

**DESIGN SCHOOL**

**Extended Study Scheme**



**XJTLU** | **DESIGN  
SCHOOL**

<b>1. Design School Extended Study Scheme Framework</b> .....	3
<b>2. List of abbreviations</b> .....	4
<b>3. ESS Certificates</b> .....	5
<b>Architectural Studies (AS)</b> .....	5
<b>Applied Structural Mechanics (ASM)</b> .....	5
<b>Building Technology (BT)</b> .....	6
<b>Design Studies (DS)</b> .....	7
<b>Industrial Design Studies (IDS)</b> .....	8
<b>Regional and Urban Planning (RUP)</b> .....	8
<b>Urban Strategies and Design (USD)</b> .....	9
<b>4. ESS Modules</b> .....	11
<b>5. Document Log</b> .....	18

# 1. Design School Extended Study Scheme Framework

The Design School Extended Study Scheme (ESS) Framework lists the modules and certificates available under the scheme and defines specific eligibility criteria in addition to those outlined in the university Guidelines for Extended Study Scheme (hereinafter, the Guideline).

The Guidelines state that an undergraduate student can enrol in the ESS programme from Stage 2 (i.e. Year 2), and take up to 5 credits of ESS modules each semester; a postgraduate student may take up to 20 credits during their registration period.

Different levels of ESS modules are open to students at particular Stages:

- a) Levels 1 and 2 modules are available to all undergraduate Stage 2, 3, 4 and postgraduate students;
- b) Level 3 modules are available to undergraduate, Stage 3, 4, and postgraduate students.
- c) Level 4 modules are available to undergraduate Stage 4 and postgraduate students. ARC ESS modules (Level 4) are only available to postgraduate students.

Additional eligibility criteria are introduced to ensure that students enrolling in the ESS scheme have a suitable background. Students cannot enrol in the same modules that they will take, or have taken, for their current degree programme or their undergraduate programme if they obtained a Bachelor's degree from XJTLU.

Places available under the ESS may also be limited by the school for organisational reasons, so meeting the requirements does not automatically grant enrolment in any module or certificate.

## 2. List of abbreviations

### Design School ESS Certificates

AS	Architectural Studies
ASM	Applied Structural Mechanics
BT	Building Technology
DS	Design Studies
IDS	Industrial Design Studies
RUP	Regional and Urban Planning
USD	Urban Strategies and Design

### Schools and Academies

DES	Design School
AFCT	Academy of Film and Creative Technology
AoFE	Academy of Future Education
HSS	School of Humanities and Social Science
IBSS	International Business School Suzhou
SAT	School of Advanced Technology
SCI	School of Science
SMP	School of Mathematics and Physics

### 3. ESS Certificates

The following certificates are available to under the ESS to students who meet all requirements to take at least 20 credits included in each certificate.

Please note that the modules in each certificate programme are listed according to the level, semester and the module code in alphabetic order.

<b>Certificate:</b>	<a href="#">Architectural Studies (AS)</a>		
<b>Outline:</b>	The certificate provides students with an understanding of important aspect of architecture.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem
	ARC107 History of Western Architecture	5	1
	ARC103 Introduction to Environmental Science	5	2
	ARC203 History of Asian Architecture	5	1
	ARC303 Architectural Theory	5	1
	ARC308 Philosophy of Art and Aesthetics	5	2
	ARC401 Integration of Energy Strategies in Design	5	1
	ARC407 Architectural Theory and Criticism	5	1
	ARC409 Architectural Design and Research Methods	5	1
	ARC406 Topics in Architectural History	5	2
<b>Eligibility:</b>	Students enrolled in programmes at DES (ARC Level 4 modules are only open to postgraduate students), AFCT, AoFE, HSS and IBSS.		
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.		

