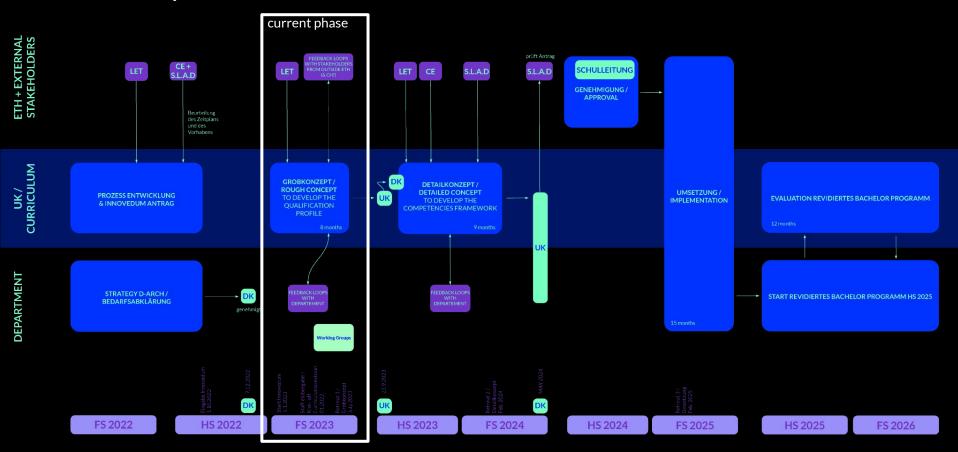
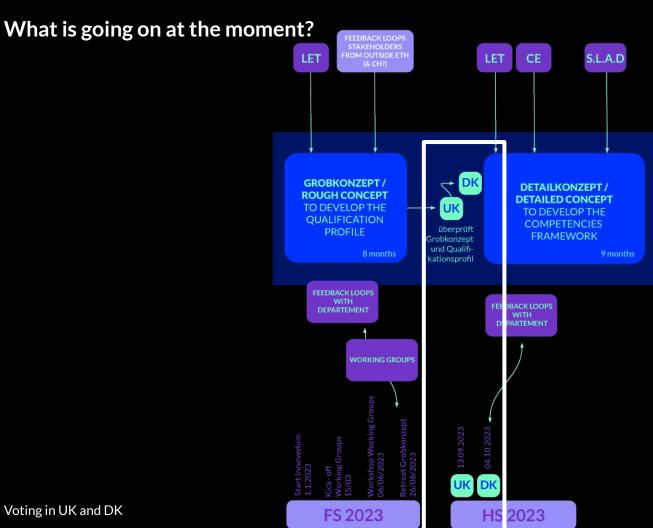
Rough Concept D-ARCH Curriculum Revision Bachelor of Science ETH in Architecture

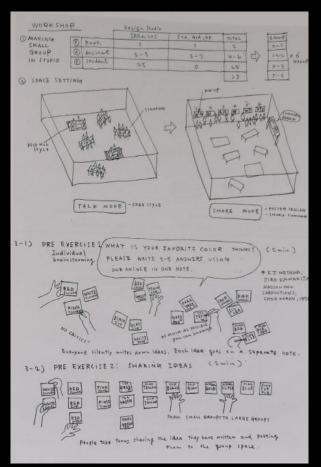
Overall Roadmap

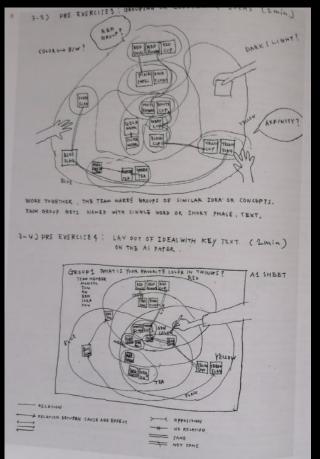




Chronology

Strategy Workshops 2022 The Architect





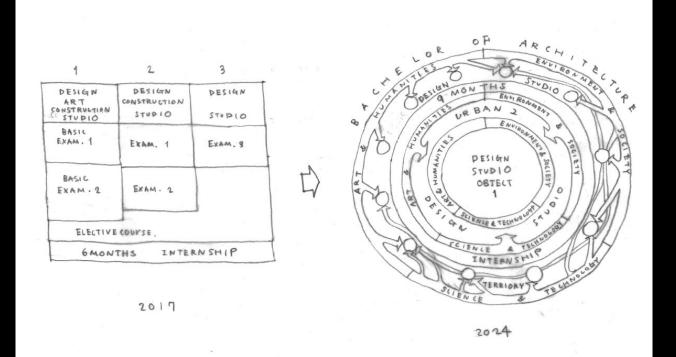
Curriculum White Paper

CURRICULUM WHITE BOOK

Presented to the DK on December 8, 2022 Department of Architecture, ETH Zurich

Authors: François Charbonnet, Benjamin Dillenburger, Maarten Delbeke, Christophe Girot, Momoyo Kaijima, Matthias Kohler, Vera Kaps, Silke Langenberg, Rosina Maibach, Elli Mosayebi, Sacha Menz, Nikola Nikolov, Cara Rachele, Milica Topalovic, Eva Schneuwly, Laurent Stalder

