

课程简介 1B008 软件测试技术

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课程基本信息：

课程编号: 1B008

课程名称: 软件测试技术

课程学分 4 课时 48

开课学期: 2019 年春季

上课时间: 周一上午 8:30 – 11:30

教员基本信息：

郁 莲 博士 教授

- Email: lianyu@ss.pku.edu.cn Tel: 61273624
- Office: 2号楼
- Office hour: 周日下午 3: 00 – 4: 00

助教

- TBD

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Guide to the Software Engineering Body of Knowledge

(SWEBOK 2004)

A project of the IEEE Computer Society
Professional Practices Committee

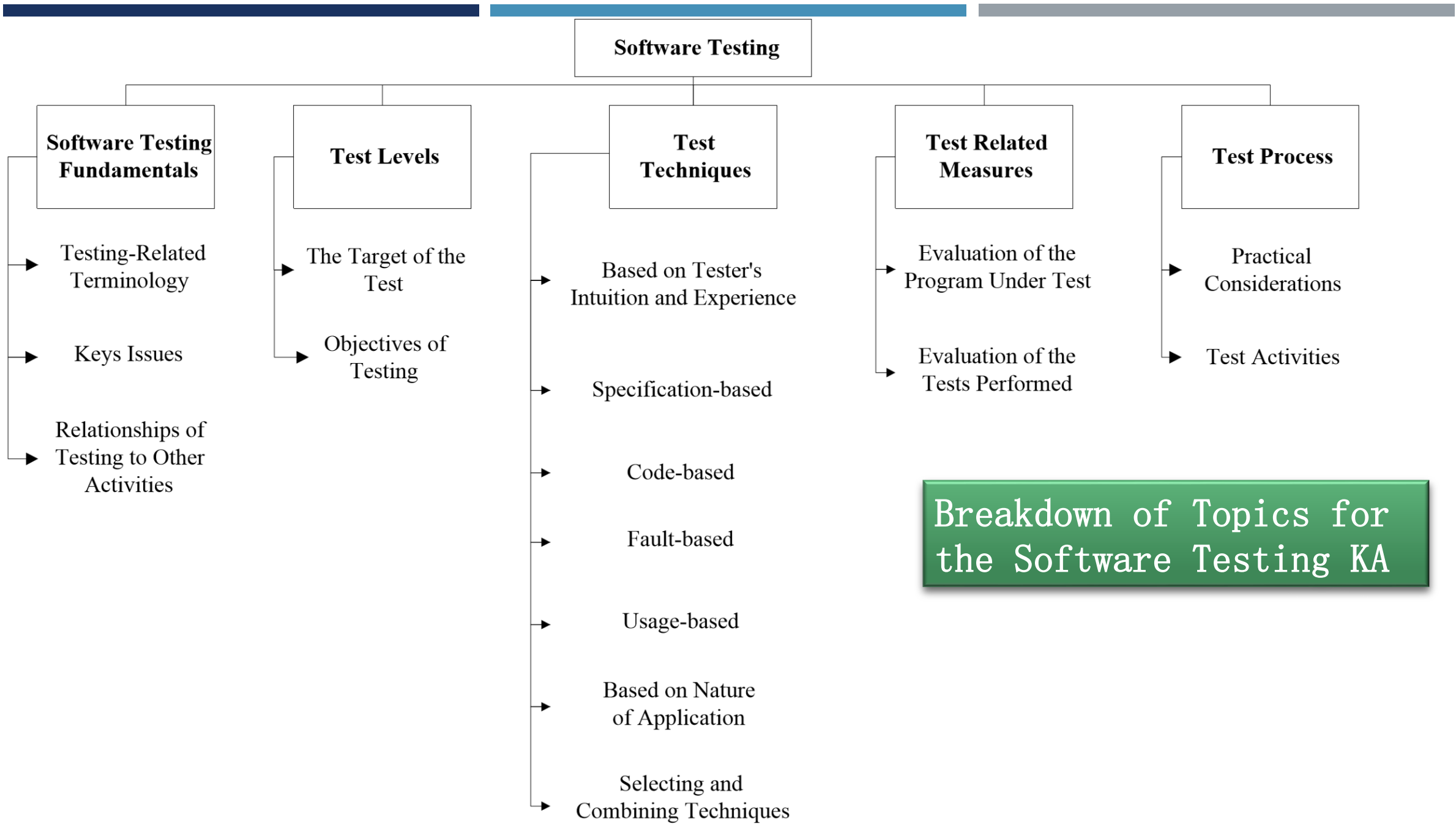
Breakdown of Topics for the Software
Testing KA