<b>Certificate:</b>	<a href="#">Applied Structural Mechanics (ASM)</a>		
<b>Outline:</b>	The certificate provides students with an understanding of the overall structural mechanics theory and its applications in engineering structures.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem

	CEN101 Design for Engineers	5	1
	CEN106 Introduction to Materials	5	1
	CEN103 Solids and Structures	5	2
	CEN203 Engineering Structures	5	1
	CEN204 Reinforced Concrete and Steelwork	5	2
	CEN206 Structural Behaviour	2.5	2
	CEN307 Structural Dynamics	2.5	1
	CEN329 Finite Element Method	2.5	1
	CEN308 Earthquake Engineering	2.5	2
<b>Eligibility:</b>	Students enrolled in DES, SAT, SCI and SMP.		
<b>Prerequisites:</b>	CEN103 is a hard pre-requisite for CEN203.		

<b>Certificate:</b>	<a href="#">Building Technology (BT)</a>		
<b>Outline:</b>	The certificate provides students with an understanding of the fundamental theory, concepts, and technology applied in designing buildings.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem
	ARC103 Introduction to Environmental Science	5	2
	CEN106 Introduction to Materials	5	1
	CEN114 Surveying for Architectural Engineers	2.5	1
	CEN222 Building Services Engineering	2.5	2
	CEN322 Building Information Modelling	5	2
	CEN326 Façade Engineering	2.5	2
	ARC401 Integration of Energy Strategies in the Design of Buildings	5	1
	CEN421 Construction Process Simulation	5	1
	CEN423 Digital Construction	5	2

<b>Eligibility:</b>	Students enrolled in DES, SAT, SCI and SMP.
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.

<b>Certificate:</b>	<b>Design Studies (DS)</b>		
<b>Outline:</b>	The certificate provides students with an understanding of history, theory and practice of design thinking in the disciplines of architecture, industrial design and urban planning and design.		
<b>Modules:</b>	<i>Select <b>20 credits</b> among the following, with <b>modules from at least two different departments</b>:</i>	Credits	Sem
	UPD112 Skills for Planning Practice	5	1
	ARC110 Humanities and Architecture	2.5	2
	IND114 History of Industrial Design	2.5	2
	IND116 Design Communication	2.5	2
	ARC206 Urban Studies	5	2
	ARC303 Architectural Theory	5	1
	IND305 Culture and Theory	5	1
	IND308 Design Strategy and Ethics	5	2
	ARC308 Philosophy of Art and Aesthetics	5	2
	ARC409 Architectural Design and Research Methods	5	1
	BNV401 Fundamentals of Urban Design	5	1
	UPD407 Place-making and Urban Design	5	1
<b>Eligibility:</b>	Students enrolled in programmes at DES, AFCT, AoFE, HSS and IBSS.		
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.		

<b>Certificate:</b>	<b>Industrial Design Studies (IDS)</b>		
<b>Outline:</b>	The certificate provides students with an understanding of history, theory and practice of design thinking, design research and design visualisation within the industrial design discipline.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem
	IND112 Computer Aided Design and Modeling	5	1
	IND114 History of Industrial Design	2.5	2
	IND116 Design Communication	2.5	2
	IND118 Introduction to Human-Computer Interaction	5	2
	IND210 User-Focused Research	5	1
	IND302 Design for Sustainability	5	1
	IND308 Design Strategy and Ethics	5	2
	IND401 Framing Design Research	5	1
	IND407 Advanced Design Visualisation and Communication	5	1
<b>Eligibility:</b>	Students enrolled in programmes at DES, AFCT, AoFE, HSS and IBSS.		
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.		