Curriculum White Paper



Extra UK Workshop 06/06 at Seilerei



Extra UK Retreat 26/06 at Shedhalle / Rote Fabrik



Rough Concept

Reminder: What is covered by the Grobkonzept / Rough Concept?

- 1. What is the <u>objective of the revision (Zielsetzung)</u> of the bachelor's degree program?
 - + Strategy Paper 2022 / Curriculum White Book
 - + Further requirements by the ETH Rektorat
 - + Core Suggestions of the Extra-UK Working Groups
- 2. What <u>qualifications</u> should students develop in the bachelor's degree program? Provisional Qualification Profile (Qualifikationsprofil)
- 3. What does the <u>new teaching offer</u> look like? Semester structure, Study Plan, Course Schedule
- 4. What is the <u>timeline</u> until the start of the program in fall 2025?
 - + Provisionary timetable until implementation
 - + Next steps

1. Objective of the Revision

<u>Strategy Paper</u> 2022 / Curriculum White Book

- + Clearly defined and structured Bachelor
- + Logical progression through the 3 years: from Introduction over Integration to Exploration
- + All areas of the discipline are present over the 3 years:
- + Design; Environment & Society, Construction & Technology, Arts & Humanities
- + Balanced out workload
- + Need for free space
- + More freedom in teaching formats, with exercises from the first year onwards

Further requirements by the <u>ETH Rektorat</u>

- + Computational and cross-disciplinary competencies
- + Split Basic Exam PAKETH (exams at the end of each semester)
- + New Academic Year / Semester Structure PAKETH
- + Teaching space
- + Internship Regulation

Core Suggestions of the Extra-UK Working Groups

- 1. Active Learning & Physical and Virtual Teaching
- 2. Relations (Gap) between design studios & basic courses
- 3. Semester Structure
- 4. Internship
- 5. Contextual Awareness
- 6. Free Week & Seminar Week
- 7. Workload
- 8. Assessment, Grading, Feedback
- 9. (Re- De-) Konstruktion
- 10. Writing
- 11. Sustainability
- 12. Digital (Design) Literacy

Core Suggestions of the Extra-UK Working Groups

TO BE IMPLEMENTED IN THE ROUGH CONCEPT

- + Modular, simple and clear structure of the week / semester
- + Workload reduction through integration
- + Keep all contents we have already at the moment
- + Integrated Studio teaching
- + Collaboration of several (design) professors / Polyphonic teaching in the 1st year
- + Overarching assistant team for 1st year

TO BE IMPLEMENTED LATER

- + Onboarding teaching staff: New ecosystem of knowledge exchange about teaching within D-ARCH, which helps to establish the new formats, competencies and etc.
- + Establish departmental processes to implement the curricular changes that are planned at the moment beyond a great written curriculum. A curriculum that is alive.

2. Qualification Profile

2. What qualifications should students develop in the bachelor's degree program?

Qualification Profile (Qualifikationsprofil)

Five Strategic Areas of Action to be reflected in the curriculum/the competencies of the students:

- + Answering the Challenges of Climate Change
- + Fostering Digital Forms of Craftsmanship
- + Shaping Future Environments
- + Making the Past Productive
- + Empowering Design and Construction

2. What qualifications should students develop in the bachelor's degree program?

Requirements for qualification profiles (Anforderungen an Qualifikationsprofile)

The 'Qualification Profile' outlines the "Learning Outcomes" that students are expected to gain from the BSc in Architecture.

It has an <u>introduction</u> and <u>three categories</u>:

- + Subject-specific Competencies
- + Method-Specific Competencies
- + Social and Personal Competencies

Each category has about four skills. When listing these skills, it's suggested to use the levels from Anderson & Krathwohl's taxonomy (2001). These skills not only explain the content but also the depth and breadth of the knowledge. The Qualification Profile represents the specific Learning Outcomes of the study program and its specializations.



