AR78/722 (re-amended)

**SYLLABUSES FOR THE DEGREE OF BACHELOR OF ARTS AND SCIENCES IN DESIGN+ (BASc[Design+])**

*These syllabuses are applicable to candidates admitted to the Bachelor of Arts and Sciences in Design+ curriculum in the 2022-23 academic year and thereafter.*

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Candidates admitted in 2022-23 (2022 intake) and thereafter are required to take 36 credits of Language and Common Core courses, 96 credits of Design+ Major courses, 18 credits of BASc core courses, and 90 credits of electives, totalling 240 credits for the 4-year curriculum.

Successful completion of any other non-credit bearing courses as required by the University forms part of the graduation requirements.

The syllabuses of the Bachelor of Arts and Sciences in Design+ shall comprise the following requirements:

**University Requirements**

36 credits of compulsory University requirements which must be completed successfully:

| | | |
|---|---|---|
| (i) | One 6-credit English in the Discipline course[1]; and one 6-credit course in Chinese language enhancement[2] | (12 credits) |
| (ii) | Courses from the Common Core Curriculum, comprising at least one course from each Area of Inquiry | (24 credits) |
| | ***Sub-total:*** | **36 credits** |

**Design+ Major Courses**

| | | |
|---|---|---|
| DESN1001 | Ideas[3] | (6 credits) |
| DESN1002 | Representation[3] | (6 credits) |
| DESN1004 | Contemporary Issues in Design | (6 credits) |
| DESN2001 | Material Science and Engineering | (6 credits) |
| DESN2002 | Data for Interdisciplinary Innovation | (6 credits) |
| DESN2003 | Research for Innovation | (6 credits) |

[1] Candidates who have achieved Level 5 or above in English Language in the Hong Kong Diploma of Secondary Education Examination (HKDSE), or equivalent, are exempted from taking "CAES1000 Core University English". Candidates with Level 4 in English Language and good results in other HKDSE subjects will be exceptionally considered on a case-by-case basis. If these candidates are admitted, they will be required to take 6 additional credits in "CAES1000 Core University English" to complete their degree studies (i.e. 246 credits in total).

[2] Students are required to successfully complete the 6-credit Faculty-specific Chinese language enhancement course, except for:

(a) Putonghua-speaking students who should take CUND9002 (Practical Chinese and Hong Kong Society) or CUND9003 (Cantonese for Non-Cantonese Speaking Students); and

(b) Students who have not studied Chinese language during their secondary education or who have not attained the requisite level of competence in the Chinese language to take the Chinese language enhancement course should write to the Board of the Faculty to apply to be exempted from the Chinese language requirements, and (i) take a 6-credit Cantonese or Putonghua language course offered by the School of Chinese especially for international and exchange students; OR (ii) take an elective course in lieu.

[3] DESN1001, DESN1002 & DESN2004 are 'introductory' courses. All other disciplinary courses are 'advanced' courses.

| | | |
|---|---|---|
| DESN4002 | Law, Innovation, Technology and Entrepreneurship (LITE) - Tech Startup Law | (6 credits) |
| DESN4004 | Interdisciplinary Processes and Applications | (6 credits) |
| DESN2004 | Design+ Studio 1 – Ideation[3] | (6 credits) |
| DESN3001 | Design+ Studio 2 – Rationale | (6 credits) |
| (Pre-requisite: DESN2004 Design+ Studio 1 – Ideation) | | |
| DESN3002 | Design+ Studio 3 – Process | (12 credits) |
| (Pre-requisite: DESN3001 Design+ Studio 2 – Rationale) | | |
| DESN4001 | Design+ Studio 4 – Expertise | (12 credits) |
| (Pre-requisite: DESN3002 Design+ Studio 3 – Process) | | |
| DESN4003 | Design+ Studio 5 – Capstone[4] | (12 credits) |
| (Pre-requisite: DESN4001 Design+ Studio 4 – Expertise) | | |
| | **Sub-total:** | 96 credits |

**BASc Core Courses**

| | | |
|---|---|---|
| DESN9002 | Sustainable Leadership | (6 credits) |
| BASC9001 | Foundations of Human Knowledge | (6 credits) |
| STAT1005 | Essential Skills for Undergraduates: Foundations of Data Science | (6 credits) |
| | **Sub-total:** | 18 credits |

