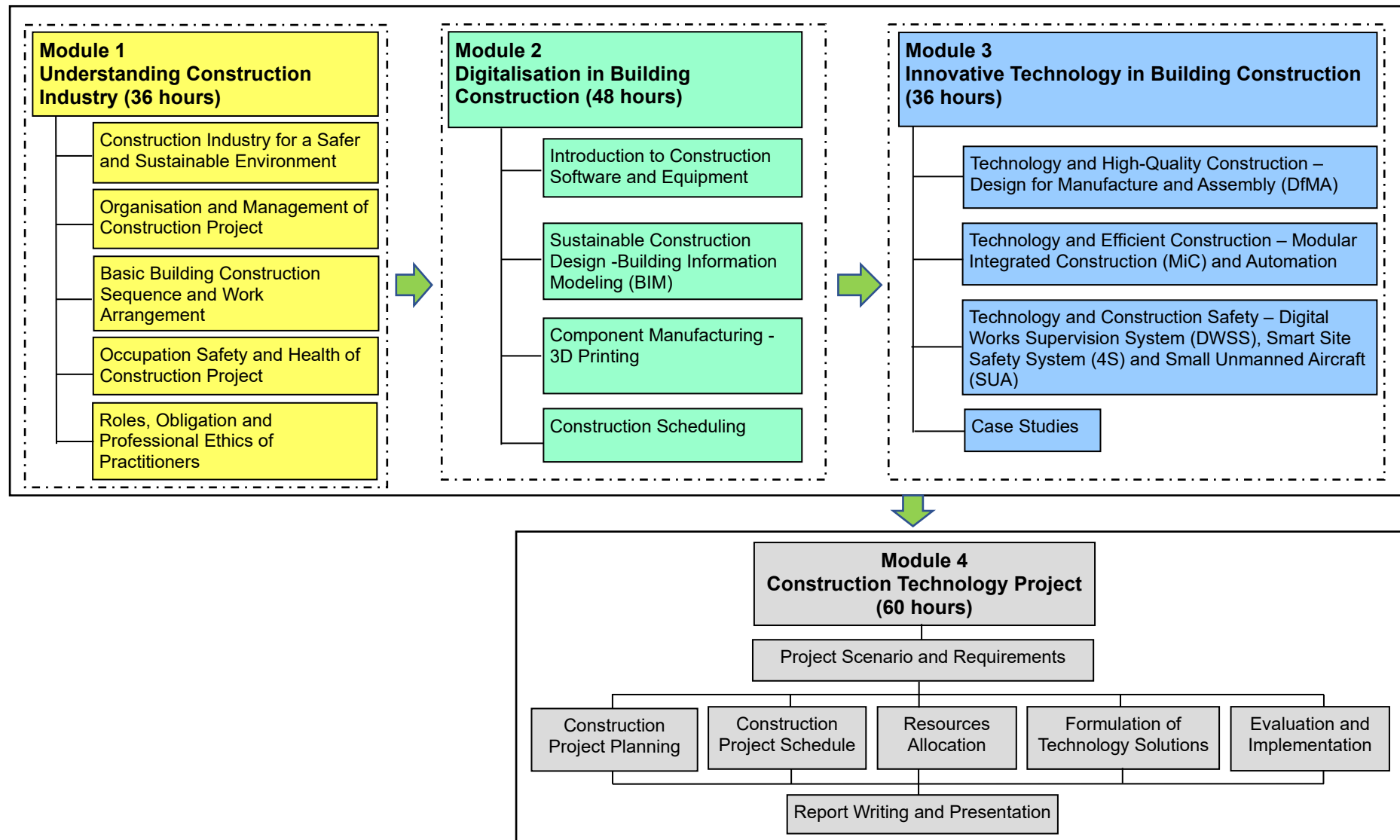


Applied Learning
2026-28 Cohort; 2028 HKDSE

Item	Description
1. Course Title	Digital Construction
2. Course Provider	Vocational Training Council
3. Area of Studies/ Course Cluster	Engineering and Production/ Civil, Electrical and Mechanical Engineering
4. Medium of Instruction	Chinese or English
5. Learning Outcomes	<p>Upon completion of the course, students should be able to:</p> <ul style="list-style-type: none">(i) recognise the latest development and achievements in construction technology in the related field;(ii) apply the basic principles and techniques of construction technology to formulate solutions;(iii) integrate knowledge and skills acquired in designing and implementing construction technology projects;(iv) demonstrate a basic understanding of work ethics, occupational safety as well as sustainable development trend of the construction industry;(v) demonstrate interpersonal and collaborative skills through the construction technology project;(vi) demonstrate proper values and attitudes towards the construction industry; and(vii) enhance self-understanding and explore directions on further studies and career pursuits.

6. Curriculum Map – Organisation and Structure



7. The Context

- The information on possible further study and career pathways is provided to enhance students' understanding of the wider context of the specific Applied Learning course.
- The recognition of Applied Learning courses for admission to further studies and career opportunities is at the discretion of relevant institutions. Students who have successfully completed Applied Learning courses have to meet other entry requirements as specified by the institutions.