Qualifikationsprofil BSc in Architektur

Status: 21.09.2023 Hand-in Rough-Concept Phase

Introduction [Einleitung]

The Bachelor of Science in Architecture at ETH Zurich aims to educate a new generation of architects capable of addressing the urgent challenges of the contemporary built environment on all scales. Graduates of the BSc programme will have acquired a professional profile that is both comprehensive and adaptable. The programme emphasises climate-adaptiveness, contextual awareness, inventive engagement with the built environment and the history of architecture, as well as the responsible integration of digitalisation and craftsmanship. Graduates possess a thorough understanding of the principles and practices of architecture and construction and can apply their knowledge critically by means of effective design strategies. The range of the programme empowers graduates to take the first steps towards further specialisation and develop a variety of profiles on the Master's level.

Subject-Specific Competencies [Fachspezifisches Wissen und Verständnis] Graduates with a Bachelor's degree in architecture...

- ... can apply design and construction as integrated core skills.
- ... understand the methods for preserving the existing building stock and adapting it for contemporary challenges while minimizing environmental impact.
- ... gain contextual awareness, which enables them to analyse and steer the broader effects of architecture and urbanism on all scales.
- ... demonstrate a basic understanding of principles in urban design and landscape architecture, enabling them to create integrative and sustainable solutions that enhance the quality of urban environments, address the dynamic needs of communities, and foster harmonious relationships between humans and non-human actors.
- ... can take decisions based on and enriched by a core knowledge of the humanities and social sciences.
- ... acquire a critical understanding of the fundamental principles and potential of digital
 technologies in design and fabrication and can creatively apply computational competencies to
 generate, analyse, prototype, and communicate their design.



Eidgenössische Technische Hochschule Zürich Swiss Federal Institute of Technology Zurich

Methods-Specific Competencies [Fertigkeiten]

Graduates with a Bachelor's degree in architecture...

- ... apply a wide range of design principles, critically evaluating and integrating factors like construction and durability.
- ... utilize multiple types of construction knowledge to critically assess the sustainability and
 efficiency of building processes across different scales, encompassing material selection,
 structural implications, and design consequences. They are able to understand the
 environmental performance of buildings.
- ... effectively convey intricate design concepts through the production of comprehensive architectural representations, including plans, elevations, sections and models in multiple graphic scales using relevant tools and techniques.
- ... apply current digital strategies in architecture. They understand the role of digital
 technologies in analysis, visualization, and simulation during the design phase, as well as their
 utility in engineering, construction, and society.
- ... skilfully document and analyse existing structures, to develop concepts of reuse, retrofitting
 and circularity to ensure sustainable resource utilization.
- ... evaluate and synthesize diverse information sources to produce coherent and persuasive architectural research and writing.

Social & Personal Competencies [Selbst- und Sozialkompetenzen]

Graduates with a Bachelor's degree in architecture...

- ... can use their critical thinking skills to analyse architectural challenges and devise creative and sustainable solutions. They can assess the effectiveness of problem-solving approaches in resolving architectural challenges and make necessary adjustments in their own design.
- ... can collaborate with experts from various fields, such as urban planning, environmental
 science, and engineering, to create sustainable and resilient designs. They grasp the significance
 of interdisciplinary collaboration and its role in addressing complex challenges.
- ... can successfully use oral, written, and visual communication methods to clearly present architectural ideas, problems, and solutions to diverse audiences.
- ... have gained basic skills in productively engaging with communities. They understand their needs and aspirations and the role community engagement plays in ensuring the cultural relevance and social acceptance of architectural projects.
- ... are resilient enough to successfully operate in conditions of uncertainty. They embrace
 responsibility in decision-making and strive for agency in the transformation processes in which
 they participate.
- ... are aware of the social and environmental consequences of architectural practices. They have
 the capacity to reflect on their own process and its impact on the environment and society, and
 they can focus on improving sustainable and ethical practices within the field.

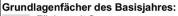
3. New Teaching Offer & Study Plan

Reminder: Current Study Plan Reglement 2017

1. Semester	2. Semester	3. Semester	4. Semester	5. Semester	6. Semester	
Entwerfen und Konstruieren I	Entwerfen und Konstruieren II	Entwurf III	Entwurf IV	Entwurf V - IX	Entwurf V - IX	
Architektur und Kunst I	Architektur und Kunst II					
Tragwerksentwurf I	Tragwerksentwurf II	Tragwerksentwurf III	Tragwerksentwurf IV	Konstruktion V	Konstruktion VI	
Soziologie I	Soziologie II	Architekturgeschichte und -theorie III	Architekturgeschichte und -theorie IV	Architekturgeschichte	Architekturgeschichte	
Baugeschichte I	Baugeschichte II	una -meone m	una -uneone iv	und -theorie V	und -theorie VI	
	Computat		Computational Design IV	Bauprozess I	Bauprozess II	
Architekturgeschichte	Architekturgeschichte	Duilding Dhysics II	Building Dhysics III	Bauprozess i	Daupi 02ess il	
und -theorie I	und -theorie II	Building Physics II	Building Physics III	Landschaftsarchitektur I	Landscape	
Baumaterialien I	Bauphysik I	Global History of Urban	Global History of Urban	Landschansarchitektur i	Architecture II	
Städtebau I	Städtebau II	Design I	Design II	Energie- und	Energie- und	
Stautebau i	Stautebau II	Urban Design III	Urban Design IV	Klimadesign I	Klimadesign II	
Computational Design I	Computational Design II					

