系统测试与质量管理 教学大纲

Systems Testing and Quality Management

Subject Syllabus

一、课程信息 Subject Information

课程编号:		开课学期:			
K性拥与: Subject ID	3100213002	ア K子朔: Semester	3		
课程分类:		所属课群:			
Category	专业教育 PA	Section	专业平台 MT		
课程学分:		总学时/周:			
Credit Points	3.5	Total Hours/Weeks	56/14		
理论学时:		实验学时:	0		
LECT. Hours	56	EXP. Hours	0		
PBL 学时:	0	实践学时/周:	0		
PBL Hours	0	PRAC. Hours/Weeks	0		
开课学院:	东北大学	适用专业:	计算机科学与技术		
College	悉尼智能科技学院	Stream	CST		
课程属性:	必修 Compulsory	课程模式:	引进 UTS		
Pattern	业》 Computsory	Mode	7世 013		
中方课程协调人:	周杨 于七龙	成绩记载方式:	百分制 Marks		
NEU Coordinator	Yang Zhou Qilong Yu	Result Type	日月即,IVIAIKS		
先修课程:	工程领导力				
Requisites	Engineering Communication				
英文参考教材: EN Textbooks	Rex Black, Managing the Testing Process_ Practical Tools and Techniques for Managing Hardware and Software Testing, 2009.				
中文参考教材: CN Textbooks	无 None				
教学资源: Resources	无 None				
课程负责人(撰写人): Subject Director	周杨 于七龙 Yang Zhou Qilong Yu	提交日期: Submitted Date	8/27/2023		
任课教师(含负责人):		周杨 于七龙			
Taught by	<u> </u>	Yang Zhou Qilong Y	u		
审核人:	批准人:				
Checked by	韩鹏 	史闻博			
		批准日期:	9/2/2023		
		Approved Date)1 L1 LUL3		

二、教学目标 Subject Learning Objectives (SLOs)

注: 毕业要求及指标点可参照悉尼学院本科生培养方案,可根据实际情况增减行数

Note: GA and index can be referred from undergraduate program in SSTC website. Please add/reduce lines based on subject.

整体目标: Overall Objective 整体目标: Overall Objective 整体目标: Overall Objective Apply capable and practice together with systems and software products. It covers software quality assurance and management principles and practice together with systems and software testing approaches. 1-1	Trote: Gri and mack can be fere		indergraduate program in 55 Te website. I lease add/reduce lines based on subject.			
整体目标: Overall Objective skills that are necessary to effectively measure and control the quality of software products. It covers software quality assurance and management principles and practice together with systems and software testing approaches. 1-1		知识和	1技能。它涵盖了软件质量保证、管理原则和实践,以及系统			
Skills that are necessary to effectively measure and control the quality of software products. It covers software quality assurance and management principles and practice together with systems and software testing approaches. 1-1	数 4 口 二					
of software products. It covers software quality assurance and management principles and practice together with systems and software testing approaches. 1-1						
management principles and practice together with systems and software testing approaches. 1-1	Overall Objective		• • •			
testing approaches. i 计划和执行特定的测试过程、类型和阶段,以确保软件产品的质量Plan and execute specific processes, types and phases of testing to assure quality in software products 应用探索性测试和烟雾测试来评估系统操作和功能 1-2 Apply exploratory and smoke testing to evaluate system operations and functions 将质量保证和管理原则应用于敏捷和瀑布式测试过程 Apply quality assurance and management principles to Agile and Waterfall test processes 积极合作,计划、开发、应用和记录测试系统 Work collaboratively and actively to plan, develop, apply and document test systems 了解测试和质量管理的原则和主要方法,包括测试过程支持开发人员、项目和业务成果的方式 Understand the principles and major approaches to testing and quality management including the way testing processes support developers, projects and business outcomes 了解如何在测试的各个方面以专业的方式进行沟通 Understand how to communicate in a professional manner in all aspects of testing #养具有不畏困难、不惧失败、锲而不舍、敢于尝试、迎难而上的精神,并在学习过程中培养自己的细心和耐心的勇气和精神 Cultivate the spirit of not fearing difficulties or failure, perseverance, daring to try, and cultivate their own careful and patient courage and spirit in the process of learning #养服务意识,具有"以人为本"的服务精神 Cultivate service consciousness and have the service spirit of "people-oriented" #养遵守法律、懂规则、守规则的新时代公民 Cultivate citizens of the new era who abide by the law, understand and obey the rules		of sof	tware products. It covers software quality assurance and			
1-1 i		manag	ement principles and practice together with systems and software			
1-1 的质量 Plan and execute specific processes, types and phases of testing to assure quality in software products 应用探索性测试和烟雾测试来评估系统操作和功能 Apply exploratory and smoke testing to evaluate system operations and functions 将质量保证和管理原则应用于敏捷和瀑布式测试过程 Apply quality assurance and management principles to Agile and Waterfall test processes 积极合作,计划、开发、应用和记录测试系统 Work collaboratively and actively to plan, develop, apply and document test systems 了解测试和质量管理的原则和主要方法,包括测试过程支持开发人员、项目和业务成果的方式 Understand the principles and major approaches to testing and quality management including the way testing processes support developers, projects and business outcomes 了解如何在测试的各个方面以专业的方式进行沟通 Understand how to communicate in a professional manner in all aspects of testing 培养具有不畏困难、不惧失败、锲而不舍、敢于尝试、迎难而上的精神,并在学习过程中培养自己的细心和耐心的勇气和精神 Cultivate the spirit of not fearing difficulties or failure, perseverance, daring to try, and cultivate their own careful and patient courage and spirit in the process of learning		testing	approaches.			
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2-1			all aspects of testing			
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understand and obey the rules						
· · · · · · · · · · · · · · · · · · ·		2-3	•			
		2-4	了解王要矛盾和次要矛盾,在面对复杂问题的时候要实事求			

