Software Testing and Maintenance

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INTRODUCTION

- Software Testing is a critical element of developing quality software systems
- It is a systematic approach to judge quality and discover bugs
- This course presents the theory and practice of software testing and Maintenance

- Topics covered include:
  - Black-box and white-box testing, and related test case generation
  - Testing team and testing documentation
  - Tools for software testing
  - Performance testing basics
  - Testing in the Software Process

COURSE OBJECTIVES

- Understand the concepts and theory related to software testing and quality assurance
- Understand the relationship between black-box and white-box testing, and know how to apply as appropriate
- Understand different testing techniques and process used for developing test cases and evaluating test adequacy
- Learn to use automated testing tools efficiently and effectively
- Understand current state of software testing and maintenance

GRADING

- Daily performance (40%)
  - Class attendance (10%)
  - Quiz & Assignments (10%)
  - Experiments (20%)
    - Black Box -test case design
    - White Box -test case design
    - Automated functional testing
    - Automated Performance testing
- Final Exam (60%)

Penalties for Cheating

If you cheat in this class, you will fail the class.

TEXTBOOK

- Software Testing Principles and Practice

Second Edition, English language
S. Brown, J. Timoney, T. Lysaght and D. Ye
China Machine Press, 2019

- The book is developed over ten years and reflects the experience in industry and lecturing from authors;
- The book is the results of extracting and interpreting test techniques from a wide classic books and standards.
- By providing extensive worked examples, the book aims to provide a solid basis for both understanding and applying various test techniques

CONTENTS

- Software Testing Principles and Practice

1. Introduction to Software Testing (*Chapter 1*)
2. Testing in the software Process (*Chapter 9*)
3. Black-Box Testing (*Chapter 2&3*)
4. White-Box Testing (*Chapter 2&3*)
5. Test Team & Test Documentation
6. Unit Testing (*Chapter 3,4&5*)
7. Integration Testing (*Chapter 6*)
8. System Testing (*Chapter 7*)
9. Software Test Automation (*Chapter 8*)
10. Software Maintenance

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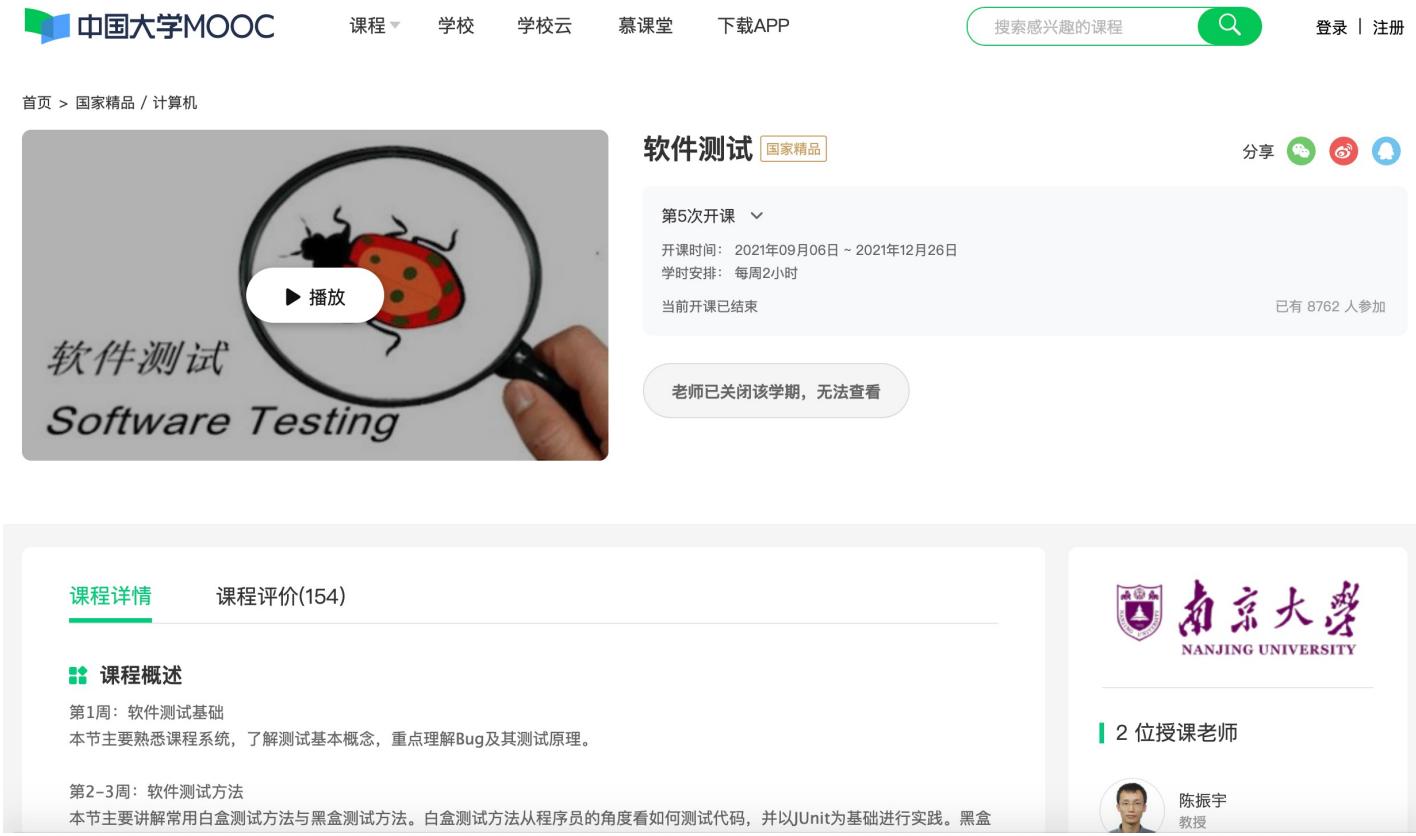
- MOOC Course- Software Testing

  Nanjing University , Zhenyu Chen (*https://www.mooctest.net/*)



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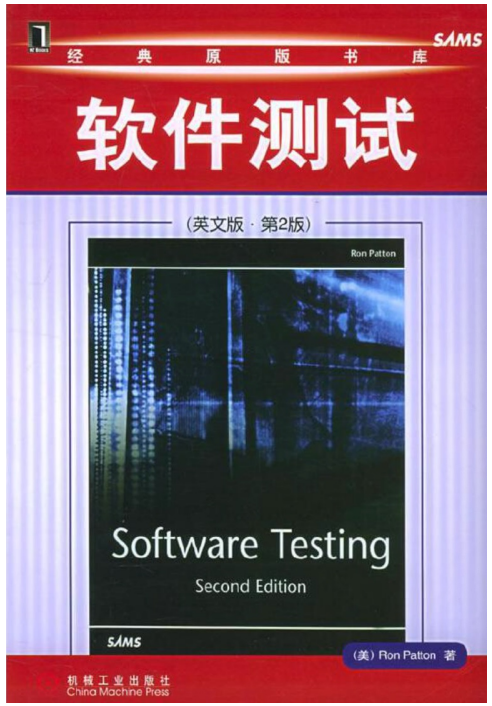

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