Table 1 The SWEBOK Knowledge Areas (KAs)

Software requirements
Software design
Software construction
Software testing
Software maintenance
Software configuration management
Software engineering management
Software engineering process
Software engineering tools and methods
Software quality

Table 2 Related disciplines

◆ Computer engineering	◆ Project management
◆ Computer science	◆ Quality management
◆ Management	◆ Software ergonomics
◆ Mathematics	◆ Systems engineering



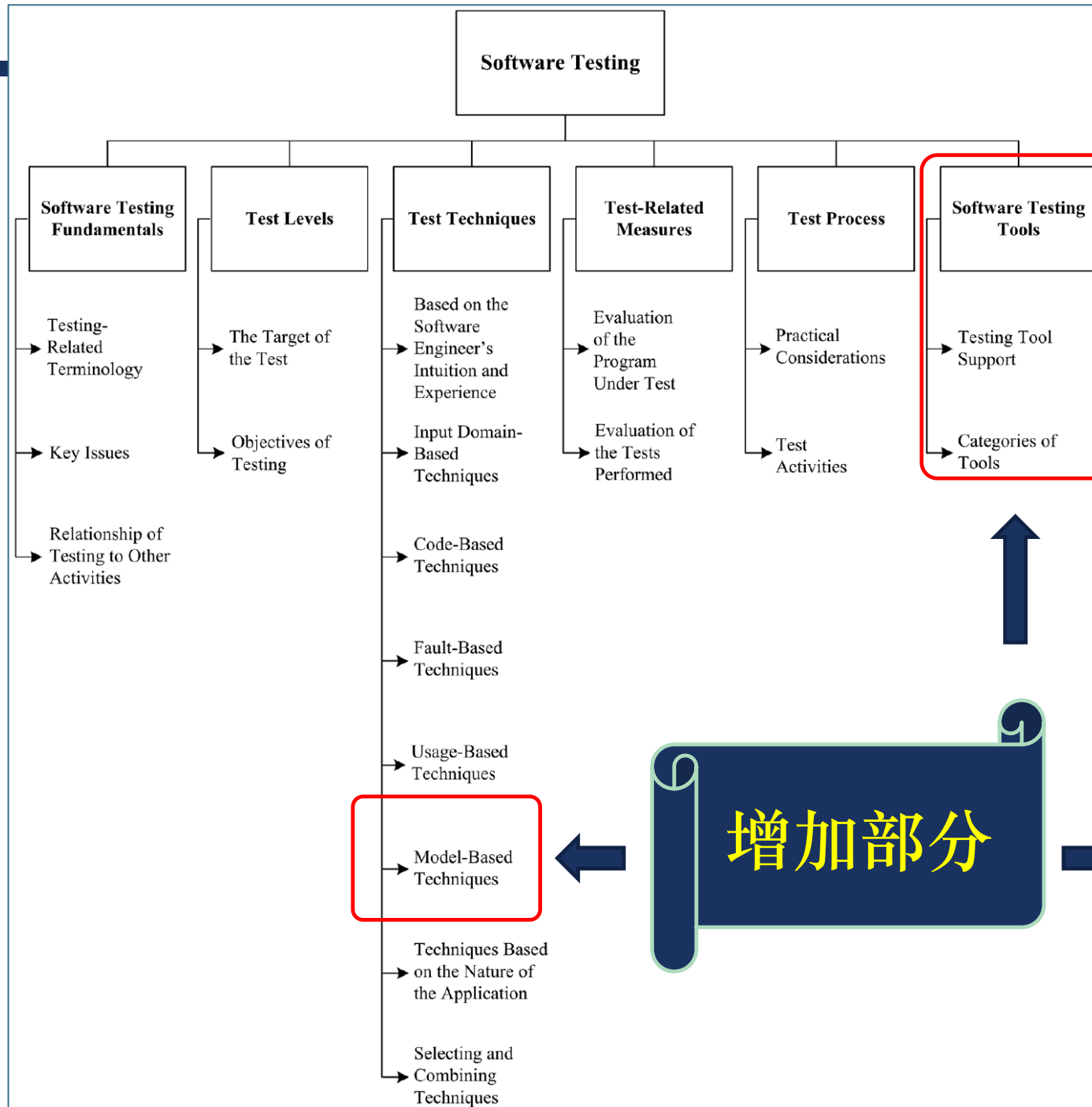


Table I.1. The 15 SWEBOK KAs

Software Requirements
Software Design
Software Construction
Software Testing
Software Maintenance
Software Configuration Management
Software Engineering Management
Software Engineering Process
Software Engineering Models and Methods
Software Quality
Software Engineering Professional Practice
Software Engineering Economics
Computing Foundations
Mathematical Foundations
Engineering Foundations