是、抓住主要矛盾 Understand the main contradiction and secondar contradiction, seek truth from facts and grasp the main contradiction in the face of complex problems 培养有条理和计划,做到心中有数、有条不紊、循序渐进步
contradiction, seek truth from facts and grasp the main contradiction in the face of complex problems
contradiction in the face of complex problems
培养有条理和计划,做到心中有数、有条不紊、循序渐进均
完成一项工作
Cultivate a sense of order and plan, and complete a work in a
orderly and gradual manner
课程教学目标与毕业要求的对应关系 Matrix of GA & SLOs
毕业要求 GA 指标点 GA Index 教学目标 SLO
3-1: 能够设计针对本专业相关复杂工程
问题的解决方案,能够设计和开发实现
特定功能、满足特定需求的计算机、软
3、设计/开发解决方案:能 件或网络系统
够设计针对复杂工程问题的 3-1: Capable of designing solutions to
解决方案,设计满足特定需 complex engineering problems related to
求的系统、单元或流程,并 the major, and capable of designing and
能够在设计环节中体现创新 developing computers, software or
意识,考虑社会、健康、安 network systems that can function
全、法律、文化以及环境等 specifically and meet specific
因素。 requirements.
3 Design/Development of
Solutions: Design solutions 3-2: 膨畅对个回设计力条进行比较和优 2-1、2-2、2-4、
for complex engineering 化,在工作各外节甲具有创新意识 2-5
problems and design systems. 3-2: Capable of comparing and optimizing
components or processes that different design schemes, and innovative in
meet specified needs with all aspects of the work.
appropriate consideration for 3-3: 能够在设计和开发的各个环节中综
public health, and safety, 合考虑社会、健康、安全、法律、文化
cultural, societal and 以及环境等因素
environmental considerations. 3-3: Capable of taking social, health,
safety, legal, cultural and environmental
factors in consideration during all aspects
of design and development.
5、使用现代工具 :能够针对 5-1:能够对本专业相关复杂工程问题进
复杂工程问题, 开发、选择 行建模与分析, 理解获取相关 信息参数
与使用恰当的技术、资源、 的必要性与基本方法,并理解其局限性;
现代工程工具和信息技术工 指标点
具,包括对复杂工程问题的 5-1: Capable of modeling and analyzing
预测与模拟,并能够理解其 complex engineering problems related to 1-1 到 1-6
局限性。 the major, understanding the necessity and 2-5
5. Modern Tool Usage: basic methods of obtaining relevant
Create, select and apply information parameters, and their
appropriate techniques, limitations.
resources and modern 5-2: 熟悉解决本专业相关复杂工程问题