Wahlfächer und Vertiefungsarbeiten Seminarwochen Wissenschaft im Kontext (WiK) GESS

6 Monate Praktikum

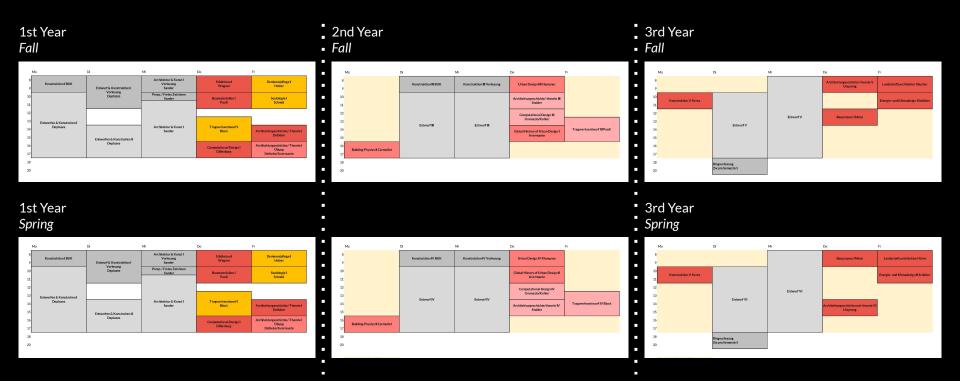


Fächer mit Semesternote

Prüfungsfächer / Prüfungsblöcke 1 und 2 der Basisprüfung

Grundlagenfächer Prüfungsfächer / Prüfungsblock 1
des übrigen Prüfungsfächer / Prüfungsblock 2
Bachelor-Studiums: Prüfungsfächer / Prüfungsblock 3

Reminder: Current Course Schedule



3.1 What does the new teaching offer look like?

- + Study Plan competencies & formats
- + Course Schedule timetable of regular weeks
- + Semester Structure succession of 3 academic years





D-ARCH Curriculum Revision
Bachelor of Science ETH in Architecture

Rough Concept

Study Plan Holistic Competencies

Semester 01	Semester 02	Semester 03	Semester 04	Semester 05	Semester 06
Design & Construction					
Territory / Society / Arts					
Histories / Culture / Preserva	ation				
Structure / Technology / Prod	cess				

Internship

Seminar Weeks

Study Plan Incremental Competencies

Semester 01 Studio 'Fundamentals' Design & Construction	Semester 02 Studio 'Fundamentals' Design & Construction	Semes Studio 'Positi Design & Cons	ons'	' Studio 'Positions'		Semester 05 Regular Studio together with MSc		Semester 06 Regular Studio together with MSc
Lecture 'Fundamentals' Architecture & Construction	Lecture 'Fundamentals' Architecture & Construction	Lecture Architecture	Lecture Lecture Lecture		together with Moc		(High priority) Bachelorthesis	
Arts	Arts	Arts		Arts		Specification		Thesis/Focus Work
Sociology/Society/Law	Sociology/Society/Law	+ Science in P						
Urbanism/Context/Territory	Urbanism/Context/Territory	Urban History	//Hist. City	Urban History/Hist. City		Landscape		Landscape
Architecture & Culture I	Architecture & Culture II	Architecture	Architecture & Culture III Architecture & Culture IV		Architecture & Cult	ure V	Architecture & Culture	
History of Construction	History of Construction	Preservation/Repair/Reuse P		Preservation/Repair/Reuse		Construction/Cult. Tech.		Construction/Cult. Tech
Material & Sustainability	Material & Sustainability	Building Physics		Building Physics		Sustainability/Ecology		Sustainability/Ecology
Structural Design	Structural Design	Circular Engineering		Circular Engineering		Building Process		Building Process
Computation I	Computation II	Computation	III 💮	Computation	IV			
Internship = X KP								
Seminar Weeks = 4 KP								
	Process = Integrated Module for 4 wee gners and Integrated Modules	with a shared M						

