**REGULATIONS FOR THE DEGREE OF**
**MASTER OF SCIENCE IN INNOVATION AND TECHNOLOGY (MSc(I&T))**

*(Applicable to students admitted in the academic year 2026-27 and thereafter)*

*(See also General Regulations and Regulations for Taught Postgraduate Curricula)*

The degree of MSc(I&T) is a postgraduate degree awarded for the satisfactory completion of a prescribed curriculum in the School of Innovation.

The MSc(I&T) is offered in part-time and full-time modes.

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**Admission requirements**

**MSIT 1** To be eligible for admission to the courses leading to the degree of Master of Science in Innovation and Technology, a candidate shall:

(a) comply with the General Regulations and the Regulations for Taught Postgraduate Curricula of the University;

(b) hold a Bachelor's degree of this University or a qualification of equivalent standard from this University or another comparable institution accepted for this purpose; and

(c) demonstrate technical competence, either by holding a Bachelor's degree in a STEM-related field or by submitting a portfolio that highlights relevant coursework, projects, research, or professional experience.

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**Period of study**

**MSIT 2** The curriculum shall normally extend over one academic year of full-time study or one and a half academic years of part-time study. Candidates shall be required to complete the curriculum within a maximum period of registration of two academic years of full-time study or three academic years of part-time study, unless otherwise permitted or required by the Board of Studies of the School of Innovation.

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**Award of degree**

**MSIT 3** To be eligible for the award of the degree of Master of Science in Innovation and Technology, a candidate shall:

(a) comply with the General Regulations and the Regulations for Taught Postgraduate Curricula;

(b) successfully complete the curriculum, as stipulated in the syllabuses prescribed, and complete all written and practical work which may be required; and

(c) satisfy the examiners in accordance with the regulations set out below.

**Completion of curriculum**

**MSIT 4** To complete the curriculum, a candidate shall, within the prescribed maximum period of registration stipulated in MSIT 2 above:

(a) satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula;

(b) follow courses of instruction and complete satisfactorily all prescribed work; and

(c) satisfy the examiners in the prescribed courses and in any prescribed form of examination in accordance with the regulations set out below.

**Assessments**

**MSIT 5**

(a) In any course where so prescribed in the syllabus, coursework or a project report may constitute part or whole of the examination for the course.

(b) The written examination for each course shall be held after the completion of the prescribed course of study for that course, and not later than January, May or August immediately following the completion of the course of study for that course.

**MSIT 6**

(a) Candidates shall be assessed for each of the courses for which they have registered, and assessment may be conducted in any combination of continuous assessment, written examinations, project work, or other assessable activities as prescribed in the syllabuses.

(b) A candidate who has failed a course may be permitted to make up for the failure by one or more of the following means, as prescribed in the syllabuses and approved by the Board of Studies:

(i) re-assessment or re-examination in the failed course;

(ii) re-submission of failed coursework, where applicable;

(iii) repeating the failed course by undergoing instruction and satisfying the assessment requirements; or

(iv) for elective courses, taking another course in lieu and satisfying the assessment requirements.

(c) For the avoidance of doubt, a candidate who fails either of the capstone courses shall be required to repeat and re-assess the failed course, and substitution by another course shall not be permitted.

**MSIT 7** Failure to undertake the examination of a course as scheduled shall normally result in automatic failure in that course. A candidate who, because of illness, is unable to be present at the written examination of any course may apply for permission to present himself/herself at a supplementary examination of the same course to be held before the beginning of the following academic year. Any such application shall be made on the form prescribed within seven calendar days of the examination concerned.

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**Discontinuation**

**MSIT 8** A candidate may be required to discontinue his/her studies if he/she

(a) during any academic year has failed in half or more than half the number of credits of all the courses to be examined in that academic year; or

(b) has failed at a repeated attempt in any course; or

(c) has exceeded the maximum period of registration.

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**Grading**

**MSIT 9** Individual courses shall be graded according to the letter grading system as determined by the Board of Examiners, except for the two capstone courses (as detailed below).