	~~ 11 b ~	
engineering and IT tools,	所需的技术和资源,能够运用现代信息	
including prediction and	技术进行文献检索和资料查询,获取专	
modeling, to complex	业解决方案	
engineering problems, with an	5-2: Familiar with the technology and	
understanding of the	resources needed to solve complex	
limitations.	engineering problems related to this major,	
	and be able to use modern information	
	technology for literature retrieval and data	
	query to obtain professional solutions.	
	5-3: 能够针对本专业相关复杂工程问题,	
	选择与使用恰当的技术、资源、现代工	
	程工具和信息技术工具	
	Capable of selecting and using appropriate	
	technology, resources, modern engineering	
	tools and information technology tools to	
	solve complex engineering problems	
	related to the major.	
	9-1: 能够认识团队协作的重要性,具有	
	强烈的团队协作意识和能力、卓越的组	
	织管理能力、较强的表达能力和人际交	
9、个人与团队 : 能够在多	往能力	
	9-1: Recognition of the importance of	
学科背景下的团队中承担个	teamwork, a strong sense and capability of	
体、团队成员以及负责人的	teamwork, a strong sense and capability of	
角色		
9. Individual and	management skills, outstanding expression	1-1 到 1-6
Teamwork : Function	and interpersonal skills.	2-2、2-5
effectively as an individual,	9-2: 具有良好的跨文化、跨领域沟通交	
and as a member or leader in	流能力,适应本专业相关行业的团队协	
diverse teams and in multi	作机制积极主动的在团队中发挥作用。	
disciplinary settings.	9-2: Good cross cultural and cross field	
	communication skills, adaption to the team	
	cooperation mechanism of the relevant	
	industry of the major, and actively play a	
	4 .4 .	
	role in the team.	
10、沟通 :能够就本专业复	10-1: 能够就计算机领域相关复杂工程问	
10、沟通 :能够就本专业复 杂工程问题与业界同行及社		
杂工程问题与业界同行及社	10-1: 能够就计算机领域相关复杂工程问	
杂工程问题与业界同行及社 会公众进行有效沟通和交	10-1: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通	
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文	10-1: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交: 能够就计算机领域相关复杂工程	1 1 731 1 2
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文 稿、陈述发言、清晰表达或	10-1: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟	1-1到1-6
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文 稿、陈述发言、清晰表达或 回应指令。具备一定的国际	10-1:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交流,能够通过口头或书面方式实	1-1 到 1-6 2-1、2-5
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文 稿、陈述发言、清晰表达或 回应指令。具备一定的国际 视野,能够在跨文化背景下	10-1:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交流,能够通过口头或书面方式实现有效表达;流,能够通过口头或书面	
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文 稿、陈述发言、清晰表达或 回应指令。具备一定的国际	10-1: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交流,能够通过口头或书面方式实现有效表达; 流,能够通过口头或书面方式实现有效表达 10-1: Capable of effectively	
杂工程问题与业界同行及社会公众进行有效沟通和交流,包括撰写报告和设计文稿、陈述发言、清晰表达或回应指令。具备一定的国际视野,能够在跨文化背景下进行沟通和交流 Communication:	10-1:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交:能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交流,能够通过口头或书面方式实现有效表达;流,能够通过口头或书面方式实现有效表达 10-1: Capable of effectively communicating and communicating with	
杂工程问题与业界同行及社 会公众进行有效沟通和交 流,包括撰写报告和设计文 稿、陈述发言、清晰表达或 回应指令。具备一定的国际 视野,能够在跨文化背景下 进行沟通和交流	10-1: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交: 能够就计算机领域相关复杂工程问题与业界同行及社会公众进行有效沟通和交流,能够通过口头或书面方式实现有效表达; 流,能够通过口头或书面方式实现有效表达 10-1: Capable of effectively	

complex sciences, and effective expression through engineering activities with the engineering oral or written forms. community and society at large, such as being able to 10-2: 熟练掌握英语, 能够在本专业相关 comprehend write and 领域进行有效的技术沟通和交流。: 熟练 effective reports and design 掌握英语, 能够在本专业相关领域进行 documentation, make 有效的技术沟通和交流 effective presentations and 10-2: Proficient in English, capable of and receive give clear out effective technical carrying instructions. Be able to communication and exchange in related communicate in fields of the major. cross--cultural context with an International vision. 11-1: 掌握基本的工程管理原理和经济决 11、项目管理与财务:理解 策方法,能 对计算机相关领域的新技 并掌握工程管理原理与经济 术、新应用进行技术分析和比较 决策方法,并能在多学科环 11-1: Master of basic engineering 境中应用 management principles and economic decision making methods, and capable of 11. Project Management analyzing and comparing new technology and Finance: Demonstrate and applications in computer related fields. knowledge and understanding 1-1 到 1-6 11-2: 具有良好的组织、管理和领导能力, of engineering management 2-2, 2-3, 2-5 能够将本专业相关工程管理原理与经济 principles and economic 决策方法应用于多学科环境中 decision making and apply 11-2: Good skills on organization, these to one s own work as a management and leadership, and Capable member and leader in a team, applying relevant engineering to manage projects and in management principles and economic multi disciplinary making methods in decision the environments. multidisciplinary environment.

三、教学内容 Content (Topics)

注:以中英文填写,各部分内容的表格可根据实际知识单元数量进行复制、扩展或缩减 Note: Filled in both CN and EN, extend or reduce based on the actual numbers of knowledge unit

(1) 理论教学 Lecture

知识单元序号:	1	支撑教学目标:	1-1, 2-1, 2-2	
Knowledge Unit No.	1	SLOs Supported	1-1	
知识单元名称	课程概述			
Unit Title	Introduction to STQM			
	主题概述			
知识点:	Subject Overview.			
Knowledge Delivery	质量与测试简介			
	Introduction to Quality and Testing.			

	基本测试概念和原则				
	Basic testing	concepts and principles.			
		主题概述			
	了解:	Subject Overview.			
	Recognize	Python 语言环境的安装			
学习目标:		Installing Python			
Learning Objectives	理解:	质量与测试			
	Understand	Quality and Testing			
	掌握:	基本测试概念和原则			
	Master	Basic testing concepts and principles.			
	培养具有不畏	是困难、不惧失败、锲而不舍、敢于尝试、迎难而上的			
	精神,并在学习过程中培养自己的细心和耐心的勇气和精神				
	Cultivate the spirit of not fearing difficulties or failure, perseverance,				
	daring to try,	and cultivate their own careful and patient courage and			
	spirit in the pr	rocess of learning			
Moral Objectives	培养服务意识,具有"以人为本"的服务精神				
Words Objectives	Cultivate ser	Cultivate service consciousness and have the service spirit of			
	"people-orien	ted"			
	培养遵守法律	津、懂规则、守规则的新时代公民			
	Cultivate citiz	tens of the new era who abide by the law, understand and			
	obey the rules				
	质量与测试				
重点:	Quality and T				
Key Points	基本测试概念	念和原则			
	Basic testing	concepts and principles.			
难点:	基本测试概念	念和原则			
Focal Points	Basic testing	concepts and principles.			

