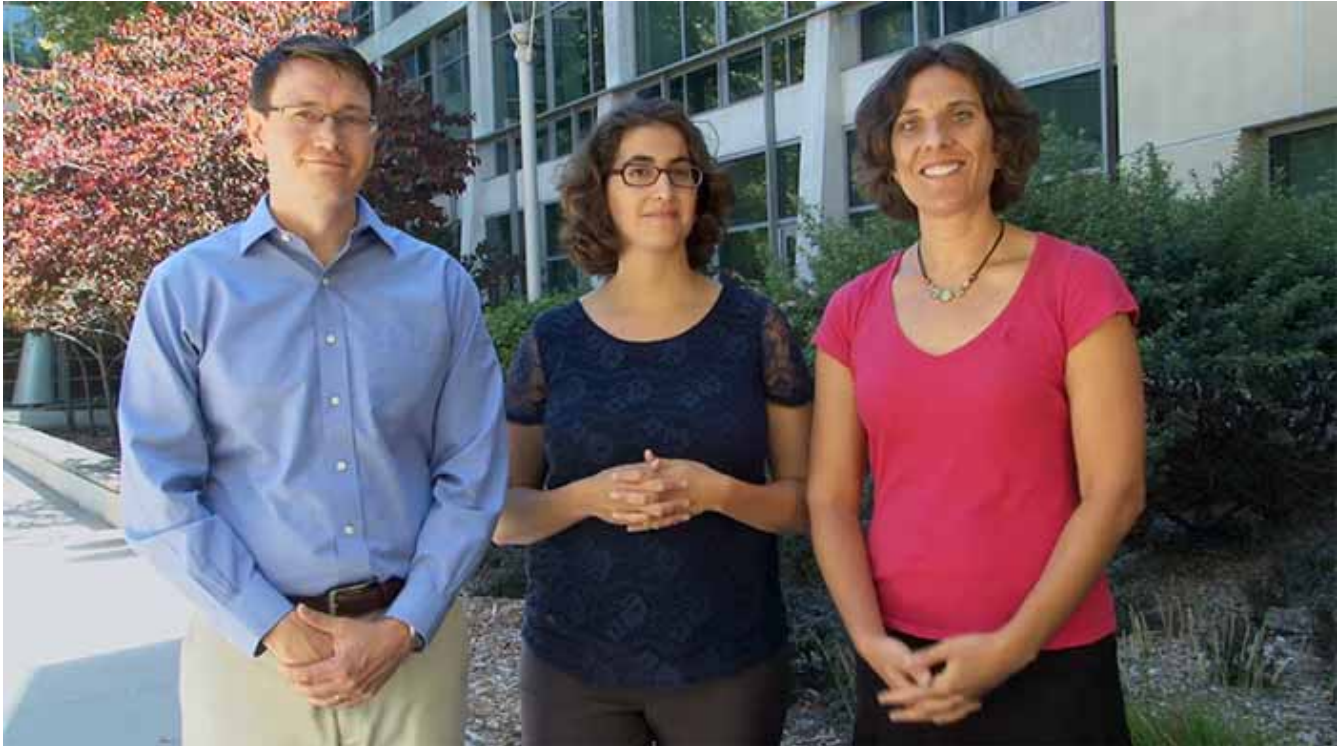


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Online Course on Mastering the Software Engineering Interview



CSE Teaching Professors (l-r) Leo Porter, Mia Minnes and Christine Alvarado developed the interviewing course as part of a five-course Specialization on Coursera in intermediate software engineering.

Students and anyone interested in interviewing for a job in software engineering will now be able to take a course on how to ace the interview – whether the student is enrolled at the University of California, San Diego (where it was created) or not, and whether the potential interviewee is located in the United States or anywhere around the world.