Study Plan Competencies & Formats

Semester 01	Semester 02	Semester 03		Semester 04		Semester 05		Semester 06
Studio 'Fundamentals' Design & Construction	Studio 'Fundamentals' Design & Construction			Regular Studio together with MSc		Regular Studio together with MSc		
Lecture 'Fundamentals' Architecture & Construction	Lecture 'Fundamentals' Architecture & Construction	Lecture Architecture	Lecture Construction	Lecture Architecture	Lecture Construction			(High priority) Bachelorthesis
Arts	Arts	Arts		Arts		Specification	0	Thesis/Focus Work
Sociology/Society/Law	Sociology/Society/Law	+ Science in P						
Urbanism/Context/Territory	Urbanism/Context/Territory	Urban History	y/Hist. City	Urban History	//Hist. City	Landscape		Landscape
Architecture & Culture I	Architecture & Culture II	Architecture & Culture III Architec		Architecture & Culture IV		Architecture & Cult	ure V	Architecture & Culture V
History of Construction	History of Construction	Preservation/Repair/Reuse		Preservation/Repair/Reuse		Construction/Cult.	Tech.	Construction/Cult. Tech.
Material & Sustainability	Material & Sustainability	Building Physics		Building Physics		Sustainability/Ecolo	gy	Sustainability/Ecology
Structural Design	Structural Design	Circular Engineering		Circular Engineering		Building Process		Building Process
Computation I	Computation II	Computation III		Computation	IV			
6 Monate Praktikum = X KP								
Seminarwochen = 4 KP								
Lecture Course Session	examination							
	= Integrated Module for 4 wee ent Module for 4 weeks Seme			udio (15%) = Ser	nester performa	ince		
Independent Study								
Integrated Studio: 2 Design	gners and Integrated Modules	with a shared M	1ittelbau					

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Study Plan Formats

Semester 01	Semester 02	Semester 03		Semester 04		Semester 05	Semester 06
Studio 'Fundamentals' Design & Construction	Studio 'Fundamentals' Design & Construction	Studio 'Positions' Design & Construction		Studio 'Positions' Design & Construction		Regular Studio together with MSc	Regular Studio together with MSc
Lecture 'Fundamentals' Architecture & Construction	Lecture 'Fundamentals' Architecture & Construction	Lecture Architecture	Lecture Construction	Lecture Architecture	Lecture Construction		(High priority) Bachelorthesis
Arts	Arts	Arts		Arts		Specification	Thesis/Focus Work
Sociology/Society/Law	Sociology/Society/Law	+ Science in Pe					
Urbanism/Context/Territory	Urbanism/Context/Territory	Urban History/Hist. City		Urban History/Hist. City		Landscape	Landscape
Architecture & Culture I	Architecture & Culture II	Architecture & Culture III		Architecture & Culture IV		Architecture & Culture V	Architecture & Culture VI
History of Construction	History of Construction	Preservation/Repair/Reuse		Preservation/Repair/Reuse		Construction/Cult. Tech.	Construction/Cult. Tech.
Material & Sustainability	Material & Sustainability	Building Physics		Building Physics		Sustainability/Ecology	Sustainability/Ecology
Structural Design	Structural Design	Circular Engin	neering	Circular Engin	eering	Building Process	Building Process
Computation I	Computation II	Computation III		Computation	IV		
6 Monate Praktikum = X KP							
Seminarwochen = 4 KP							
Block Course = Independ Independent Study	examination = Integrated Module for 4 wee ent Module for 4 weeks Seme gners and Integrated Modules w	ester performan	ce	udio (15%) = Sen	nester perform	ance	

Specification = 6 KP: History & Theory, Landscape & Territory, Technology & Construction, Denkmalpflege/Construction History

--- Bachelor Thesis 20 KP = Regular Studio (14 KP) + Thesis/Focus Work (6 KP)