知识单元序号:	2		支撑教学目标:	1-1、1-2、2-1 到 2-5		
Knowledge Unit No.	۷		SLOs Supported	1-1、1-2、2-1 到 2-3		
知识单元名称	质量与测试					
Unit Title	Quality and T	esting				
	更多关于质量	是和测试	之间的关系			
	More on the r	elationshi	p between quality and tes	sting.		
知识点:	质量差的影响	质量差的影响和质量管理的介绍				
Knowledge Delivery	Impacts of poor quality and introduction to quality management.					
	尽早开展测试原因,静态测试讨论					
	The need to start testing early leading to discussion on static testing					
	了解:	质量和	则试之间的关系			
	Recognize	The rela	tionship between quality	and testing.		
か コロ 仁	TH A刀	质量差	的影响和质量管理的介绍	绍		
学习目标:	理解:	Impacts	of poor quality and intro	duction to quality		
Learning Objectives	Understand	manage	ment.			
	掌握:	尽早开展测试原因,静态测试讨论				
	Master The need to start testing early leading to discussion					

	static testing		
	了解主要矛盾和次要矛盾,在面对复杂问题的时候要实事求是、抓		
 徳育目标	住主要矛盾		
Moral Objectives	Understand the main contradiction and secondary contradiction, seek		
Worar Objectives	truth from facts and grasp the main contradiction in the face of		
	complex problems		
	质量和测试之间的关系		
重点:	The relationship between quality and testing.		
Key Points	低质量的影响		
	Impacts of poor quality.		
难点:	静态测试		
Focal Points	Static testing		

知识单元序号:	3		支撑	教学目标:	1-1 到 1-6
Knowledge Unit No.			SLOs	Supported	2-1 到 2-5
知识单元名称	故障模式和影响分析				
Unit Title	Failure Modes and Effects Analysis				
	检查基于风险的测试,特别是故障模式和影响分析				
	Examines risk-based testing particularly, Failure Modes & Effects				
	Analysis (FMEA)				
	静态分析和 FMEA 之间的差异				
知识点:	Differences be	etween St	atic Analysis	& FMEA	
Knowledge Delivery	IEEE 29119 村	示准及其	在测试项目	和质量管理中	中的使用的高级概述
	A high-level of	overview	of the IEEE 2	29119 standaı	rd and its use in test
	projects and q	uality ma	nagement.		
	介绍测试计划,重点介绍测试计划中的关键部分				
	Introduction to test planning with focus on key sections in a test plan				
	了解:	故障模	式和影响分析	沂	
	Recognize	ize Failure Modes & Effects Analysis (FMEA)			
	理解:	静态分析和 FMEA 之间的差异			
	Understand	erstand Differences between Static Analysis & FMEA			
 学习目标:		IEEE 29	9119 标准及	其在测试项目	目和质量管理中的使
Learning Objectives		用的高	级概述		
Learning Objectives	掌握:	A high-	level overvie	w of the IEE	EE 29119 standard and
	Master	its use in	n test projects	s and quality	management.
	Waster	介绍测	试计划,重点	点介绍测试计	十划中的关键部分
		Introduc	ction to test p	lanning with	focus on key sections
		in a test	plan.		
	培养有条理和	口计划,有	故到心中有数	故、有条不紊	、循序渐进地完成一
德育目标	项工作				
Moral Objectives	Cultivate a se	nse of or	der and plan,	and complet	e a work in an orderly
	and gradual manner				
重点:	静态分析和I				
Key Points	Differences between Static Analysis & FMEA				
	测试计划				

	Test planning
难点:	测试计划中的关键部分
Focal Points	Key sections in a test plan.