<b>Certificate:</b>	<b>Regional and Urban Planning (RUP)</b>		
<b>Outline:</b>	The certificate provides students with an understanding of the factors and forces that shape the urban environment and the role of planners in reconciling competing interests to achieve sustainable growth.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem
	UPD101 Issues and Practice of Planning in China I	5	1
	UPD109 History and Purpose of Planning	5	1
	UPD105 Urban and Environmental Economics	5	2
	UPD106 Issues and Practice of Planning in China II	5	2
	UPD201 Environmental sustainability	5	1



	UPD203 Networks and cities	5	1
	UPD202 Rural Planning	5	2
	UPD209 Planning and Research Methodology	5	2
	UPD314 Critical Debates in Contemporary Cities	5	1
	UPD301 Planning Law and Governance	5	2
	UPD403 Governance and Finance of Urban Regeneration	5	1
	UPD402 Sustainable Urban Planning Strategies	5	2
	UPD408 Spatial Analysis and Visualisation	5	2
<b>Eligibility:</b>	Students enrolled in programmes at DES, AFCT, AoFE, HSS and IBSS.		
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.		

<b>Certificate:</b>	<a href="#">Urban Strategies and Design (USD)</a>		
<b>Outline:</b>	The certificate provides students with an understanding of the issues of urban development and regeneration and the analytical, conceptual and practical tools to devise strategies and design solutions to achieve social inclusion and cultural diversity.		
<b>Modules:</b>	<i>Select 20 credits among the following:</i>	Credits	Sem
	UPD107 Planning in the UK	5	1
	UPD112 Skills for Planning Practice	5	1
	UPD102 Contemporary Planning Practice in Western Europe and the North America	5	2
	UPD110 Neighbourhood Planning	5	2
	UPD206 Projecting and Managing Urban Futures	5	2
	UPD310 International Planning Studies	5	1
	UPD311 Planning and Property Development	5	2
	UPD401 Theory and Practice of Urban Regeneration	5	1

	UPD405 Politics, Society and Participation	5	1
	UPD407 Place-making and Urban Design	5	1
	BNV401 Fundamentals of Urban Design	5	1
	UPD404 Heritage, Historic Districts and Conservation	5	2
<b>Eligibility:</b>	Students enrolled in programmes at DES, AFCT, AoFE, HSS and IBSS.		
<b>Prerequisites:</b>	No prerequisites are required for the modules listed above.		

## 4. ESS Modules

The following modules are available under the ESS to students who satisfy both these conditions:

- Meet all the requirements stipulated by the university [Guidelines for Extended Study Scheme](#), including level and stage of study, and module prerequisites.
- Meet the additional eligibility criteria in the table.

Places available under the ESS may be also limited by the school for L&T-related, logistic and organisational reasons, so meeting the requirements does not automatically grant access to the modules.

Modules can be taken either individually or as a part of an ESS Certificate of the Design School. Eligibility criteria are established by this framework and specify the schools or programmes of enrolment that qualify student to attend each single module.

Module prerequisites are defined by the modules specifications and listed here for reference.

Please note that in this section, all the module are sequenced according to the module code.

Modules in Architecture	Cp	Sem	Prereq uisites	Certifi cate	Open to which levels	Eligibility
ARC103 Introduction to Environmental Science	5	2	--	AS, BT	All	DES, AFCT, AoFE, HSS, IBSS
ARC107 History of Western Architecture	5	1	--	AS	All	DES, AFCT, AoFE, HSS, IBSS
ARC110 Humanities and architecture week 1-6	2.5	2	--	DS	All	DES, AFCT, AoFE, HSS, IBSS
ARC203 History of Asian Architecture	5	1	--	AS	UG Stage 3,4 & PG	DES, AFCT, AoFE, HSS, IBSS
ARC206 Urban Studies	5	2	--	DS	UG Stage 3,4 & PG	DES, AFCT, AoFE, HSS, IBSS
ARC303 Architectural Theory	5	1	--	AS, DS	UG Stage 4 & PG	DES, AFCT, AoFE, HSS, IBSS
ARC308 Philosophy of Art and Aesthetics	5	2	--	DS	UG Stage 4 & PG	DES, AFCT, AoFE, HSS, IBSS

