

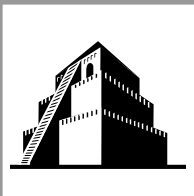
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# NEW CLASS FOR FALL 2001

## COMS W4995-02 Languages for Embedded System Design

Prof. Stephen A. Edwards

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LANGUAGES  
FOR  
DIGITAL  
EMBEDDED  
SYSTEMS

STEPHEN A. EDWARDS

KLUWER ACADEMIC PUBLISHERS

### PREREQUISITES

COMS W4115 Programming Languages and Translators or equivalent

COMS W3823 Digital Logic or equivalent

Embedded systems are single-purpose computers that are often part of larger systems such as cars or telephones. Their design requires tight integration of application-specific hardware and software, and often have strong constraints on power, cost, and speed. While most embedded systems are currently designed using ad hoc techniques, the complexity of future systems will demand formal design techniques.

The course is an introduction to a wide variety of languages used to specify embedded systems, including hardware, software, and dataflow languages. Embodied in these languages are different models of computation, such as sequential, dataflow, discrete-event, and synchronous, that shape how design problems may be solved. Knowing about more of these languages will give you a bigger bag of tricks for solving design problems.

When you have completed the course, you will have gained some experience using each of the languages, will have learned about how each of them are implemented, and will have completed a project that will give you more in-depth knowledge of one of the languages, either by using it to design a system or by creating an analysis tool for the language. With luck, some projects will turn into publications and longer-term research projects.

<http://www.cs.columbia.edu/~sedwards/>

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**Mondays and Wednesdays 9:40 to 10:55 in 535 Mudd**