知识单元序号:	4		支撑教学目标:	1-1 到 1-6		
Knowledge Unit No.	-		SLOs Supported	2-1 到 2-5		
知识单元名称	系统测试流程	呈				
Unit Title	Flow of System Testing					
	检查传统的测试过程					
	Examines trac	litional te	st processes.			
	测试类型讨论	〉, 黑、	白盒测试、性能、安全性和	印其他测试		
	Discusses test	types inc	cluding black and white box	testing,		
知识点:	performance,	security a	and other test domains.			
Knowledge Delivery	测试级别区分	}				
Knowledge Delivery	Differentiates	between	different test levels.			
	检查验证和确	角认及其	在质量过程中的位置			
	Examines Ver	rification	and Validation and its place	in a quality process.		
	讨论如何构建	赴测试计 :	·			
	Discusses how	v to build	a Test Plan			
	了解:	传统的	则试过程			
	Recognize	Traditional test processes.				
		区分不同的测试级别				
	理解:	Differer	tiates between different test	levels.		
	Understand	检查验	证和确认及其在质量过程中	中的位置		
学习目标:		Examin	es Verification and Validation	on and its place in a		
Learning Objectives		quality j	process.			
Learning Objectives		测试类	型,包括黑白盒测试、性能	5、安全性和其他测		
		试域				
	掌握:	Test ty	pes including black and	white box testing,		
	Master	perform	ance, security and other test	domains.		
		构建测	试计划			
			Test Plan			
		口计划,有	故到心中有数、有条不紊、	循序渐进地完成一		
德育目标	项工作					
Moral Objectives	Cultivate a se	nse of or	der and plan, and complete	a work in an orderly		
	and gradual m					
			在质量过程中的位置			
重点:	Examines Verification and Validation and its place in a quality process.					
Key Points						
. j = 3.2200	Test types including black and white box testing, performance, security					
	and other test domains.					
雅点:	构建测试计划					
Focal Points	Build a Test Plan					

知识单元序号:	_		支撑教学目标:	1-1 到 1-6	
Knowledge Unit No.	5		SLOs Supported	2-1 到 2-5	
知识单元名称	测试设计				
Unit Title	Test Design				
	讨论测试设计,包括测试用例和测试场景,以及它们与业务流程和				
	FMEA 的一致性				
	Discusses test	t design i	ncluding test cases and t	est scenarios and their	
知识点:	alignment wit	h busines	s processes and the FMEA	A	
Knowledge Delivery	以测试计划为	为例定义?	则试周期和发布,确定测	试范围、资源、时间	
	表、测试分配	己等			
	Defines test c	ycles and	releases with example of	a test plan identifying	
	for example, s	scope, res	ources, schedule, allocation	on of tests etc.	
	了解: 测试用例和测试场景				
	Recognize	Test cas	es and test scenarios.		
	理解:	测试设计的业务流程			
学习目标:	Understand	Flow of test design.			
Learning Objectives			计划为例定义测试周期和		
Learning Objectives	掌握:	围、资	原、时间表、测试分配等		
	Master		test cycles and releases	with example of a test	
	TVIUSTOI	-	dentifying for example	e, scope, resources,	
			e, allocation of tests etc.		
		口计划,信	故到心中有数、有条不紊	:、循序渐进地完成一	
德育目标	项工作				
Moral Objectives			der and plan, and complete	te a work in an orderly	
	and gradual manner				
重点:	测试设计的业				
Key Points	Flow of test d		BD KEI BEZON A CONTRACTOR		
			则试周期和发布,确定测	川试范围、资源、时间	
难点:	表、测试分配	-			
Focal Points	Defines test cycles and releases with example of a test plan identifying				
	tor example, s	scope, res	ources, schedule, allocation	on of tests etc.	

知识单元序号:		支撑教学目标:	1-1 到 1-6
Knowledge Unit No.	6	SLOs Supported	2-1 到 2-5
知识单元名称	敏捷测试		
Unit Title	Agile testing		
知识点:	同时减少工作量的方法 Looks at the impact of	武计划的影响,并检查在 法 data on testing and test p kload while still maintain	lans and examines
Knowledge Delivery	combinational test tech	alue & equivalence partiti	-

	方法		
	Introduces agile testing processes including acceptance criteria and		
	tests and compares Agile and Waterfall test approaches.		
	了解:	边界值、等价划分、组合测试技术	
	Recognize	Boundary value, equivalence partitioning, and	
	Recognize	combinational test technique.	
	理解:	数据对测试和测试计划的影响	
学习目标:	Understand	The impact of data on testing and test plans	
Learning Objectives		保持良好质量水平的同时减少工作量的方法	
	掌握:	Ways to reduce the workload while still maintaining a	
	手症: Master	good level of quality.	
	Master	敏捷测试过程	
		Agile testing processes	
	培养有条理和	培养有条理和计划,做到心中有数、有条不紊、循序渐进地完成一	
德育目标	项工作		
Moral Objectives	Cultivate a se	Cultivate a sense of order and plan, and complete a work in an orderly	
	and gradual manner		
重点:	数据对测试和测试计划的影响		
Key Points	The impact of data on testing and test plans		
难点:	敏捷测试过程		
Focal Points	Agile testing	Agile testing processes	

