

CS497 Special Topics, Spring 2009

Applied Models of Computation

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Have you ever wondered:

- A) Is Java and object-oriented programming all there is?
- B) Can programming weird things actually be fun?
- C) How do you build a virtual machine?
- D) Is it hard to make a compiler?
- E) What's it like to take the **red pill**?



This course will be a spoon-bending <cough> I mean mind-bending exploration of the nature of programming languages, computers, and computation. We will use the functional concurrent programming language Erlang to learn about things like functional programming, SSA, concurrency, distributed computing, symbolic computation, virtual machines, continuations, lexers, parsers, compilers, and interpreters. This course is *applied*, meaning it focuses more on practice and less on theory. You will be required to write programs.

Prerequisites: CS242 Data Structures (or equivalent), or instructor consent.

Answers to questions:

- A) No, of course not.
- B) Yes, of course.
- C) I can't answer that in one sentence, but it's not hard. We can do it in less than a week.
- D) No, compiling can be easy, but code generation can be rather difficult.
- E) Take CS497 and find out!*

* No red pills will be taken.