The Hong Kong Polytechnic University

Subject Description Form

Please read the notes at the end of the table carefully before completing the form.

Subject Code	SFT5975
Subject Title	Fashion Technology & Product Development
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims to support students in gaining a comprehensive understanding of the latest technologies that are reshaping the fashion industry. Workshops and introductions to industry facilities and technologies, will prompt students to develop a proactive response in the context of global environmental, technological, and economic change. Industry practitioners will frequently share their expertise, to provide insights of the latest technological advances in the market. Students are encouraged to integrate new technologies into their practice and demonstrate their understanding of digital transformation towards the development of a product.
Intended Learning Outcomes *(Note 1)*	Upon completion of this subject, students will: a) Assess a broad range of contemporary technological processes and disruptive innovative techniques, as well as new approaches in relation to fashion design, product development, and manufacturing. b) Evaluate and establish a critical awareness of the latest technologies and technical innovations that can be integrated with their practice. c) Respond to market and technological demands and opportunities by identifying current issues within the fashion Industry. d) Recognize and develop unique technological processes that can be applied to the realization of product. e) Attain a sophisticated understanding of sustainable practices that are relevant to fashion technology and product development.

Subject Synopsis/ Indicative Syllabus *(Note 2)*	1. **Disruptive Technologies** Exploring a wide range of cutting-edge technologies such as AI, Web3, and robotics, and examine how they are revolutionizing various sectors of the fashion industry. Understand the challenges and ethics that are associated with their implementation. 2. **Technology & Innovation** A study of the latest technologies and technical innovations that are emerging in the fashion industry. Exploring the potential benefits and limitations of new technologies and innovations. Learning how to evaluate and analyse new technological advances, assessing their practical applications, and learning how and where to integrate them into design practice. 3. **Market Demands** Surveying the market, considering technological advancements and consumer needs. Learning how to identify opportunities and challenges that are arising from market and technological demand. Exploring ways to leverage market and technological demands to meet industry needs. 4. **Product Development & Production** Identifying how to leverage the latest technological innovations to establish new product development and manufacturing processes. Learning how to analyse design requirements and conceptualize innovative technological solutions that are aligned with desired product outcomes. Gaining an awareness of evaluation criterium such as feasibility, scalability, and potential impact in reference to product development and manufacturing. 5. **Sustainable Technology & Innovation** Explore innovative technological approaches to sustainable product development and manufacturing. Critically evaluate the environmental and social impact of fashion technologies. Learn how to integrate sustainability into practice, and how to consciously utilize technology and innovation towards the development and manufacture of a product.
Teaching/Learning Methodology *(Note 3)*	The teaching of this subject shall be conducted through lectures, seminars, case study discussions, visits to industry facilities, as well as tutorials. In addition, experts from industry shall be invited to deliver guest lectures that provide insights into the latest technological innovations that are already prevalent in the industry, and how new emergences are being adopted.

Assessment Methods in Alignment with Intended Learning Outcomes

(Note 4)

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	
1. Technical Research	20%	✓	✓	✓		✓	
2. Individual Project	80%	✓	✓	✓	✓	✓	
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Research will be assessed in the form of a visual and written report format. Students are required to investigate possible traditional and technological processes in that market that could be utilized for their own design realization. They will need to demonstrate how elements of their research findings could be applied to a garment range.

Students will produce an individual body of work. The project will assess the student's ability to critically analyse and evaluate contemporary technological innovations that are reshaping the fashion industry. Through practical work, students shall evidence learning by establishing their own innovative approaches and solutions towards the realisation of a product.

Student Study Effort Expected

Class contact:	
▪ Lecture	15Hrs.
▪ Workshop	3Hrs.
▪ Seminars & study visits	6Hrs
▪ Tutorial	15Hrs.
Other student study effort:	
▪ Project	49Hrs.
▪ Self-study	20Hrs.
Total student study effort	108Hrs.

Reading List and References

Books

Anguelov, N., (2021), The Sustainable Fashion Quest: Innovations in Business and Policy, Taylor & Francis.

Burdek, B, E., (2015), Design: History, Theory & Practice of Product Design, Birkhauser Architecture.

Dongen, P, V., (2019), A Designer's Material Aesthetics Reflections on Fashion and Technology, Artez Press.

	Genova, A. and Moriwaki, K., (2016), Fashion & Technology: A Guide to Materials and Application, Fairchild Publications. Gwilt, A., (2020), A Practical Guide to Sustainable Fashion, Bloomsbury Publishing. Karthik, T., Ganesan, P., Gopalakrishnan, D., (2019), Apparel Manufacturing Technology: First Edition, CRC Press. Kettley, S., (2016), Designing with Smart Textiles, Fairchild Books. Moriwaki, K., Genova, A., (2016), Fashion & Technology: A Guide to Materials & Applications, Fairchild Books. Muthu, S, S., (2018), Circular Economy in Textiles and Apparel, Amsterdam: Elsevier Publishing.

Note 1: Intended Learning Outcomes
Intended learning outcomes should state what students should be able to do or attain upon subject completion. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/Indicative Syllabus
The syllabus should adequately address the intended learning outcomes. At the same time, overcrowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology
This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method
This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method is intended to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.