知识单元序号:			支撑教学目标:	1-1 到 1-6
	7			2-1 到 2-5
Knowledge Unit No.	1.1. It has been worst		SLOs Supported	2-1 到 2-3
知识单元名称	缺陷管理			
Unit Title	Defect management			
	讨论缺陷管理,包括缺陷严重性和优先级、度量及其跟踪/管理			
	Discusses def	ect mana	gement including defect se	verities and priorities,
	metrics and th	eir tracki	ng/management	
知识点:	概述如何开发	文以及测 ⁺	试报告中应包含的内容, 位	包括通过或失败测试
Knowledge Delivery	的指标、突出缺陷和满足退出标准			
	Outlines how	to develo	p and what to include in te	st reports including
	metrics on passed or failed tests, outstanding defects and meeting exit			
	criteria			
	了解:	如何开	发以及测试报告中应包含	的内容
	Recognize how to develop and what to include in test reports			
		缺陷管	理,包括缺陷严重性和优	先级、度量及其跟踪
学习目标:	理解:	/管理		
Learning Objectives	Understand	Defect	management including d	defect severities and
		prioritie	s, metrics and their tracking	g/management
	掌握:	如何开	发以及测试报告中应包含	的内容
	Master	how to	develop and what to include	e in test reports
海 云 口 仁	培养有条理和计划,做到心中有数、有条不紊、循序渐进		、循序渐进地完成一	
德育目标	项工作			
Moral Objectives	Cultivate a sense of order and plan, and complete a work in an orderly			

	and gradual manner
重点: Key Points	缺陷管理,包括缺陷严重性和优先级、度量及其跟踪/管理 Defect management including defect severities and priorities, metrics and their tracking/management
难点:	如何开发以及测试报告中应包含的内容
Focal Points	how to develop and what to include in test reports

知识单元序号:	8		支撑教学目标:	1-1 到 1-6
Knowledge Unit No.			SLOs Supported	2-1 到 2-5
知识单元名称	测试工具			
Unit Title	Testing tools			
	介绍用于不同	同测试类	型和/或测试级别的测试	工具示例
	Introduction t	o examp	les of testing tools used	for different test types
	and/or test lev	els.		
知识点:	讨论测试驱动	力开发(7	TDD) 和行为驱动开发	(BDD)
Knowledge Delivery	Discusses Te	st Driver	n Development (TDD) a	and Behaviour Driven
	Development	t (BDD).		
	自动化测试コ	口具使用征	简介	
	Introduction to	o use of a	utomation tools	
	了解:	自动化	则试工具	
	Recognize	Automa	tion tools	
	理解:	测试驱	动开发(TDD)和行为	驱动开发(BDD)
学习目标:	Understand	Test Dr	iven Development (TDD)	and Behaviour Driven
Learning Objectives	Understand	Develop	oment (BDD).	
	掌握:	用于不	司测试类型和/或测试级	别的测试工具示例
	新建. Master	Example	es of testing tools used	for different test types
	Master	and/or to	est levels.	
	培养有条理和	口计划,作	故到心中有数、有条不紊	餐、循序渐进地完成一
德育目标	项工作			
Moral Objectives	Cultivate a sense of order and plan, and complete a work in an orderly			
	and gradual manner			
重点:	用于不同测试类型和/或测试级别的测试工具示例			
Key Points	Examples of testing tools used for different test types and/or test levels.			
 难点:	测试驱动开发(TDD)和行为驱动开发(BDD)		D)	
Focal Points	Test Driven Development (TDD) and Behaviour Driven		Driven Development	
1 ocai i ollits	(BDD).			

知识单元序号:	9	支撑教学目标:	1-1 到 1-6
Knowledge Unit No.	9	SLOs Supported	2-1 到 2-5
知识单元名称	Cucumber测试工具介	~绍	
Unit Title	Introduction to Cucun	nber-a BDD Test tool	
知识点:	常见自动化测试工具。	介绍	
	Introduction to commo	n automated testing tools	
Knowledge Delivery	Cucumber 安装		

	Installation of	Installation of Cucumber		
	自动化测试实例			
	Automated testing case			
	了解:	自动化测试工具		
	Recognize	Common automated testing tools.		
学习目标:	理解:	自动化测试		
Learning Objectives	Understand	Automated testing		
	掌握:	自动化测试流程		
	Master	Steps of automated testing		
	培养有条理和	印计划,做到心中有数、有条不紊、循序渐进地完成一		
德育目标	项工作			
Moral Objectives	Cultivate a se	nse of order and plan, and complete a work in an orderly		
	and gradual m	nanner		
重点:	自动化测试			
Key Points	Automated t	resting		
难点:	自动化测试			
Focal Points	Automated t	resting		

知识单元序号:	4.0		支撑教学目标:	1-1 到 1-6
Knowledge Unit No.	10		SLOs Supported	2-1 到 2-5
知识单元名称	测试设备与压力处理方法			
Unit Title	Testing equipment and ways to deal with difficult situations			
	高水平讨论测	则试基础:	设施、办公空间、办公 约	且织和设备
	At a high le	evel, disc	eusses test infrastructure	, office space, office
	organisation &	& equipm	ent.	
	比较群组测证	式与传统法	则试方法以及对测试团队	人的影响
	Compares cro	wd testin	g to traditional testing m	nethods and the impact
知识点:	on the test tea	m.		
Knowledge Delivery	讨论测试通信	言和演示		
	Discusses test communications and presentations.			
	查看测试人员和测试管理人员面临的政治压力以及处理困难情况			
	的方法			
	Looks at polit	ical press	ures faced by testers and	test managers and
	ways to deal with difficult situations.			
		测试基础	础设施、办公空间、办么	公组织和设
	Recognize	Test inf	rastructure, office space,	office organisation &
	Recognize	equipme	ent.	
学习目标:	理解:	群组测量	试与传统测试方法以及为	付测试团队的影响
Learning Objectives	Understand	Crowd	testing and traditional te	sting methods and the
Learning Cojecuves	Chacistana	impact of	on the test team.	
	掌握:		员和测试管理人员面临的	的政治压力以及处理
	Master	困难情况	兄的方法	
			deal with difficult situati	
德育目标		口计划,危	故到心中有数、有条不紊	《《 循序渐进地完成一
Moral Objectives	项工作			

