

Gödel, Escher, Bach: An Eternal Golden Braid
Spring, 2018
IDH 2930 Section 2B71
Mondays, 7th Period
Location: LIT 117

Instructors:

Andrew Sack

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Required Materials:

Gödel, Escher, Bach: An Eternal Golden Braid by Douglas Hofstadter
ISBN: 978-0-465-02656-2

Office Hours:

Meetings with instructors can be arranged by appointment.

Course Description:

For any sound system, there are songs it cannot play. Likewise for mathematics, there are facts that cannot be proven. How are art and logic related? Can machines think? In this class we will discuss all of these and much, much more. According to the author of *Gödel, Escher, Bach: An Eternal Golden Braid*, the central thesis is how symbols (such as mathematics, neurons, or musical notes) acquire meaning. In addition to this we will discuss connections between art and mathematics. By the end of this course, students should have a greater understanding of self-referential objects and be able to apply these skills in a final project.

Course Objectives:

1. Gain a better understanding of self-referential things
2. Examine how intelligence arises from biology
3. Build an intuition about formal systems

Course Assignments:

1. Reflection on weekly reading
After doing the reading for the week, prepare a 1-2 paragraph reflection on the reading. Any thoughts, questions, parts you found illuminating, or parts you found confusing are all things that should be included in the reflection. To be turned in at the start of class. (10 points per reflection, 120 points in total)
2. Reflection on class
In the last few minutes of each class you will be asked to write a reflection on what parts of the class discussion you thought were the most important or interesting.

(10 points per reflection, 120 points in total)

3. Project

A major theme in GEB is how some things like music, art, and mathematics can be self-referential. Students will be asked to come up with a project that is self-referential. This is open to interpretation, and can include, but is not limited to, a poem, a story, an essay, a computer program, a work of art, a song, etc. In GEB, Hofstadter gives many examples of self-referential things from which students can draw inspiration. Students will have to submit their idea for a project on March 26 and on the last day of class all students will give a short presentation explaining their project.

(60 points)

Total: 300 Points

Grading Scale:

93%+	= A
90 - 92.9%	= A-
87 - 89.9%	= B+
84 - 86.9%	= B
80 - 83.9%	= B-
77 - 79.9%	= C+
74 - 76.9%	= C
70 - 73.9%	= C-
67 - 69.9%	= D+
64 - 67.9%	= D
60 - 63.9%	= D-
Below 60%	= E

Course Timeline:

Jan 8: Introductions

Jan 22: Discuss through Chapter 1

Jan 29: Discuss through Chapter 2

Feb 5: Discuss through Chapter 3

Feb 12: Discuss through Chapter 4

Feb 19: Discuss through Chapter 5

Feb 26: Discuss through Chapter 6

Mar 12: Discuss through Chapter 7

Mar 19: Discuss through Chapter 8

Mar 26: Discuss through Chapter 9; **Project proposal due**

Apr 2: Discuss through Chapter 10

Apr 9: Discuss through Chapter 11

Apr 16: Discuss through Chapter 12

Apr 23: Project presentations

Policies:

For other matters of policy, please consult 'Policies plus' at

<https://people.clas.ufl.edu/paulr/files/>