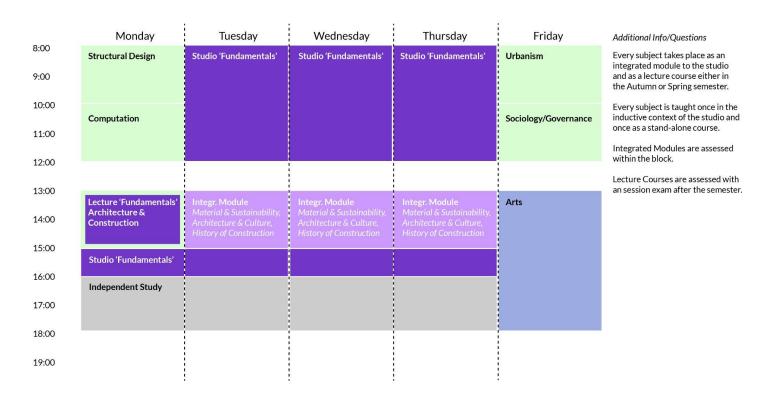
Course schedule

1st Year / 1st Semester Reduction through Integration

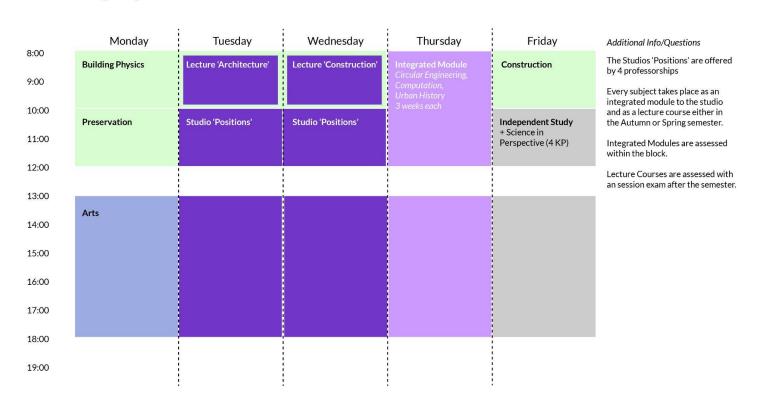
	Monday	Tuesday	Wednesday	; † Thursday	: ¦ Friday	Additional Info/Questions
8:00	Material & Sustainability		Studio 'Fundamentals'	Studio 'Fundamentals'	Architecture & Culture	Every subject takes place as an
9:00						integrated module to the studio and as a lecture course either in the Autumn or Spring semester.
10:00	History of Construction				Sociology/Governance	Every subject is taught once in the inductive context of the studio and once as a stand-alone course.
11:00 12:00						Integrated Modules are assessed within the block.
			! !		i 1 1 1	Lecture Courses are assessed with an session exam after the semester.
13:00	Lecture 'Fundamentals' Architecture &	Integr. Module Structural Design,	Integr. Module Structural Design,	Integr. Module Structural Design,	Arts	an session exam after the semester.
14:00	Construction	Urbanism, Computation 4 weeks each	Urbanism, Computation 4 weeks each	Urbanism, Computation 4 weeks each		
15:00	Studio 'Fundamentals'					
16:00	Independent Study					
17:00						
18:00						
19:00				: 	: 	
	:		: !	!	!	