**Electives**

Students will take 90 credits of electives for a second major, or two minors, subject to the prior agreement with the Design+ Program Director.

| | | |
|---|---|---|
| A second major or two minors | | (72-84 credits) |
| Free electives | | (6-18 credits) |
| | **Sub-total:** | 90 credits |
| | **Total:** | **240 credits** |

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**Course Structure**

| Course Title | | Credits | 2022 Intake and thereafter |
|---|---|---|---|
| BASC9001 | Foundations of Human Knowledge | 6 | Year 1 |
| STAT1005 | Essential Skills for Undergraduates: Foundations of Data Science | 6 | Year 1 |
| DESN1001 | Ideas | 6 | Year 1 |
| DESN1002 | Representation | 6 | Year 1 |
| DESN1004 | Contemporary Issues in Design | 6 | Year 1 |

[4] Capstone course

| | | |
|---|---|---|
| Common Core course(s) / Electives[5] | 30 | Year 1 |
| CAES9121 Communication course for Architecture Students | 6 | Year 2 |
| CARC9001 Practical Chinese for Architecture and Landscape Students | 6 | Year 2 |
| DESN9002 Sustainable Leadership | 6 | Year 2 |
| DESN2001 Material Science and Engineering | 6 | Year 2 |
| DESN2002 Data for Interdisciplinary Innovation | 6 | Year 2 |
| DESN2003 Research for Innovation | 6 | Year 2 |
| DESN2004 Design+ Studio 1 – Ideation | 6 | Year 2 |
| Common Core course(s) / Electives[5] | 18 | Year 2 |
| DESN3001 Design+ Studio 2 – Rationale | 6 | Year 3 |
| DESN3002 Design+ Studio 3 – Process | 12 | Year 3 |
| Common Core course(s) / Electives[5] | 42 | Year 3 |
| DESN4001 Design+ Studio 4 – Expertise | 12 | Year 4 |
| DESN4002 Law, Innovation, Technology and Entrepreneurship (LITE) - Tech Startup Law | 6 | Year 4 |
| DESN4003 Design+ Studio 5 – Capstone | 12 | Year 4 |
| DESN4004 Interdisciplinary Processes and Applications | 6 | Year 4 |
| Common Core course(s) / Electives[5] | 24 | Year 4 |

**Course Description**

**BASC9001 Foundations of Human Knowledge (6 credits)**

How does knowledge emerge from different disciplines? What is the nature and limit of knowledge generated by different methods? This foundations course will open up an interdisciplinary discourse about knowledge building and integration in arts and humanities, social sciences, and sciences. It will consist of three parts:

1. A philosophical and historical perspective of human knowledge
   In this part students will engage in debates about the nature of knowledge, ways of knowing, and integrating knowledge. Students will also study how certain forms of knowledge formation have become dominant in our society, and learn how humans have come to know what we know today about ourselves and our planet.

2. From knowledge to judgement
   Knowledge is not just about information and facts. Knowledge calls for wisdom to interpret data and to make decisions about how to act upon them; it also requires critical reflections about the human condition and our roles and responsibilities as individuals and as a collective. In this part of the course, we will examine moral

[5] The course taking pattern in respect of the Common Core courses and electives are recommended but not compulsory. Students may make adjustments where necessary with an objective to achieve a balanced study load of not more than 30 credits of courses in each semester to fulfill the 24 credits of Common Core courses and 90 credits of elective courses requirements.

principles and ethical dilemmas during the process of building and responding to knowledge.

3. Knowledge sharing
   We will look at traditional and creative methods of knowledge dissemination, and explore opportunities and challenges in knowledge transfer in the information society. This course will help students build a solid foundation on knowledge creation, sharpen their critical thinking skills when they confront new information and ideas, and prepare them to become effective analysts and communicators of knowledge.

Assessment: 100% continuous coursework assessment

**STAT1005 Essential Skills for Undergraduates: Foundations of Data Science** **(6 credits)**

The course introduces basic concepts and methodology of data science to junior undergraduate students. The teaching is designed at a level appropriate for all undergraduate students with various backgrounds and without pre-requisites.