ARC401 Integration of Energy Strategies in Design	5	1	--	AS, BT	PG	DES, AFCT, AoFE, HSS, IBSS
ARC406 Topics in Architectural History	5	2	--	AS	PG	DES, AFCT, AoFE, HSS, IBSS
ARC407 Architectural Theory and Criticism	5	1	--	AS	PG	DES, AFCT, AoFE, HSS, IBSS
ARC409 Architectural Design and Research Methods	5	1	--	AS, DS	PG	DES, AFCT, AoFE, HSS, IBSS

<b>Modules in Civil Engineering</b>	<b>Cp</b>	<b>Sem</b>	<b>Prerequisites</b>	<b>Certificate</b>	<b>Open to which levels</b>	<b>Eligibility</b>
CEN101 Design for Engineers	5	1	--	ASM	All	DES, SAT, SCI, SMP
CEN102 Fluid Mechanics	5	2	--	--	All	DES, SAT, SCI, SMP
CEN103 Solid and Structures	5	1	--	ASM	All	DES, SAT, SCI, SMP
CEN106 Introduction to Materials	5	1	--	ASM, BT	All	DES, SAT, SCI, SMP
CEN112 Engineering Skills	2.5	1	--	--	All	DES, SAT, SCI, SMP
CEN114 Surveying for Architectural Engineers	2.5	1	--	BT	All	DES, SAT, SCI, SMP
CEN115 Introduction to Engineering Sustainability	2.5	1	--	--	All	DES, SAT, SCI, SMP
CEN202 Civil Engineering Project Management	2.5	1	--	--	All	DES, SAT, SCI, SMP
CEN203 Engineering Structures	5	1	CEN103	ASM	All	DES, SAT, SCI, SMP
CEN204 Reinforced Concrete and Steelwork	5	2	--	ASM	All	DES, SAT, SCI, SMP

CEN205 Hydraulics	5	1	--	--	All	DES, SAT, SCI, SMP
CEN206 Structural Behaviour	2.5	2	--	ASM	All	DES, SAT, SCI, SMP
CEN207 Construction Materials	2.5	1	--	--	All	DES, SAT, SCI, SMP
CEN210 Water Resources Engineering 1	2.5	2	--	--	All	DES, SAT, SCI, SMP
CEN212 Basic Soil Mechanics	5	2	--	--	All	DES, SAT, SCI, SMP
CEN215 Numerical Methods	2.5	1	--	--	All	DES, SAT, SCI, SMP
CEN222 Building Services Engineering	2.5	2	--	BT	All	DES, SAT, SCI, SMP
CEN306 Water Resources Engineering 2	2.5	2	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN307 Structural Dynamics	2.5	1	--	ASM	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN308 Earthquake Engineering	2.5	2	--	ASM	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN310 Traffic and Highways Design	2.5	2	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN312 Construction Management	2.5	2	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN321 Construction Cost Control and Estimation	5	1	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN322 Building Information Modelling	5	2	--	BT	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN323 Steel structures	2.5	1	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN326 Façade Engineering	2.5	2	--	BT	UG Stage 3,4 & PG	DES, SAT, SCI, SMP

CEN327 Geotechnical Engineering	5	1	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN329 Finite Element Method	2.5	2	--	ASM	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN331 Composite Structures	2.5	1	--	--	UG Stage 3,4 & PG	DES, SAT, SCI, SMP
CEN401 Sustainable Technology and Building Materials	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN402 Sustainable Engineering with Timber	5	2	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN403 Advanced Simulation of Sustainable Structural Systems	5	2	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN404 Environmental Engineering and Management Practice	5	2	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN405 Sustainable Drainage Systems	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN407 Critical State Soil Mechanics	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN408 Advanced Structural Design	5	2	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN409 Advanced Construction Management	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN412 Characterisation of Materials	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN421 Construction Process Simulation	5	1	--	BT	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN422 Construction Planning and Control	5	2	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
CEN423 Digital Construction	5	2	--	BT	UG Stage 4 & PG	DES, SAT, SCI, SMP

