香港樹仁大學
HONG KONG SHUE YAN UNIVERSITY

Digital Trends and Applications

數碼趨勢及應用

領域

Area D

Objectives 領域目標

- **Demonstrate how the rapid development of information and communication technology (ICT) in the 21st century has altered the landscape of a literate environment**
  展示 21 世紀快速的信息和通信技術發展如何改變識字環境的面貌
- **Describe the unprecedented changes brought by technology to modern life**
  說明科技對現代生活所帶來前所未有的變化
- **Promote good digital proficiency, technological awareness, digital culture, and the integration of technology into various aspects of life**
  推進良好的數碼能力、技術認知、數碼文化和科技結合於生活的各方面中

Course List 科目選擇

- **The courses are as below (courses offered in each semester will be adjusted depending on the availability):**
  科目如下（每個學期提供的科目會因應需要而作出調整）：

Code	Course Title	Medium	Enrolment Constraints
GED110	Predicting Human Behavior with Big Data	English	Not for students who passed *GEB107*
GED111	Data and Society	English	Not for students who passed *GEB111*
GED112	Network Fundamental and Cybersecurity	English	
GED113	Understanding Metaverse – Trends and Applications	English	
GED114	Diving into the Language Data Pool	English	
GED115	3D Beginners' Village: Introductory Bootcamp for 3D Design	English	
GED116	Understanding Esports Universe: From Game to Beyond Game	English	
GED213	Artificial Intelligence (AI) in Everyday Life	English	Not for students who passed *GEB210*
GED214	Smart Cities - Technologies and Applications	English	Not for students who passed *GEB211*
GED216	Introduction to Spatial Data and Geographic Information System (GIS)	English	
GED217	Exploring Data Analysis and Visualisation with R	English	
GED218	Digital Safety in Daily Life	English	
GED219	Legal Pitfalls in the Digital Era	English	

Code	Course Title	Medium	Enrolment Constraints
GED220	Becoming Computational Thinkers: Solving Problems in Arts and Humanities	English	
GED221	Introduction to the Art of Image Processing	English	

GENERAL EDUCATION PROGRAMME

Area D: Digital Trends and Applications

DESCRIPTION OF COURSES

GED 110 Predicting Human Behavior with Big Data

(3 Credits)

The increasing reliance on the Internet, connected apps, and smart devices to support our daily lives generates data – whether buying food at the supermarket, purchasing movie tickets, or shopping online. This data opens up a new era for our understanding of human behaviour.

This course will help students understand and unlock the power of these data. Students will gain an overview of using big data across various domains, including business, public policy, and self-understanding. Students will also learn to analyse arguments, observe trends, and make predictions. This course addresses not only the concept of data analysis but what each person can do to improve their ability to solve problems with data.

GED 111 Data and Society

(3 Credits)

The course introduces the nature and use of data through exploring its characteristics, strength, and limitation. The course also explores how data is managed and regulated by studying different local and international cases. