

DS225 课程大纲

- 1、2023 春季学期 (2-7 页码)
- 2、2024 春季学期起 (8-13 页码)

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1. 课程名称 Course Title	循环再生产品设计：实体 Circular Products: Object
2. 授课院系 Originating Department	创新创意设计学院 School of Design
3. 课程编号 Course Code	DS225
4. 课程学分 Credit Value	3
5. 课程类别 Course Type	专业选修课 Major Elective Course
6. 授课学期 Semester	春季 Spring
7. 授课语言 Teaching Language	英文 English
8. 授课教师、所属学系、联系方式 (如属团队授课，请列明其他授课教师) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	Christiane Herr Professor, School of Design cmherr@sustech.edu.cn

9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 NA				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)					
11.	授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
	学时数 Credit Hours	32		32		64
12.	先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无 N/A				
13.	后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 N/A				
14.	其它要求修读本课程的学系 Cross-listing Dept.	无 N/A				

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

本课程将可持续性作为系统实体对象设计的框架引入，概述了不同系统层面的相关理论，包括产品、产品服务、空间社会和社会技术系统层面。学生将追踪设计实践的最新发展，分析关键设计方法的原则，包括循环经济、从摇篮到摇篮的设计、可持续行为设计、系统设计和产品服务系统设计。本课程将聚焦于上述系统中的实体对象，让学生与校外合作者一起分析现有环境。学生将根据可持续设计原则制定设计方案，将实体对象作为其所属系统网络的一部分进行定义或重新定义。本课程将根据校外合作机构相关安排等情况组织实地考察。

技能：转化构想； 重复使用

Introducing sustainability as a framework for systemic object design, the course outlines related theories at different systemic levels, including product, product-service, spatio- social and socio-technical system levels. Tracing recent

developments of design practice, students will analyze principles of key design approaches including circular economies, cradle to cradle design, design for sustainable behavior, systemic design and product-service system design. Focusing on the object as a part of such systems, the course engages students with an external collaborator to analyze existing contexts. Students will develop design proposals that define or redefine objects as part of their systemic networks according to sustainable design principles. The course will include field trips depending on availability and external collaborator.

Skills: translational envisioning; reuse

16. 预达学习成果 Learning Outcomes

在本课程结束时，学生将能够：

1. 根据实体对象的线性和循环生命周期模型描述实体设计对环境的影响。
2. 展示关于设计实体及其材料在特定系统环境下的研究。
3. 提出采用循环设计策略的高质量设计方案。
4. 展现出将循环再生设计的理论和技术知识转化为实体设计提案的创造力。

At the end of this course, students will be able to:

1. Describe the environmental implications of object design in terms of linear and circular object life cycle models.
2. Present research on a designed object and its materials in a specific systemic context.
3. Present a high quality design proposal that employs circular design strategies.
4. Demonstrate creativity in translating theoretical and technical knowledge of circular design into a proposed object design.

17. 课程内容及教学日历（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人）

Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

Week	Content
1	<p>Lecture (4 hours) Course introduction, group formation, introduction of external collaborator. Introduction of key theories of circular object design.</p> <p>Practice (4 hours) Field trip to visit site and receive briefing from external collaborator. Analysis of context.</p>
	<p>Lecture (4 hours) Presentation of analysis and identification of area of further design development / object types. Guided background research on chosen topics.</p> <p>Practice (4 hours) Invited guest lecture on circular design and environmental impact of object design. Group discussion of impact on site. Mapping of systemic relationships involving the selected object type.</p>
2	<p>Lecture (4 hours) Systemic analysis and proposal development. Lecture: materials in circular economies.</p> <p>Practice (4 hours) Development of object proposals within systemic environment.</p>
	<p>Lecture (4 hours) Interim review preparation and tutorials on presentation.</p> <p>Practice (4 hours) Interim Review with invited guests, formative feedback.</p>
3	<p>Lecture (4 hours) Continued development of proposed system-object relationships. Tutorials and follow up of interim review comments.</p> <p>Practice (4 hours) Field trip to examine feasibility of proposals on site and discussion with collaborators. Continued design development.</p>
	<p>Lecture (4 hours) Continued design development. Tutorials on design, modelling and visualization methods.</p> <p>Practice (4 hours) Continued design development. Tutorials on design, modelling and visualization methods.</p>

4	<p>Lecture (4 hours) Continued design development and design tutorials.</p> <p>Practice (4 hours) Continued design development and design tutorials.</p>
	<p>Lecture (4 hours) Final review preparation, tutorials.</p> <p>Practice (4 hours) Final review with invited guests.</p>

18. 教材及其它参考资料 **Textbook and Supplementary Readings**

Karakiewicz, J., Yue, A. and Paladino, A. (2017) Promoting Sustainable Living: Sustainability as an Object of Desire. Routledge.