	Cultivate a sense of order and plan, and complete a work in an orderly
	and gradual manner
重点:	群组测试与传统测试方法以及对测试团队的影响
	Crowd testing and traditional testing methods and the impact on the
Key Points	test team.
7ft .1:	测试人员和测试管理人员面临的政治压力以及处理困难情况的方
难点: Focal Points	法
Focal Points	Ways to deal with difficult situations.

知识单元序号:	11		支撑教学目标:	1-1 到 1-6
Knowledge Unit No.			SLOs Supported	2-1 到 2-5
知识单元名称	团队发展与职业道路			
Unit Title	Team development and career paths			
知识点: Knowledge Delivery	检查人员、组织、角色、技能和招聘流程,以获得和维护瀑布式和敏捷测试方法中的有效测试团队 Examines, the people, organisation, roles, skills & recruitment processes needed to gain and maintain an effective test team in waterfall and agile test approaches. 讨论职业道路 Discusses career paths.			
学习目标: Learning Objectives	了解: Recognize 理解: Understand 掌握:	检查人 Examine recruitm 瀑布式	员、组织、角色、技能和es, the people, organisment processes 和敏捷测试方法中的有效tive test team in waterfall	ation, roles, skills & 效测试团队
		培养服务意识,具有"以人为本"的服务精神 Cultivate service consciousness and have the service spirit of		
德育目标	"people-orien	ted"		
Moral Objective	培养有条理和计划,做到心中有数、有条不紊、循序渐进地完成一项工作		系、循序渐进地完成一	
		nse of or	der and plan, and complete	te a work in an orderly
	and gradual manner			
重点:	职业道路			
Key Points	Career paths.			
难点:	瀑布式和敏捷测试方法中的有效测试团队			
Focal Points	an effective te	est team in	n waterfall and agile test.	

知识单元序号:	12	支撑教学目标:	1-1 到 1-6
Knowledge Unit No.	12	SLOs Supported	2-1 到 2-5
知识单元名称	复习与答疑		
Unit Title	Review and Q&A		
知识点:	无		
Knowledge Delivery	None.		

	了解:	无
	Recognize	None.
学习目标:	理解:	无
Learning Objectives	Understand	None.
	掌握:	无
	Master	None.
德育目标	无	
Moral Objectives	None.	
重点:	无	
Key Points	None.	
难点:	无	
Focal Points	None.	

知识单元序号:	12		支撑教学目标:	1-1 到 1-6	
Knowledge Unit No.	13		SLOs Supported	2-1 到 2-5	
知识单元名称	系统架构				
Unit Title	System archi	tecture			
知识点:	业务系统常见	业务系统常见网络结构,微信小程序架构			
,	Business syst	em com	non network structure,	wechat small program	
Knowledge Delivery	architecture				
		业务系	统总体功能设计,系统势	2.构与系统测试的关系	
	了解:	Overall	function design of	business system. The	
	Recognize relationship between system architecture and sy				
学习目标:	testing 理解: 业务系统常见网络结构				
Learning Objectives					
	Understand	Understand Common network structure of service system			
	掌握: 微信小程序架构				
	Master	Archited	cture of Wechat mini prog	gram	
	培养有条理和	口计划,有	故到心中有数、有条不刻	紊、循序渐进地完成一	
德育目标	项工作				
Moral Objectives	Cultivate a sense of order and plan, and complete a work in an orderly				
	and gradual manner				
重点:	业务系统常见网络结构				
Key Points	Common network structure of service system				
难点:	解决复杂工程的能力				
Focal Points	The ability to solve complex projects				

知识单元序号:	1.4		支撑教学目标:	1-1 到 1-6
Knowledge Unit No.	14		SLOs Supported	2-1 到 2-5
知识单元名称	软件配置管理			
Unit Title	Software configuration management			
知识点:	软件开发过程中代码管理、版本管理、数据仓库搭建			
Knowledge Delivery	Code management, version management, data warehouse construction			
学习目标:	了解: 版本控制, SVN, Git			
Learning Objectives	Recognize	Version control, SVN, Git		

	理解:	Git 工作流程			
	Understand	Git workflow			
	掌握:	Git 的使用			
	Master	Use of Git			
	了解主要矛盾和次要矛盾,在面对复杂问题的时候要实事求				
	是、抓住	主主要矛盾			
	Understand the main contradiction and secondary contradiction, seek				
德育目标	truth from fa	truth from facts and grasp the main contradiction in the face of			
Moral Objective	complex prob	complex problems			
S	培养有条理和计划,做到心中有数、有条不紊、循序渐进地完成一				
	项工作				
	Cultivate a sense of order and plan, and complete a work in an orderly				
	and gradual manner				
重点:	Git 的使用				
Key Points	Use of Git				
难点:	Git 远程仓库				
Focal Points	Git remote repository				

(2) 实验教学 Experiments

无

None

四、教学安排 Teaching Schedule

注: 可根据实际情况增减行数

Note: Please add/reduce lines based on subject.

