**STEP UP**

**Two-Day Training Program**

A refresher course that is intended for holders of a System Testing Excellence Program certification.

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<td>Tues, June 14</td>
<td>Quality Development in the Agile Software Development Environment – Part 1</td>
<td>Quality Development in the Agile Software Development Environment – Part 2</td>
<td>Dr. Gillenson¹</td>
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<td>Dr. Gillenson¹</td>
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<td>Wed, June 15</td>
<td>Cybersecurity Testing</td>
<td>Quantifying Software Quality ROI</td>
<td>Dr. Neel²</td>
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¹ Associate Director of STEP, Professor of Business Information & Technology

² Associate Professor of Computer Science

³ Director of STEP, Associate Professor of Business Information & Technology
STEP UP Two-Day Training Program

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Course Overview

DESCRIPTION

This course is designed to provide an in-depth look at the latest advances in systems testing and systems testing management. Keep your skills up to date with our custom created research-based continuing professional development modules covering the latest advances and emerging topics in systems testing.

OUTLINE AND LEARNING OUTCOMES

Day 1

Quality Development in the Agile Software Environment – Part 1
  • Introduction to agile software development/testing
    – Generic roles/responsibilities
    – TDD / BDD methods
  • Testing Strategy in the agile environment
    – Design for testability
  • Types of testing
    – Unit Testing
    – Secure Coding
    – Acceptance Tests
    – Code coverage analysis

Quality Development in the Agile Software Environment – Part 2
  • Team issues in agile testing
  • Test automation in the agile environment
  • Continuous Integration
  • Research findings of agile industry best-practices

Day 1 Learning Objectives

  • Understand the generic roles/responsibilities as they relate to agile software development and testing
  • Understand testing design strategy in the agile environment
  • Define the types of testing
  • Understand the team issues in agile testing
  • Understand test automation in the agile environment
• Understand continuous integration
• Understand research findings of agile industry best-practices

Day 2

Cybersecurity Testing – did not receive much feedback on this one
• Penetration testing
• Web application security testing
• Risk-based security testing
• Security auditing

Quantifying Software Quality ROI – this could be a one day class on performance measurement/metrics
• Cost of quality challenges
• Automation costs and benefits
• Business views cost of quality
• Calculating return-on-investment
• Performance measures for quality of software

Day 2 Learning Outcomes

• Understand penetration testing
• Understand web application security testing
• Understand risk-based security testing
• Understand security auditing
• Learn the cost of quality challenges
• Identify automation costs and benefits
• Learn how business views cost of quality
• Learn how to calculate return-on-investment
• Understand performance measures for quality of software

COST

The total cost of the course is $810. Cost includes breakfast, lunch, refreshments and parking.
Instructor Biographies

Dr. Mark Gillenson – University of Memphis

Mark L. Gillenson is Professor of Business Information and Technology (formerly MIS) in the Fogelman College of Business and Economics of the University of Memphis in Memphis, TN and he is the Director of the DRONES (Drones, Robotics, and Navigation-Enabled Systems) Research Cluster in the university’s FedEx Institute of Technology. He received his B.S. degree in Mathematics from Rensselaer Polytechnic Institute, Troy, N.Y. and his M.S. and Ph.D. degrees in Computer and Information Science from The Ohio State University, Columbus, OH. Dr. Gillenson worked for the IBM Corp. for 15 years in a variety of positions, including seven years as a faculty member of the prestigious IBM Systems Research Institute. Subsequently, he was a professor at the University of Miami, Miami FL. Dr. Gillenson’s current areas of interest are “big data”, autonomous vehicles, and systems testing. He is an associate editor of the Journal of Database Management and of the Journal of Global Information Technology Management. Dr. Gillenson’s research has appeared in MIS Quarterly, Communications of the ACM, Information & Management, Methods of Information in Medicine, and other leading journals. His latest book is Fundamentals of Database Management Systems, 2nd edition, John Wiley & Sons, 2012. As a graduate student, Dr. Gillenson invented the world’s first computerized facial compositor and co-developed an early computer graphics system that, among other things, was used to produce some of the special effects in the first Star Wars movie.

Dr. Andrew Neel – University of Memphis

Andrew Neel, PhD, CISSP holds a PhD in Computer Science from the University of Memphis. He is a Senior Consultant at Discover Financial Services and an Adjunct Professor at the University of Memphis. He was previously the Chief Security Architect at Servicemaster and a Technical Advisor at FedEx. Dr. Neel is an accomplished "Thought Leader" in Information Security capable of communicating to executive leadership as well as individual technical contributors. His specialties include: visionary, leadership, pci, compliance, information security, enterprise architecture, research & development, technical writing, governance, security metrics, extremely complex systems & architectures, secure network design, and perimeter security.
Dr. Robin Poston – University of Memphis