CEN425 Experimental Methods in Materials and Mechanics	5	1	--	--	UG Stage 4 & PG	DES, SAT, SCI, SMP
--	---	---	----	----	-----------------	--------------------

Modules in Industrial Design	Cp	Sem	Prerequisites	Certificate	Open to which levels	Eligibility
IND112 Computer Aided Design and Modeling	5	1	--	INS	UG Stage 2, 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND114 History of Industrial Design	2.5	2	--	DS, INS	UG Stage 2, 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND116 Design Communication	2.5	2	--	DS, INS	UG Stage 2, 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND118 Introduction to Human-Computer Interaction	5	2	--	INS	UG Stage 2, 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND210 User-Focused Research	5	1	--	INS	UG Stage 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND302 Design for Sustainability	5	1	--	INS	UG Stage 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND305 Culture and Theory	5	1	--	DS, INS	UG Stage 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND308 Design Strategy and Ethics	5	2	--	DS, INS	UG Stage 3, 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND401 Framing Design Research	5	1	--	INS	UG Stage 4 & PG	DES, AFCT, AoFE, HSS, IBSS
IND407 Advanced Design Visualisation and Communication	5	1	--	INS	UG Stage 4 & PG	DES, AFCT, AoFE, HSS, IBSS

Modules in Urban Planning and Design	Cp	Sem	Prerequisites	Certificate	Open to which levels.	Eligibility
--------------------------------------	----	-----	---------------	-------------	-----------------------	-------------

BNV401 Fundamentals of Urban Design	5	1	--	DS, USD	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD101 Issues and Practice of Planning in China I	5	1	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD102 Contemporary Planning Practice in Western Europe and the North America	5	2	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD105 Urban and Environmental Economics	5	2	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD106 Issues and Practice of Planning in China II	5	2	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD107 Planning in the UK	5	1	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD109 History and Purpose of Planning	5	1	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD110 Neighbourhood Planning	5	2	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD112 Skills for Planning Practice	5	1	--	DS, USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD201 Environmental sustainability	5	1	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD202 Rural Planning	5	2	--	RUP	UG Stage 3, 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD203 Networks and cities	5	1	--	RUP	UG Stage 3, 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD206 Projecting and managing urban futures	5	2	--	USD	UG Stage 3, 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD209 Planning and Research Methodology	5	2	--	RUP	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS



UPD301 Planning Law and Governance	5	2	--	RUP	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD310 International Planning Studies	5	1	--	USD	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD311 Planning and Property Development	5	2	--	USD	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD314 Critical Debates in Contemporary Cities	5	1	--	RUP	UG Stage 4 and PG	DES, AFCT, AoFE, HSS, IBSS
UPD401 Theory and Practice of Urban Regeneration	5	1	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD402 Sustainable Urban Planning Strategies	5	2	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD403 Governance and Finance of Urban Regeneration	5	1	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS
UPD404 Heritage, Historic Districts and Conservation	5	2	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD405 Politics, Society and Participation	5	1	--	USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD407 Place-making and Urban Design	5	1	--	DS, USD	All	DES, AFCT, AoFE, HSS, IBSS
UPD408 Spatial Analysis and Visualisation	5	2	--	RUP	All	DES, AFCT, AoFE, HSS, IBSS

The table below shows the total ESS modules offered by each department, the number of the modules included in the certificate programmes, and the certificates programmes that the department contributes to.

	ESS modules	Modules toward certificates	Certificates
ARC	11	11	AS, BT, DS
CEN	42	15	ASM, BT
IND	10	10	DS, INS
UPD	25	25	DS, RUP, USD

## 5. Document Log

---

12 October 2022      DES SLTC      Approved

---

24 October 2022      DES SMT      Approved

---

24 January 2024      ULTC      Approved