课程目标



课程目标

1

软件测试技术基础: 白盒测试 (white-box testing)、黑盒测试 (black-box testing), 回归测试 (regression testing)

2

测试技术应用: 面向对象系统测试 (object-oriented systems), 单元测试, JUnit, 模仿测试 (Mock Objects), 状态测试 (State-based testing), Web应用测试 (Web testing) .

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先修知识



面向对象技术 (Object-oriented Techniques)



Java, C/C++ Programming Techniques



Experience on software development

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授课内容



软件测试概述



白盒测试



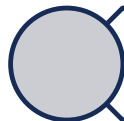
黑盒测试



软件测试覆盖分析



JUnit测试工具和模仿对象



回归测试



Web App测试

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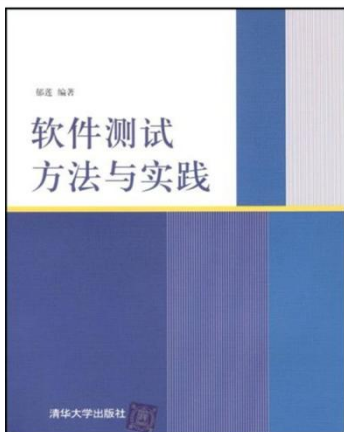
5 授课形式及教材

6 课程作业及成绩

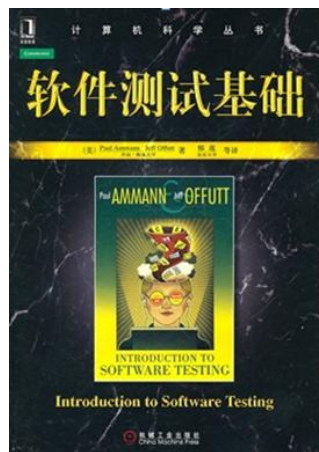
授课形式



教材及参考书



清华大学出版社



– References

- Paul Ammann, Jeff Offutt Jaskiel, *Introduction to Software Testing*, Cambridge University Press, 2008.
- Software Testing and Quality Assurance-Theory and Practice, Kashirasagar Naik, Priyadarshi Tripathy, 2008
- Brain Chess, Jacob West, *Secure Programming with Static Analysis*, Addison Wesley, 2007.
- David Astels, *Test-Driven Development: A Practical Guide*, Prentice Hall, 2003.

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课程作业及成绩



团队项目 35%

- Web应用测试

个人作业:
30%

- 3 个作业 (10*3)

小测验: 10%

- 知识点、出勤 (attendance)

期末考试: 25%

- 闭卷考试 (Close book)

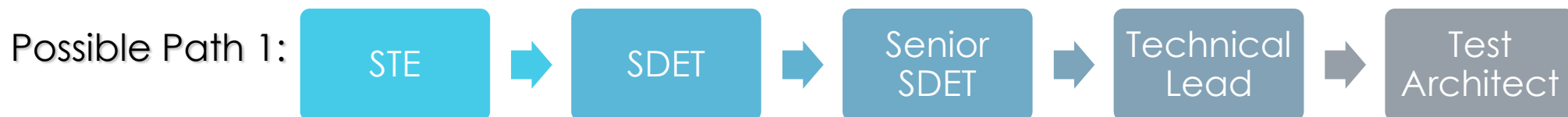
- 按时提交作业 (Late Policy) :

- One day late: reduce 50%
- Two-day late: further 25%
- The third day: 0

测试职业道路 (Career Path at Microsoft)

STE: Software testing engineer 软件测试工程师

SDET: Software development engineer for testing 软件测试开发工程师



Grant George

Corporate Vice President, Windows Experience Group - Testing and Operations

<http://www.microsoft.com/presspass/exec/george/>

测试职业道路 (CAREER OF TESTER AT IBM)