Students will engage in a full data work-flow including collaborative data science projects. They will study a full spectrum of data science topics, from initial investigation and data acquisition to the communication of final results.

Specifically, the course provides exposure to different data types and sources, and the process of data curation for the purpose of transforming them to a format suitable for analysis. It introduces elementary notions in estimation, prediction and inference. Case studies involving less-manicured data are discussed to enhance the computational and analytical abilities of the students.

Assessment: 100% continuous coursework assessment

**DESN1001 Ideas** **(6 credits)**

This course explores the history of design, through both Eastern and Western industrial revolutions up to the emergence of the knowledge economy and fourth industrial revolution'. It considers key figures in design, science and art, by examining the creative processes that enabled their work. The goal of the course is to familiarize students with the principles of design and understand it through methodology and execution. Students will examine design not as a cohesive or isolated product of any formal school of thought but rather as a complex and contradictory history bound by prevalent theoretical, social, environmental, technological, political and economic considerations. Throughout the course, students will touch upon two key influences in the development of design thinking: changes brought about by technology and received ideas of progress stemming from the utopian legacy of the Enlightenment.

Assessment: 100% continuous coursework assessment

**DESN1002 Representation** **(6 credits)**

Students are introduced in this course to common representational methods and media in both the development of design ideas and their final projection across a range of contemporary design fields, together with their related technologies. Through problem-based group exercises students experiment with the representation of ideas and critically assess representational strategies within different design contexts.

Assessment: 100% continuous coursework assessment

**DESN1004 Contemporary Issues in Design** **(6 credits)**

This seminar course examines key discursive issues that impact design thinking today. Emphasis will be placed on understanding contemporary challenges in design practice and theory and their origins vis-à-vis the continuation, diversification, and transformation of the modernist tradition, and the development of specific arguments around the role of design in society. It introduces concepts of ethics, consumption, sustainability and the data economy. Students will engage with major disciplinary questions, themes, and issues including the relationship between design and the digital revolution, sustainability, and the interconnectedness of design and other disciplines.

Assessment: 100% continuous coursework assessment

**CAES9121 Communication Course for Architecture Students (6 credits)**
**(Certified Communication-intensive Course [CiC][6])**

This English-in-the-Discipline course is designed to help students to respond effectively to the communication demands of their studio programmes and their future careers. The focus is on raising students' awareness of the genre of professional discourse by providing them with opportunities to enhance their linguistic range in their approach to architectural, cultural, real-estate & built environment literacy.

Activities are organized through engagement in project-based discussion and written

[6] A certified Communication-intensive Course (CiC) which meets all of the requirements endorsed by the Senate, including
(i) the teaching and assessment of oral, written and visual communication 'literacies'; and
(ii) at least 40% of the course grade assigned to communication-rich assessment tasks.
Please refer to the respective syllabuses statements on the programme website for the details.

tasks designed to simulate the English Language demands on Architectural, Surveying and Built Environment professionals.

The out-of-class learning component of the course will supplement the main aims by consolidating use of vocabulary related to architectural, real estate & built environment and further enhancing students' writing. Students will also become familiar with self-evaluation and with resources they can access to take responsibility to improve their own language skills in future.

Assessment: 100% continuous coursework assessment

**CARC9001 Practical Chinese for Architecture and Landscape Students (6 credits)**

**(Certified Communication-intensive Course [CiC][6])**

The main objective of this course is to enhance the students' command of Chinese for the architecture profession through basic training in presentation skills and in specific techniques for the preparation of target-oriented letters, proposals, plans and reports. This course also aims to develop students' ability to engage in negotiations, debates as well as critical and creative thinking. In order to promote artistic and aesthetic appreciation, thematic lectures and topical workshops on Chinese calligraphic and artistic representations will be conducted. Site visits to traditional Chinese temples, gardens and museums will be organized to provide students with opportunities to gain hands-on experiences of the inner dynamics of Chinese culture. Students will be able to acquire sophisticated Chinese language skills and knowledge of Chinese culture within the context of the discipline of architecture.

