description and specification](#)
-

Learning Portfolio

You will create a portfolio of your work to represent your evolving thinking in this course. Your portfolio should include consciously and carefully selected samples of your own work, inspirations from course materials, and a reflective essay explaining what the collection as a whole means to you and how this portfolio reflects the changes in your thinking about the infinite.

- [assignment description and specifications](#)
 - annotated exemplars: [example #1](#), [example #2](#), [example #3](#)
-

Bundle IV: Personal Reflection Task (To earn an A in the course, you must meet the Bundles 1-4 to spec.)

Personal Reflection Task: Digital Story

This reflection task involves exploring your personal relationship some aspect of infinity through digital storytelling.

- [assignment description and specification](#) (must schedule 60-second demo at least one week prior to assignment due date)
 - [exemplar](#)
-

∞ Tokens

You will be given three (3) tokens at the start of the semester. You may exchange these for a variety of things, including time extensions, or re-submissions (see the overview figure above for details). You may also earn an additional token for every two Journal entries you successfully complete beyond the eight (8) required for Bundle I.

Specific details regarding tokens include:

- Tokens are non-transferable between students.
- Lost or stolen tokens will not be replaced, so treat them like any other type of valuable currency.
- Exchange rules only apply to the portion of the bundle for which they are defined. For example, you may not exchange one (1) token to resubmit a Journal entry. Similarly, you may not exchange two (2) tokens for a time-extension on the Portfolio.
- Additional tokens may be earned during the semester by summarizing one discussion (up to 1 token) and leading part of a discussion (up to 2 tokens). Tokens earned in this way may not be earned in the same week. Details and sign-ups will be announced in class.
- Any additional tokens you earn during the semester may be used for any type of exchange.
- The only way to earn an A+ in the course is to complete every bundle to spec and also exchange six (6) tokens at the end of the course. In other words, you need to be perfect on every assignment and earn all available additional tokens.