	学时(周) Hour(Week)			
教学内容 Teaching Content	理论	实验	课外实践	集中实践
	LECT.	EXP.	PBL	PRAC.
课程概述	4			
Introduction to STQM	4			
质量与测试	4			
Quality and Testing	4			
故障模式和影响分析	4			
Failure Modes and Effects Analysis	4			
系统测试流程	4	4		
Flow of System Testing	4			
测试设计	4			
Test Design	4			
敏捷测试	4			
Agile testing	4			

缺陷管理	4		
Defect management	4		
测试工具	4		
Testing tools	4		
Cucumber测试工具介绍	4		
Introduction to Cucumber-a BDD Test tool	4		
测试设备与压力处理方法			
Testing equipment and ways to deal with difficult	4		
situations			
团队发展与职业道路	4		
Team development and career paths	4		
复习	4		
Review	4		
测试技术	4		
Testing technology	4		
软件配置管理	4		
Software configuration management	4		
总计 Total	56		

五、教学方法 Teaching Methodology

注: 可根据实际情况增减行数或修改内容

Note: Please add/reduce lines or revise content based on subject.

勾选 Check	教学方法与特色 Teaching Methodology & Characters		
M	多媒体教学:基于信息化设备的课堂教学		
	Multi-media-based lecturing		
M	实践能力传授: 理论与行业、实际案例相结合		
	Combining theory with industrial practical problems		
M	课程思政建设:知识讲授与德育相结合		
<u>V</u>	Knowledge delivery with ethic education		
M	PBL 教学:问题驱动的分组学习与交流		
<u>V</u>	Problem-based learning		
	其他:单击或点击此处输入文字。		
	Other:单击或点击此处输入文字。		

六、成绩评定 Assessment

注: 可根据实际情况增减行数或修改内容

Note: Please add/reduce lines or revise content based on subject.

考核环节:	平时 Behavior	环节负责人:	周杨 于七龙
Assessment Content	This Benavior	Director	Yang Zhou Qilong Yu

给分形式: Result Type	百分制 Marks	课程总成绩比重(%): Percentage (%)	30	
Tesait Type		Teleonage (70)		
考核方式:	满分 100 分, 出勤、课堂主动发言。			
Measures	The full score is 100 points. Class attendance and presentation			

考核环节:	任务 Assessment	环节负责人:	周杨 于七龙	
Assessment Content	Task	Director	Yang Zhou Qilong Yu	
给分形式:	其他 Others	课程总成绩比重(%):	70	
Result Type	共他 Others	Percentage (%)	70	
	包含 2 个 quiz 与 3 个任务, 其中, quiz 为个人完成, 各占 10%; 任务 1 为个人完成, 占 20%; 任务 2 为个人完成, 占 25%; 任务 3 为团队完成, 占 35%。任务以报告方式提交。			
考核方式:	Task includes 2 quizzes and 3 tasks, each quiz accounts for 10%, Task			
Measures	1 should be completed by individual, accounts for 20%; Task 2 should			
	be completed by individual, accounts for 25%; Task 3 should be completed by the team, accounts for 35%. Tasks are submitted in the			
	form of reports.			

七、改进机制 Improvement Mechanism

注: 未尽事宜以教学团队以及学院教学指导委员会商定为准。

Note: Matters not covered in this file shall be determined by TAB of SSTC, NEU.

教学大纲改进机制 Subject Syllabus Improvement Mechanism					
考核周期(年):	4	修订周期(年):	4		
Check Period (YR)	4	Revise Period (YR)	4		
	课程负责人根据课程	教学内容与人才培养目	标组织课程团队讨论		
	并修改教学大纲,报会	分管教学工作副院长审构	核后由执行院长批准。		
改进措施:	The subject coordinato	r shall be responsible for	the syllabus discussion		
Measures	and improvement, and	the revised version shall	be submitted to deputy		
	dean (teaching affairs) for reviewing then to executive dean for				
	approval				
成绩说	平定改进机制 Assessme	ent Improvement Mecha	anism		
考核周期(年):	1	修订周期(年):	1		
Check Period (YR)	1	Revise Period (YR)	1		
	课程负责人根据课程教学内容、课堂教学效果以及成绩分布,对课				
7 <i>b</i>	程教学方法和成绩评定环节进行改进,并同步优化评定办法。				
改进措施:	The subject coordinator shall revise the syllabus based on the teaching				
ivieasures	Measures content, effect and result distribution while optimize the assessment				
	measures.				