Assessment: 50% continuous coursework assessment and 50% examination

**DESN9002 Sustainable Leadership (6 credits)**

"Leadership" often conjures up images of hierarchy, the top down power that creates unnecessary tension between the haves and the have nots. Such leadership can exacerbate social inequalities, alienation and environmental destruction. In a society that is increasingly connected, and evolving ever rapidly, this form of centralized concentrated leadership cannot answer to change fast enough.

So, what kind of leadership do we need to guarantee humans are best able to care for and support each other and the environment? What are the other models of leadership we need? Where will this change come from? How will we adapt and evolve the current conception of leadership towards a more sustainable world? What is the difference between "leadership", "Thought Leadership" and "Sustainable Leadership"?

It is clear that our generation has the duty to reinvent leadership and implement it in society overall. The University of Hong Kong Bachelor of Arts and Science (BASc) are uniquely positioned to address such questions galvanizing strong domain knowledge in science, technology, finance, design and social sciences.

Hong Kong and the world needs a new generation of leaders that understand empathy, interdependency, that is creative, resilient, visionary, and highly cooperative. Such

qualities are better learned by experience than merely by theory. Not only is it about acquiring knowledge, but it is really about creating the knowledge about the new form of leadership we need.

Assessment: 100% continuous coursework assessment

**DESN2001 Material Science and Engineering (6 credits)**

This course addresses the material aspects and underpinning engineering principles of design, and how material science, engineering, and production influence design. Through case studies, demonstrations and applied exercises, students will develop a clear understanding of physical properties of materials, their functions, behavior in manufactured constructions, and inherent processes and construction technologies. Students will explore a conceptual framework for sustainable design, and through a broad-based understanding of the possibilities and limitations of different design materials, will consider how material choices in design are determined by the cultural, sociological, commercial and environmental context.

Assessment: 100% continuous coursework assessment

**DESN2002 Data for Interdisciplinary Innovation (6 credits)**

This course explores contemporary methods and tools for the generation, storage, analysis, and manipulation of data as drivers for interdisciplinary design and innovation, and the ethical implications of mining and monetizing big data. Specific technical training will be given in relevant data systems to evaluate current systems for organizing and utilizing data within the design fields in order to understand how data can influence design and open up novel areas of inquiry. Students will also investigate data systems relating to manufacturing, operational, logistic, communication and financial processes, and will explore and debate the nature and potential of emerging ideas such as big data, smart cities, e-health, virtual currencies, and fin tech.

Assessment: 100% continuous coursework assessment

**DESN2003 Research for Innovation (6 credits)**

This seminar course examines both the nature of research practices in design and the concept of design as a research practice. Students will engage in both quantitative and qualitative analysis methods to study how they have been used in different design endeavors. Students will consider the nature of evidence, the reliability of sources, data, and the presentation of research findings. Emphasis will be placed on challenging existing assumptions and research directions within the design field and on the construction of evidence-based arguments to support design propositions.

Assessment: 100% continuous coursework assessment

**DESN2004 Design+ Studio 1: Ideation (6 credits)**

Within this first design studio students apply the skills and concepts they have developed

to a set of problem-based scenarios. The studio focuses on the process of problem conceptualization and definition, research and comparative study, selection of appropriate problem-solving strategies; ideation and the iterative processes of generating and testing ideas through speculation, experimentation, and prototyping; and the development and presentation of specific creative solutions. The course will develop an understanding of design language and build design literacy. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment

**DESN3001 Design+ Studio 2 – Rationale (6 credits)**
This studio builds on the foundational design studies of the first studio and addresses issues of agency and rationale in design. Why do we design and for whom? Working in interdisciplinary groups, students will be challenged with a series of real-world design problems and scenarios that allow them to develop both critical and analytical skills to enhance their technical and ideological sensibilities. Emphasis is placed on sustainability in design proposals (and processes) and the need for environmental, societal and community relevance. The course looks to build transferable skills, including structuring and communicating ideas to stakeholders concisely and with clarity, effective interdisciplinary teamwork and leadership, and self-reflection within the design process. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment

Pre-requisite: DESN2004 Design+ Studio 1

**DESN3002 Design+ Studio 3 – Process (12 credits)**
Studio 3 focuses on a project as a framing concept for the delivery of ideas. It looks at the entire process from the generation of the idea to ex-post evaluation of the product, system or designed service. Through detailed case study analysis, field observation of real-world practices and problem-based design scenarios, students will explore how to optimize a project through the deployment of effective management tools and systems; team building and coordination of stakeholder inputs; creative planning, financing and resourcing, and working within policy and regulatory environments. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment

Pre-requisite: DESN3001 Design+ Studio 2

**DESN4001 Design+ Studio 4 – Expertise (12 credits)**
Studio 4 follows a project through successive stages of design to gain experience and detailed insight into their design thinking and collaborative decision-making processes within relevant economic, operational, social, and environmental contexts. The course will involve the gaining of first-hand experience in operational requirements, fabrication testing and manufacturing processes, financing and marketing, logistics and project delivery. Working in small interdisciplinary groups, students will document and analyze the processes they encounter and project those back to the class for detailed critical and comparative analysis and speculation. In parallel, students will commence planning work

on their own design project that will be undertaken in Studio 5, by developing initial ideas and design processes. The scope and nature of the individual project will be agreed by their supervisor but is expected to draw substantively on the learning achieved within the second major. Field trips form an integral part of the course.

Assessment: 100% continuous coursework assessment

Pre-requisite: DESN3002 Design+ Studio 3

**DESN4002 Law, Innovation, Technology and Entrepreneurship (LITE) - Tech Startup Law** **(6 credits)**

Technology entrepreneurs often seek new and innovative ways of introducing products and services, whether through new business models (e.g., fintech, online marketplaces, software-as-a-service) and/or new technologies (e.g., use of artificial intelligence (AI), distributed ledger technology (DLT)/ blockchain, Internet of things (IoT)). Even the profession and delivery of legal services is evolving with these changing business models and technologies. Inevitably, questions arise regarding whether these new innovations conform with existing law and regulations, many of which are still evolving and differ across borders.

This unique survey course introduces students to the entrepreneurial and legal journey of tech startups and social entrepreneurs, broadly covering the myriad of laws applicable to such entrepreneurs, including organization establishment, operations, funding, negotiating partnerships, protection of assets, and consumer protection, as well as to more cutting-edge areas of data privacy and ABCD technologies (AI, blockchain, cloud and data).

Accordingly, this interdisciplinary course welcomes law students who seek to better understand and serve tech startups and social entrepreneurs, as well as students across the university (regardless of their discipline) as would-be tech startup and social entrepreneurs to better understand the journey and pitfalls ahead. Since its creation, LITE Lab has attracted student enrollments from 6 of HKU's 10 faculties - 2022/23 will be the first year the course invites students from the Faculty of Architecture.

Assessment: 100% continuous coursework assessment

**DESN4003 Design+ Studio 5 – Capstone** **(12 credits)**

In Studio 5, the Design+ capstone experience, students will build on initial concepts and processes developed in Studio 4, and execute their own interdisciplinary, entrepreneurial design project through to implementation. Students will take on the role of disruptive innovators, startups, risk takers etc. but will need to take account of design and user requirements, and address all manufacturing, operational, logistic, financial, marketing and promotional requirements necessary to launch the idea as a commercially viable project. Students are expected to demonstrate many of the skills acquired during the program. The design project will be assessed by oral examination on the basis of the robustness and completeness of the design processes followed. Students are required to keep a reflective journal of the project and evaluate decision-making processes and outcomes.

Assessment: 100% continuous coursework assessment

Pre-requisite: DESN4001 Design+ Studio 4

**DESN4004 Interdisciplinary Processes and Applications (6 credits)**

Through explorative research and comparative case studies, students examine interdisciplinary design thinking processes and their tactical deployment within different design fields. They explore and develop practical tools to critically analyze collaborative design thinking strategies for their development and application within different social and economic contexts. Functional limitations and requirements of designed processes, artefacts and systems, will be investigated, together with principles and concepts that underpin sustainability in design, such as life-cycle costs and embodied energy.

Assessment: 100% continuous coursework assessment