Lacy, P. and Rutqvist, J. (2015) The Circular Economy Advantage. Palgrave Macmillan.

Tischner, U. and Moser, H. (2015) How to do Ecodesign. Umweltbundesamt.

课程评估 **ASSESSMENT**

19. 评估形式 Type	评估时间 of Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		10%		
课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业 Assignments				
期中考试 Mid-Term Test				

期末考试 Final Exam				
期末报告 Final Presentation		90%		
其它（可根据需要 改写以上评估方式） Others (The above may be modified as necessary)				

20. 记分方式 GRADING SYSTEM

<input checked="" type="checkbox"/> A. 十三级等级制 Letter Grading <input type="checkbox"/> B. 二级记分制（通过/不通过） Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过

This Course has been approved by the following person or committee of authority

Professor Tom Kvan Dean, School of Design
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课程详述

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9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 NA				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)					
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	学时数 Credit Hours	32		32		64
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13.	后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 N/A				
14.	其它要求修读本课程的学系 Cross-listing Dept.	无 N/A				

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Skills: translational envisioning; reuse

本课程有安排实地考察和与外部公司合作的可能性。届时课程内容和活动安排将会调整。 This course will include field trips and collaborations with external companies depending on availability. Lecture and activity schedules are indicative and may be adjusted.

16. 预达学习成果 Learning Outcomes

在本课程结束时，学生将能够：

1. 根据实体对象的线性和循环生命周期模型描述实体设计对环境的影响。
2. 展示关于设计实体及其材料在特定系统环境下的研究。
3. 提出采用循环设计策略的高质量设计方案。
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Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)

Week	Content
1	Lecture (4 hours) Overview of the course.
2	Introduction of key theories of circular object design. Practice (4 hours) Group formation, and analysis of context.
3	Lecture (4 hours) Presentation of analysis and identification of area for further design development / object types. Guided background research on chosen topics.
4	Practice (4 hours) Circular design and environmental impact of object design. Group discussion of impact on site. Mapping of systemic relationships involving the selected object type.
5	Lecture (4 hours) Systemic analysis and proposal development. Introduction of materials in circular economies.
6	Practice (4 hours) Development of object proposals within systemic environment.
7	Lecture (4 hours) Interim review preparation Tutorials on presentation
8	Practice (4 hours) Interim review with invited guests, formative feedback.
9	Lecture (4 hours) Continued development of proposed system-object relationships. Tutorials and follow up of interim review comments.
10	Practice (4 hours) Field trip to examine feasibility of proposals on site and discussion. Continued design development.
11	Lecture (4 hours) Continued design development. Tutorials on design, modelling and visualization methods.
12	Practice (4 hours) Continued design development. Tutorials on design, modelling and visualization methods.
13	Lecture (4 hours) Continued design development and design tutorials.
14	

	Practice (4 hours) Continued design development and design tutorials.
15	Lecture (4 hours) Final review preparation, tutorials.
16	Practice (4 hours) Final review with invited guests.

18. 教材及其它参考资料 Textbook and Supplementary Readings

Walker, S. (2012). *Sustainable by Design: Explorations in Theory and Practice*. Routledge.

Bakker, C. A., Den Hollander, M. C., Van Hinte, E., & Zijlstra, Y. (2014). *Products that last: Product design for Circular Business Models*. TU Delft Library.

Jackson, F. (2019). *Design for the Real World: Human Ecology and Social Change*. Thames and Hudson Ltd.

Karakiewicz, J., Yue, A. and Paladino, A. (2017) *Promoting Sustainable Living: Sustainability as an Object of Desire*. Routledge.

Lacy, P. and Rutqvist, J. (2015) *The Circular Economy Advantage*. Palgrave Macmillan.

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课程评估 ASSESSMENT

19. 评估形式 Type	评估时间 of Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
Assessment				
出勤 Attendance		10%		
课堂表现 Class Performance				
小测验 Quiz				
课程项目 Projects				
平时作业		20%		

Assignments				
期中考试 Mid-Term Test				
期末考试 Final Exam		20%		
期末报告 Final Presentation		50%		
其它 (可根据需要 改写以上评估方式) Others (The above may be modified as necessary)				

20. 记分方式 **GRADING SYSTEM**

- A. 十三级等级制 **Letter Grading**
 B. 二级记分制 (通过/不通过) **Pass/Fail Grading**

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过

This Course has been approved by the following person or committee of authority

Professor Tom Kvan
Dean, School of Design