The standards and the grade points for assessment are as follows:

| Grade | Standard | Grade Point |
|---|---|---|
| A+ | **Excellent** | 4.3 |
| A | | 4.0 |
| A- | | 3.7 |
| B+ | **Good** | 3.3 |
| B | | 3.0 |
| B- | | 2.7 |
| C+ | **Satisfactory** | 2.3 |
| C | | 2.0 |
| C- | | 1.7 |
| D+ | **Pass** | 1.3 |
| D | | 1.0 |
| F | **Fail** | 0 |

The two capstone courses (INTC7091 and INTC7092) adopt a three-tier grading system of Distinction, Pass, or Fail. Grades for these courses shall not be included in the calculation of GPA.

**MSIT 10** On successful completion of the curriculum, candidates who have shown exceptional merit throughout the programme may be awarded a mark of distinction, and this mark shall be recorded in the candidates' degree diploma.

**SYLLABUSES FOR THE DEGREE OF**
**MASTER OF SCIENCE IN INNOVATION AND TECHNOLOGY (MSc(I&T))**

The Master of Science in Innovation and Technology (MSc(I&T)) is a taught postgraduate programme designed for STEM graduates and technically trained early-career professionals seeking to develop capabilities for innovation in technology-intensive environments. The programme prepares students to design, develop, and translate technology-based ideas into real-world applications within organizations, research settings, and public institutions across Hong Kong, the Greater Bay Area (GBA), and global contexts.

The curriculum reflects the School of Innovation's emphasis on human-centered, systems-aware, and socially responsible innovation. Students learn to integrate technical expertise with innovation methods, strategic reasoning, and ethical judgment, and to work effectively with emerging technologies, including artificial intelligence. Learning is supported through applied projects, case-based analysis, and engagement with industry and regional innovation contexts, enabling students to understand how innovation is conceived, tested, and implemented across organizational and geographic boundaries.

To qualify for the degree of Master of Science in Innovation and Technology, students must satisfactorily complete 60 credits of coursework in accordance with the regulations above and programme structure set out below.

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## A. CURRICULUM STRUCTURE

Candidates shall complete all compulsory courses listed below, as well as both capstone courses in the prescribed sequence (INTC7091 followed by INTC7092). Elective courses may normally be taken in any sequence to fulfil the 60-credit programme requirement, subject to course availability and any applicable prerequisites or approval requirements.

The list of courses, and their contents set out thereafter, will be changed from time to time.

| **Programme Structure** | | |
|---|---|---|
| **Compulsory Courses (24 credits)** | | |
| INTC7001 | AI-Enabled Customer Discovery and Prototyping | 6 credits |
| INTC7002 | Innovation and Technology Management | 6 credits |
| INTC7003 | Data-Driven Innovation for Global Challenges | 6 credits |
| INTC7004 | Technology, Policy and Social Change | 6 credits |
| **Elective Courses (18 credits)** | | |
| *Electives offered by the School of Innovation:* | | |
| INTC7051 | Product Innovation and Service Design | 6 credits |
| INTC7052 | Manufacturing Processes and Systems | 6 credits |
| INTC7053 | Advanced Forms and Materials | 6 credits |
| *Electives offered by other Faculties and Schools:* | | |
| IDAT7211 | Innovation and R & D Principle | 6 credits |
| IDAT7212 | Mechatronic Systems Engineering | 6 credits |

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|---|---|---|
| IDAT7213 | UAV Design, Navigation and Control | 6 credits |
| PHIL7014 | AI and Entrepreneurship | 6 credits |
| PHIL7016 | AI Policy Design Lab: Compliance and Governance Frameworks for Ethical Design | 6 credits |
| URBA6001 | Foundations in Spatial Data Analysis | 6 credits |
| URBA6006 | Science of Cities | 6 credits |
| **Capstone Courses (18 credits)** | | |
| INTC7091 | Innovation Capstone Project 1 | 6 credits |
| INTC7092 | Innovation Capstone Project 2 | 12 credits |

In addition to elective courses offered by the School of Innovation, students may take approved electives offered by other Faculties and Schools. All courses with the subject code IDAT, together with the electives listed above, are approved to count toward the MSc(I&T) elective requirement, subject to capacity, scheduling, and any requirements of the offering Faculty or School. Additional electives may be approved on a case-by-case basis by the MSc(I&T) Programme Director and the course coordinators concerned, provided that the courses are at an appropriate level and align with the student's academic plan and the MSc(I&T) programme learning outcomes.

