Here is a one-of-a-kind, intermediate-advanced course for Python programmers who want to learn more about applying Python's most advanced features to a variety of practical problems in systems building. The course starts with core material related to network programming and advances into thread programming, multiprocessing, I/O handling, and distributed computation. Topics include introduction to the Python interpreter, basic programming language features, and data processing idioms, organizing programs into functions, modules, objects, and classes. Touring standard library modules, basic principles of object-oriented programming, testing, and debugging. Python's interface to the outside world and the operating system, including iterators, generators, text processing, regular expressions, files, file system, subprocesses, and C extensions. Even the most advanced Python programmers will walk away from this class with new insight and ideas.

**Prerequisites:** Experience with a programming language such as Perl, C, C++, or Java; familiar with the basic concepts of programming such as variables, data types, statements, control-flow, functions, arrays, data structures, and common programming problems (e.g., searching, sorting, etc.); know how to work with files, folders, editors, command shells, environment settings, internet connections, and other essential aspects of using a computer for software development. This is not an introductory class for absolute beginners on how to program a computer!

**About the Instructor:**
David Beazley, Ph.D., M.S., author of the Python Essential Reference and nominated member of the Python Software Foundation, is an active member of the Python community and creator of several Python-related packages including SWIG and PLY. He worked at Los Alamos National Laboratory where he helped pioneer the use of Python on massively parallel supercomputers. As an assistant professor at the University of Chicago, he taught courses in operating systems, networks and compilers. He also has extensive experience with C, C++, and assembly language programming. Dave has a Ph.D. in computer science and a M.S. in mathematics.

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