

Software Engineering Practicum

OMSE 555 and 556, Winter and Spring 2008
Oregon Master of Software Engineering

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Course Description

The objective of the practicum is to provide hands-on software engineering management and development experience applying the principles, methods, processes and tools learned from OMSE courses. The practicum is comprised of two parts and organized as two courses, OMSE 555 and OMSE 556 completed in sequence. The class is grouped into one or more integrated project teams jointly undertaking a coordinated software engineering problem. The evaluation (grading) process equally weights group and individual performance.

Problems undertaken by student teams apply the practices learned in OMSE classes across the software engineering process. Projects range from technical evaluations, analysis and specification, through architectural design to prototype development and testing. Every project involves applying best project management, quality assurance and configuration management practices.

The course instructor organizes practicum students into teams of 4 to 6 and assigns projects to the teams. The instructor forms the teams from the registered practicum students, balancing team skills and project requirements. The instructor presents the projects to the teams, sometimes with the support of an outside sponsor. Teams collaborate with the instructor to target the specific requirements and expectations for each project. The instructor makes all final decisions regarding team make-up and project objectives.

Student teams may use designated proprietary or open source software engineering tools. Students have access to tools such as Visual Studio through PSU's MSDN Academic Alliance (an academic software licensing arrangement). Students may use open source SE tools such as Eclipse and GForge.

OMSE practicum projects may build on prior practicum projects that are visible via "OMSE Exchange" <https://projects.cecs.pdx.edu/~omsetrac/> which is a Trac wiki implementation. You will see past OMSE practicum project conduct and results, many of which analyzed and used open source tools and components and tools like Visual Studio. You are encouraged to explore this site. OMSE 555-556 project teams will make use of this environment to manage their projects through assigned accounts.

OMSE 555: Each project team is assigned the task of preparing specifications, a project plan, and/or a technical proposal to construct a software-intensive system. The team is provided a problem by the instructor. The team is expected to establish and follow a process for preparing appropriate objectives, requirements and plans over an 11-week period, namely, the OMSE 555 academic term. The plan includes milestones, activities, deliverables, assignments and priorities for the next practicum term. Team members take on various roles and prepare assigned portions of the proposal effort. Each team meets weekly, submits final documents, and makes a class presentation at the end of the term.

OMSE 556: The project team is tasked to fully or partially complete the design construction and/or testing of the proposed project. The proposed work may range as follows: developing and analyzing requirements, developing technical specifications, developing candidate designs, performing software engineering research, conducting evaluations and tests, producing proof of concept prototypes, and developing training materials (e.g. user guides, tutorials, usage scenarios). Team members execute their project roles, and report progress to the instructor regularly over the 11-week period of the practicum term. Each team produces a final report and deliverables and conducts a jointly conducted presentation. This presentation, which is made to the instructor and invited guests, summarizes accomplishments, problems and lessons-learned, may include demonstrations, and makes recommendations to future OMSE practicum students for further work.