## B. COURSE DESCRIPTIONS

***Compulsory Courses***

**INTC7001 AI-Enabled Customer Discovery and Prototyping (6 credits)**

This course focuses on the use of AI-enabled tools and data-driven methods to support customer discovery, needs identification, and rapid prototyping in early-stage innovation and product development. Students learn to combine qualitative user research, such as interviews and ethnographic observation, with AI-assisted analysis, simulation, and generative tools to uncover patterns, test assumptions, and refine value propositions. The course emphasizes iterative experimentation, learning from real user feedback, and responsible use of AI in human-centered design. Through hands-on projects, students develop practical skills in translating customer insights into testable prototypes and evidence-based innovation decisions.

Assessment: Continuous coursework assessment (100%)

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**INTC7002 Innovation and Technology Management (6 credits)**

This course examines how technological innovation is organised, governed and translated into value within firms, startups and innovation ecosystems. It introduces core concepts in innovation management, including technology strategy, product and platform development, organisational capabilities, and the coordination of research, design and commercialisation. Students will study how emerging technologies are assessed, selected and scaled, and how innovation processes are shaped by market, regulatory and institutional environments. Through case studies and applied projects drawn from corporate, entrepreneurial and public-sector contexts, the course explores how innovation is managed across different stages of the technology life cycle. The aim of this course is to equip students with a structured understanding of how technology-based innovation is planned, executed and sustained in complex organisational and regional ecosystems.

Assessment: Continuous coursework assessment (100%)

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**INTC7003 Data-Driven Innovation for Global Challenges (6 credits)**

This course explores how data analytics, modelling, and AI-enabled approaches can be applied to address complex global challenges including sustainability, public health, urban development, and social inequality. Students learn to frame large-scale societal problems as data-informed innovation opportunities, integrate heterogeneous data sources, and apply analytical techniques to generate actionable insights. Using real-world data and project-based work, the course emphasizes interdisciplinary collaboration, responsible data use, and the translation of analytical results into scalable solutions and policy-relevant strategies. The course prepares students to use data as a strategic resource for impact-oriented innovation in diverse global and cross-cultural contexts.

Assessment: Continuous coursework assessment (100%)

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**INTC7004 Technology, Policy and Social Change (6 credits)**

This course examines the dynamic interactions between technological innovation, public policy, and social change, and how these forces jointly shape economic development, institutional evolution, and societal outcomes. Students analyse emerging technologies such as artificial intelligence, quantum communication, and climate technologies through perspectives of governance, regulation, ethics, and public value creation, with attention to Hong Kong, the Greater Bay Area, and global contexts. Through projects provided by local NGOs and government, students learn to anticipate regulatory responses, assess social risks and benefits, and design innovation strategies that are both socially responsible and institutionally viable. The course emphasizes critical reasoning, stakeholder analysis, and evidence-based judgment for leading innovation in complex policy environments.

Assessment: Continuous coursework assessment (100%)

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***Elective Courses Offered by the School of Innovation***

**INTC7051 Product Innovation and Service Design (6 credits)**

This course builds on the MSc(I&T) programme's foundations in human-centered innovation and focuses on the integrated design and development of technology-enabled products and services. It is intended for students who wish to deepen their capability in product and service innovation beyond introductory methods, with an emphasis on synthesis, execution, and strategic alignment. Students examine advanced approaches to user and stakeholder research, service system design, value proposition refinement, and experience orchestration across product–service ecosystems. Through in-depth case studies and applied projects, the course explores how product and service design decisions are shaped by organizational strategy, operational constraints, platform architectures, and market dynamics. Students develop the ability to translate complex insights into coherent, implementable product and service concepts and to lead cross-functional collaboration among design, technology, and business teams.