Course schedule 1st Year / 2nd Semester

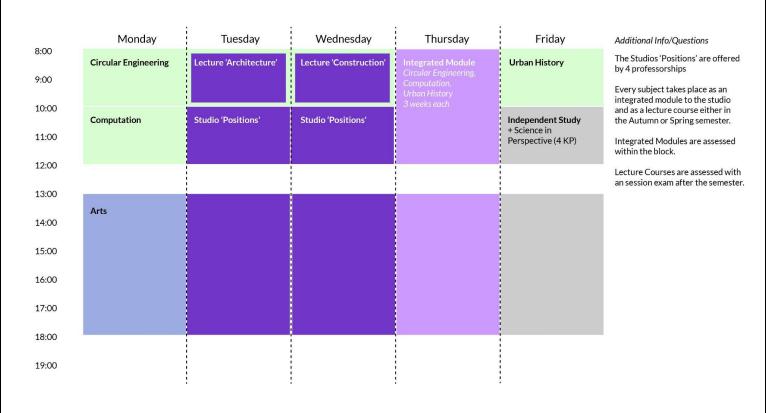
Reduction through Integration



Course schedule 2nd Year / 1st Semester Reduction through Integration



Course schedule 2nd Year / 2nd Semester Reduction through Integration



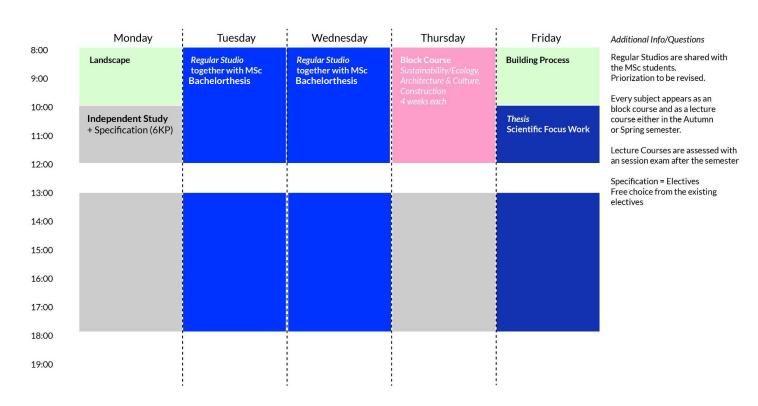
Course schedule 3rd Year / 1st Semester

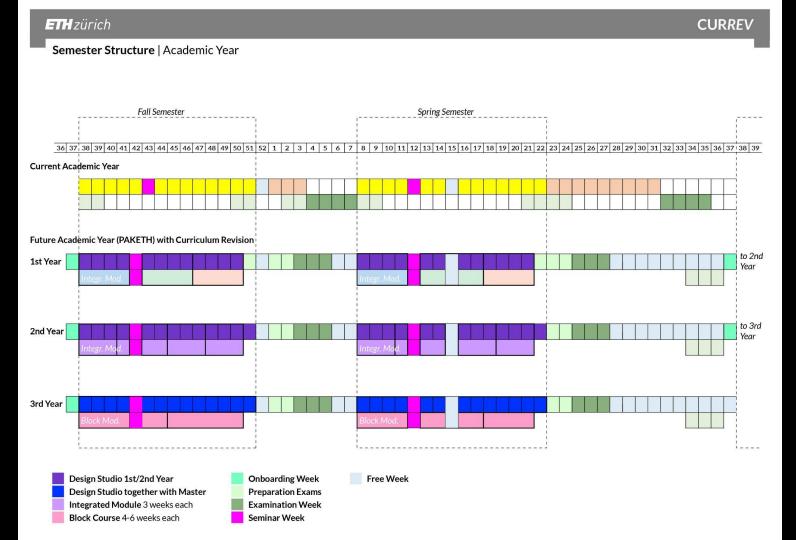
Reduction through Integration



Course schedule 3rd Year / 2nd Semester

Reduction through Integration





3.2 Conclusion Current Proposal

- + INCREMENTAL
 Incremental build up of competencies with an increasing complexity.
 Continuous lines of competencies throughout the program.
- + COMPETENCIES

 The existing range of competencies is kept. Adjustment and revision of competencies and courses aligned to Qualification Profile.
- INTEGRATION
 Fostering collaboration and new forms of knowledge production as all courses are once integrated into the design studio.
- + STUDIO
 Appropriation of the inductive learning environment 'Studio' for further competencies and courses by means of integration.
- + ACTIVE LEARNING
 New forms of active teaching and learning in the frame of Integrated Modules, Block Modules as well as during 'Deep Thursdays'

3.2 Conclusion Current Proposal

- + ASSESSMENT
 Reduction of examinations as competencies are assessed during modules
- + SPECIFICATION
 Increase of individual, non-curricular time in 2nd and 3rd year. Individual trajectories through elective courses in the 3rd year, culminating in a 'Bachelor Thesis' (focus work).
- WORKLOAD
 Reduction of workload through integration and alignment as well as straight forward responsibilities throughout the semesters.
- + FREE TIME Increase of free weeks. Clear definition of free weeks after the examinations, robustly anchored in the new academic year.
- + COORDINATION Synchronisation of submissions & critiques throughout the semesters.

4. Timeline

4. What is the	timeline until the start of the program in fall 2025?
13/09/2023	Approval of Rough Concept UK

04/10/2023 Approval of Rough Concept DK

11/10/2023 Launch Working Group Phase Extra UK members

08/11/2023 Extra UK Workshop 1st Year Integrated Studio + 'Bachelor Thesis'

Extra UK Workshop Results Working Groups

Retreat Phase 2 Fine Concept

Extra UK Workshop

11/03/2024 Extra UK Workshop10/04/2024 Approval of Fine Concept in additional UK

08/05/2024 Approval of Fine Concept in DK

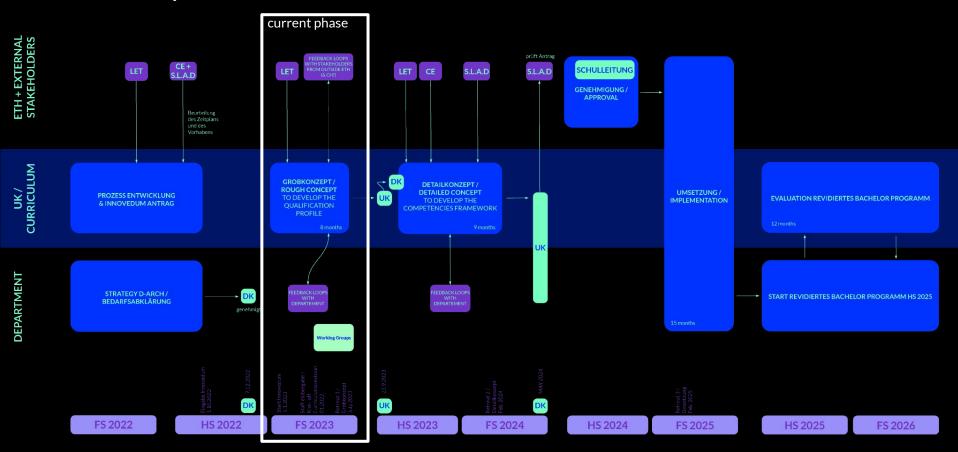
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11/12/2023