Three faculty members from UC San Diego’s Computer Science and Engineering (CSE) department will launch a new course, “Mastering the Software Engineering Interview”, on February 8 (advance enrollment is now open). It was commissioned by Coursera, a leading provider of open online courses with 17 million registered learners worldwide. The interviewing course is part of a four-part series of online courses to teach intermediate software

development. Taken together, the four courses and a Capstone Project make up a Coursera Specialization in “Java Programming: Object-Oriented Design of Data Structures,” a mini-degree program originally launched in September 2015.

The course and the Specialization were developed by CSE Teaching Professors Christine Alvarado, Mia Minnes and Leo Porter. They received assistance from a team at Google; the company is contributing ideas for real-world projects and the involvement of its engineers as guest lecturers.

The new course provides learners with advice on how to succeed in technical interviews for software engineering positions, while also giving the online learner an opportunity to practice how to improve their technical and “soft” skills. “To prepare job seekers for the rigors of a software engineering interview,” said Prof. Alvarado, “the course provides opportunities for practice and feedback on the four key parts of most technical interviews: Introducing Yourself; Introducing Your Work; Writing Code; and Solving New Problems.”

In 2015, the UC San Diego team was awarded the opportunity to work with Coursera to develop the intermediate-level Specialization. While the course is aimed at helping learners anywhere in the world to prepare for technical interviews, the new course aims most critically to prepare applicants from previously underrepresented groups by providing them with “insider” information about interviewing ‘best practices’ and by addressing key soft skills (confidence, communication, and more).

This is the fourth course in the intermediate programming and software engineering Specialization. Previously-launched courses in the Specialization have focused on intermediate programming concepts critical for interviews, including object-oriented programming (launched last Sept. 15), basic data structures and algorithm analysis (Oct. 26), and advanced data structures (which began on Dec. 21). “These three courses employ a number of online-learning pedagogical innovations and are among the top learner-rated courses on Coursera – each earning between 4.7 and 4.8 out of 5 stars,” noted Prof. Minnes. “Currently more than 75,000 students are enrolled in the existing three courses.” Coming soon is the fifth component of the Specialization, the Capstone Project, which is only open to learners who have taken all four online courses.

All of the courses in the Specialization can be taken independently, or they can be taken in sequence. Learners who pay for the Specialization and complete the four courses are then invited to undertake the Capstone Project that requires using intermediate programming and software design skills. Interested learners who do not want to pay for the Specialization or the

\$79 fee for the Course Certificate are welcome to submit a financial aid request that, if awarded, would reduce the cost of the Course Certificate to zero. Students who do not want to get a Course Certificate can take the course free of charge.

This Specialization is a unique offering for learners in computer science. “The course also features novel approaches to online-based learning,” said Prof. Porter. “In creating the courses, we adapted best practices from Computer Science Education Research and applied those practices to this new context of online learning.” Although there are a number of online courses offering introductions to computer science, the UC San Diego-developed Specialization goes one step further in the curriculum. The topics are fundamental to computer science, and they are often at the core of interviews for programming internships and full-time jobs. In fact, this fourth course in the sequence hones in on problem-solving and interview skills.

The Coursera platform allows anyone around the world to access these courses. With such tremendous reach comes the huge potential to impact a wide and diverse group of learners. Participants in the courses are expected to include: working professionals aiming to update their skills or change to a different job; current college students looking to enhance their on-campus education; and many others. Learners who take computer-science courses on Coursera typically come from many international locations, with nearly three quarters of registered students based *outside* the United States.

This Specialization is an initiative under the UC San Diego Office for Online and Technology Enhanced Education, which coordinates campus education efforts in the online arena. The office, part of the Teaching and Learning Commons, is closely aligned with the Commons’ goals of supporting both instructors and students.

The instructional team will be studying the course impact and contributing to the research on effective practices in online learning. In a broad partnership, the Coursera Course Success team, previously led by UC San Diego Teaching Professor Beth Simon while on leave at Coursera, will be working with the UC San Diego team as well as a team from Duke University (awarded funding for the Introductory Programming Specialization). They will also collaborate with a team of external education experts with a goal of adding to the evidence base about the efficacy of online education in producing meaningful learning.

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