Assessment: Continuous coursework assessment (100%)

**INTC7052 Manufacturing Processes and Systems (6 credits)**

This course examines manufacturing as an integrated system encompassing processes, technologies, supply networks, and organizational capabilities. Building on foundational knowledge of innovation and product development, the course focuses on how manufacturing systems are designed, configured, and evolved to support scalability, flexibility, quality, and sustainability. Students explore topics such as advanced manufacturing processes, production system architectures, platform-based manufacturing approaches, digitalization and automation, and the coordination of global supply and production networks. Through case studies and applied analysis drawn from diverse industrial contexts — including the Greater Bay Area — students learn how manufacturing decisions shape innovation outcomes, time-to-market, cost structures, and strategic competitiveness. The course equips students to engage with manufacturing not only as a technical function, but as a critical enabler of innovation strategy, scale-up, and system-level value creation.

Assessment: Continuous coursework assessment (100%)

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**INTC7053 Advanced Forms and Materials (6 credits)**

This course explores advanced materials and structural forms that underpin contemporary engineering, architecture, and technology-driven design. Students examine the physical, mechanical, and functional properties of emerging materials, as well as the principles governing structural form, performance, and optimization. The course emphasizes the relationship between material selection, structural behaviour, and design intent, highlighting how innovations in materials and fabrication enable new forms and applications. Through projects from material or device manufacturing firms and academic labs, students learn to evaluate materials and structural systems in terms of functionality, sustainability, and innovation potential across scales, from product design to complex built and technological systems.

Assessment: Continuous coursework assessment (100%)

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***Elective Courses Offered by other Faculties and Schools***

The courses listed below, together with all courses with the subject code IDAT, are approved to count toward the MSc(I&T) elective requirement. These courses are assessed through examination and/or coursework assessment, with assessment methods and weightings governed by the approved syllabuses and Boards of Examiners of the offering Faculties and Schools.

**IDAT7211 Innovation and R & D Principle (6 credits)**

This course will focus on the innovative design principles and basic technology, including history of technology inventions and our living world, design fundaments, design process, creativity in design, solving design problem, design brief and specifications, understanding of design practices and technological principles in a variety of board inter-related design contexts, concept of IoT (Internet of Things). The specific course objectives are: (1) encourage students to find connections between innovation, technology, design and modern world; (2) to develop creative, analytical and critical thinking abilities in product design; to be able to apply the modelling tools in communication.

**IDAT7212 Mechatronic Systems Engineering (6 credits)**

This course will focus on the integration of mechanical, electrical and software engineering for the growing demand for efficient high-tech solutions in an increasing automated world. It aims at training up the creative and elegant problem solving skills of the students who pursue new product launches, including fundamental methods for model-based design of mechatronic systems, multi-domain modelling, IoT (Internet of Things), simulation, robust control methods, performance analysis and evaluation of designs, diagnosis and maintenance of mechatronic systems. Students are required to develop creative behaviour with specific mechatronic products through the development of mini-projects.

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**IDAT7213 UAV Design, Navigation and Control (6 credits)**

This course aims to explore the key techniques of a small scale unmanned aerial vehicle (UAV), including sensor calibration, navigation systems, and advanced control techniques.

The specific course objectives are as follows:

- To have an overall understanding of UAVs: system configurations and applications.
- To study the modelling, motion planning and nonlinear control techniques for small-scale UAVs, such as nonlinear dynamic inversion and optimal control.
- To understand the common navigation techniques in modern small-scale UAVs, such as GPS / IMU navigation, visual-inertial navigation, and light detection and ranging (lidar) navigation.
- To conduct experiments on state-of-the-art navigation and control techniques for actual UAVs.

Prerequisites: Good programming skills with MATLAB, C / C++, hands-on experiences

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**PHIL7014 AI and Entrepreneurship (6 credits)**

This hands-on, project-based course provides graduate students with the real-world experience of leveraging AI technologies to ideate, build, and execute on an entrepreneurial venture. Through collaborative group projects, students will apply AI techniques to identify and validate innovative business opportunities. The course rapidly progresses from conceptualizing AI-driven ideas to formulating AI-powered business venture. Students will gain insight into launching startups, from assembling teams to acquiring financing. Additionally, students will develop an understanding of the legal frameworks around entrepreneurship and intellectual property to inform how to protect and commercialize AI innovations. Upon completion, students will possess the practical abilities to advance an AI concept from ideation to real-world impact.