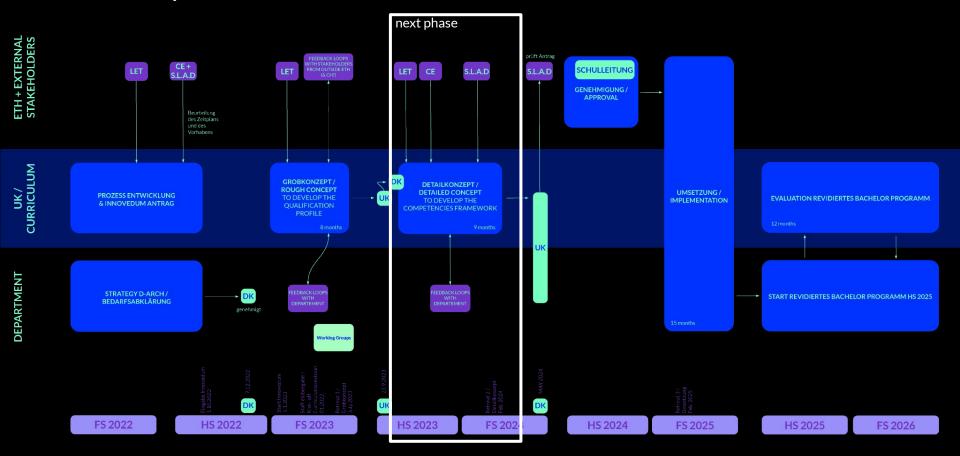
05/02/2024

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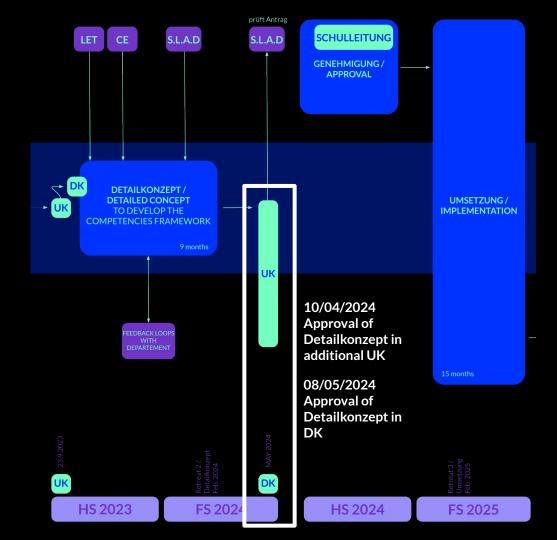
Overall Roadmap



Overall Roadmap



Next Milestones



From Grobkonzept to Detailkonzept

GROBKONZEPT/ DETAILKONZEPT / **ROUGH CONCEPT DETAILED CONCEPT Study Program** Courses **Qualification Profile Specific Competencies Sequenz of Modules/Courses Sequenz of Learning Activities Final Exam Assessment**

Strategic Outlook Extra UK

- + The Extra UK remains active during the Fine Concept.
- + The Extra UK is an additional departmental body.

 Its task is to develop, test and enact aspects of the Curriculum Revision.
- + The Extra UK consists of the regular UK members plus additional students, assistants, staff and professors. It is open to all members of the department.
- + The Extra UK reliefs the regular UK (Teaching Commission) and ensures that the regular UK is able to take care of the daily business.

Stra	ntegic Outlook Fields of action during the Fine Concept
1.	Credits & Workload
2.	Basic Year (1st year)
3.	Competency Lines (Horizontal Study Plan)
4.	Semester Columns (Vertical Study Plan)
5.	Teaching formats vs. high student numbers
6.	Assessment
7.	Selection & Prioritisation & Steering of students
8.	Internship
9.	Space & Learning environment
10.	Resources & Labour
11.	Infrastructure & Raplab
12.	Knowledge Management & On- and Off-boarding & Implementation

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