Possible further study and career pathways

Further studies

- e.g. courses related to architectural design, architectural technology and interior design, building services engineering, building engineering, civil engineering, building automation engineering and environmental engineering, construction management, project management, building surveying, property and facilities management

Career development

- e.g. architectural technician, BIM technician, interior designer, assistant engineer (building engineering, civil engineering, building services engineer), facilities management officer, maintenance officer, project co-ordinator, BIM co-ordinator, property management officer, assistant surveyor and work supervisor.

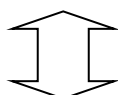
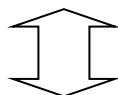
Relations with core subjects and other elective subjects

Enhancing and enriching, e.g.

- enhancing the breadth and depth of learning of **Design and Applied Technology** (e.g. building design and construction method); **Information and Communication Technology** (e.g. data management and communication); and **Physics** (e.g. construction method and energy efficiency in building) by applying the knowledge of building design, construction automation and innovative construction technology

Expanding horizons, e.g.

students taking other subjects, e.g. **Personal, Social and Humanities**, may broaden their knowledge in construction technology and management



Relations with other areas of studies/ courses of Applied Learning

e.g.

Creative Studies

- the knowledge of construction design and technology can reinforce the learning of design principles in the area of studies **Creative Studies**

Business, Management and Law

- the study of the legal requirements and contract in the construction industry can enhance the learning in the area of studies **Business, Management and Law**

Applied Science

- the study of the current construction technology can reinforce the learning of scientific principles and application in the area of studies **Applied Science**

Foundation knowledge developed in junior secondary education

The course is built upon the foundation knowledge students acquired in, e.g.

- **Technology Education** – application of information technology
- **Science Education** – concepts of structure, mechanics, energy efficiency
- **Mathematics Education** – data handling and statistics
- **Chinese Language Education** and **English Language Education** – verbal and written communication skills

8. Learning and Teaching

In this course, student-centred learning and teaching activities are designed to enable students to understand fundamental theories and concepts, develop their generic skills, and address their career aspirations in digital construction and related field.

Different modes of activities are employed to provide students with a systematic understanding about the context (e.g. lectures and seminars on application of construction technology) and eye-opening opportunities to experience the complexity of the context (e.g. visits to construction-related facilities as well as industry talks).

Students acquire an understanding of the requirements, fundamental knowledge and skills essential for further learning within the area through learning-by-practising opportunities in an authentic or near-authentic environment (e.g. hands-on experience in construction technology solution development and construction innovation solution development).

Students are given opportunities to integrate the knowledge and skills acquired and consolidate their learning and demonstrate entrepreneurship and innovation (e.g. In the projects, students apply the knowledge acquired and present their works in a systematic way. In the process, students apply practical skills at industry standard, apply problem-solving skills to tackle digital construction-related issues with multi-disciplinary knowledge, and prepare written reports and group presentation. During the project, students are also expected to demonstrate the proper values and attitudes required in the industry).

9. Curriculum Pillars of Applied Learning

Through related contexts, students have different learning opportunities, for example:

(i) **Career-related Competencies**

- understand the general environment of the construction industry, key parties and responsibilities in construction projects as well as demonstrate a basic understanding of work ethics of the construction industry;
- apply basic knowledge and skills (e.g. research, analytical and problem-solving skills) at different key stages of construction project cycle;
- determine and evaluate achievable goals and scope of application in scenarios related to the construction technology application;
- understand the key aptitudes and abilities required in the construction industry, articulate to different levels of qualifications, and develop a personal development pathway; and
- understand the characteristics and major technologies of the construction industry.

(ii) **Foundation Skills**

- employ mathematical skills (e.g. measurement and scaling) of building information modelling during construction design process;
- express ideas in construction projects using appropriate terminologies;
- demonstrate effective communication skills in verbal and written forms in formulating construction technology solutions through group discussions, projects, presentations and critique; and
- apply information technology skills in basic construction design and management.

(iii) **Thinking Skills**

- demonstrate problem-solving and decision-making skills by applying basic construction design and construction technology, considering stakeholders' requirements as well as providing appropriate solutions;
- apply creative thinking skills by the "think-out-of-the-box" methods to formulate diversified design solutions;
- apply analytical skills to identify required information for construction project from different sources and evaluate its relevancy or reliability; and
- evaluate the solutions of scenario based problems and make recommendations for further improvement.

(iv) **People Skills**

- demonstrate self-reflection skills upon receiving feedback from course tutors and classmates during various learning activities (e.g. class exercises, group discussion and presentation);
- demonstrate self-management skills in design project at different stages and presentation; and
- demonstrate interpersonal and collaborative skills through the construction technology project with brainstorming, group discussion and presentation.

(v) **Values and Attitudes**

- respect the opinions and critique of others, and learn from mistakes;
- identify various legal, ethical issues and social responsibility (e.g. construction safety and work ethics) as well as to understand the importance of honesty, integrity and respect for others; and
- show enthusiasm, motivation and willingness to learn through practical training in the construction industry.