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**PHIL7016 AI Policy Design Lab: Compliance and Governance Frameworks for Ethical Design (6 credits)**

This hands-on, experiential learning course equips students to critically examine emerging frameworks governing AI technologies and to explore how they can actively shape that governance from within institutions.

Through a comparative study of the regulatory approaches adopted by China, the EU, and the U.S., students will analyze how social values, geopolitical dynamics, and innovation strategies shape AI governance in each jurisdiction. Students will then apply these insights to the corporate domain, exploring the dangers of AI misuse - particularly for populations most at vulnerable to AI harms, including children, women, the elderly, and low-income communities. They will learn and practice how businesses can embed ethical AI practices into corporate strategy, product development, stakeholder reporting, compliance regimes, and broader ESG initiatives.

Upon completion, students will emerge with the skills to evaluate AI development and deployment through both regulatory and business ethics perspectives. They will be positioned to contribute meaningfully to ethical AI development-positioning them to lead in a rapidly evolving world.

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**URBA6001 Foundations in Spatial Data Analysis (6 credits)**

Spatial data has become indispensable for building a smart city, particularly in city planning, design and management. This involves new means of capturing spatial data by different types of sensors, advanced application of Artificial Intelligence (AI) and rapid development of spatial analytics in the area of Geographic Information System (GIS) and Building Information Modeling (BIM). The main objective of this course is to equip students from relevant disciplines (e.g. land use planning, surveying, architecture, landscape architecture, engineering, environmental science and social sciences) with foundational knowledge and techniques on spatial data analysis.

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**URBA6006 Science of Cities (6 credits)**

This course introduces fundamental theories and models for an emerging field of urban sciences, with emphasis on the urban economics, regional science, and spatial planning literature. The primary goal of this course is to strengthen students' theoretic and scientific bases for cities and regions as a prerequisite for the mastery of advanced data analytics or urban modelling techniques. A thorough understanding of the city and the system of cities is essential in developing expertise in urban science, and taking advantage of advanced data analytics and modeling tools would not be possible without the former.

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***Capstone Courses***

The capstone sequence is structured as an integrated full-year experience delivered through two sequential courses. INTC7091 (6 credits) is normally offered in Semester 1, and INTC7092 (12 credits) is normally offered in Semester 2.

**INTC7091 Innovation Capstone Project 1 (6 credits)**

Capstone 1 is a preparatory, exploration-focused course that helps students transition from coursework to independent, real-world innovation projects. The course emphasizes understanding industries, innovation ecosystems, and problem spaces rather than delivering final solutions. Students are responsible for identifying and framing a potential capstone project, either through self-sourced industry contacts, research interests, or projects drawn from a curated pool. Structured workshops support students in industry analysis, stakeholder mapping, project scoping, and professional development skills. Faculty provide academic guidance, while light-touch mentoring supports

emotional and operational readiness. The course is designed to balance structure with autonomy, helping students build confidence, clarify goals, and assess feasibility before committing to a full project.

Assessment: Continuous coursework assessment (100%) on a Pass/Fail basis, with the possibility of Distinction for students demonstrating exceptional initiative, reflection, and/or project readiness.

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**INTC7092 Innovation Capstone Project 2 (12 credits)**

Capstone 2 is an intensive, project-driven course in which students execute a substantial innovation project developed during Capstone 1. Projects may take the form of applied industry innovation, research-to-impact initiatives, or entrepreneurial exploration. Students work with a primary academic supervisor and, where applicable, an industry sponsor or external advisor. The course prioritizes independent work, iterative development, and professional standards of delivery, supported by periodic check-ins, milestone reviews, and targeted clinics. Students are expected to apply innovation methods, technical or analytical skills, and reflective practice to produce meaningful outcomes such as prototypes, research reports, implementation roadmaps, or venture concepts, as appropriate to the project.

Assessment: Continuous coursework assessment (100%) on a Pass/Fail basis, with the possibility of Distinction for students demonstrating exceptional project quality, rigor, learning integration, and/or professional execution.