

Computer Science Proposed Additions to Liberal Studies Requirements

Proposed Courses: Ethics / Social Responsibility: (3) hours required

We believe the following courses would satisfy all or part of the FSU Liberal Studies requirement as the focus is primarily on ethics. Note that the second course is only 2 credits.

- **CIS 4250. Ethics in Computer Science (3).** *Pre- or corequisite: COP3014 or a prior course in programming.*
Introduces fundamental concepts in Ethics along with ethical, legal and social issues and questions in computer science that call for ethical analysis. The course also presents basic theories and skills in oral argument presentation and extemporaneous debate, including argument structure and debate practice. These skills are then used to support the explanation and argument of various ethical analyses of modern computer science problems.
[Note: this also satisfies the FSU oral communication competency requirement for our students.]
- **CGS 4092. Ethics Issues in CS (2).**
This theory and skills course is intended for students with a basic knowledge of computer science principles and programming languages. The course introduces fundamental concepts and analytical methods in ethics, along with ethical, legal, and social issues and questions in computer science that call for ethical analysis.
[Note: this does not satisfy the FSU oral communication competency requirement for our students.]

Proposed Courses: Scholarship in Practice: (6) hours required

We believe the following courses would satisfy the university wide requirement for scholarship in practice as each of the courses is specifically designed to apply theory to the practice of computer science through actively designing, developing and implemented one or more large software projects.

- **CEN 4020. Software Engineering I- Requirements Engineering (3).** *Corequisite: COP4530.*
This course is the first semester of a two-semester software engineering sequence integrating theory and practice with project experience. Topics include theory, tools, requirements elicitation, software requirements specification, requirements review, software development, ethics, software development life cycle, teams and project management.
- **CEN 4021. Software Engineering II- Design and Implementation (3).** *Prerequisites: CEN 4020.*
This course is the second semester of a two-semester software engineering sequence with focus on software project systems development. Topics include software design, software architectures, testing, deployment, software metrics, configuration management, reusability, portability and interoperability.
- **COP 3252. Internet Applications Programming with Java (3).** *Prerequisites: COP 3330*
This course covers the applications of the Java language to education, electronic commerce, scientific research, and distributed systems in general. Topics include the following: the architecture of the Web, including software protocols for passing information in typical Web applications; introduction to the Java programming language; developing Graphical User Interfaces using Swing; an introduction to distributed objects using Java Remote Method Invocation (RMI); and server-side programming using Servlets and JDBC. Emphasis is placed on practical programming using these technologies.

- **COP4L. Python Programming (3).** *Prerequisite COP3330. Note: we are in the process of getting a regular number for this course.*

This course is an intermediate-level course in Python. Topics covered will include lectures on the Python language and development environment as well as coverage of some select Python modules that demonstrate the versatility of the Python language. Students are expected to be comfortable with the programming material that is taught in COP3330.

[Note: The objectives of COP4L are to: understand, develop, and debug Python code, develop "Pythonic" solutions for problems, gain experience with the Python development environment, utilize new software development tools, exercise problem solving and programming skills with Python and produce a collaborative Python application in a small group.]

- **COP 4656r. Mobile Programming (3).** *Prerequisite: COP 4530.*

This course teaches students how to program mobile devices. Students use event-based methods to write and deploy a content based application using a mobile computing software framework. May be repeated to a maximum of nine semester hours.

[This course uses a specific environment when taught such as Android or IOS, and can be repeated only when a different environment is used. Students develop "serious apps" as part of the course]

Proposed Courses: Upper - Division Writing Course: (3) hours required

We believe the following course could meet this upper division writing requirement.

- **COP 4020. Programming Languages (3).** *Corequisite: COP 4530.*

This course covers the principles of programming languages, including language constructs, syntactic and semantic specification methods, runtime structures, implementation techniques, and alternative programming paradigms. The course involves programming assignments in a variety of languages and individual investigations accompanied by a required written report and oral presentation.

[This course has a serious writing requirement as the individual investigation project is an important part of the course. The writing requirement of the course is designed to fulfill the writing requirement of our discipline for our accrediting bodies and thus it should meet the university wide upper division writing requirement also.]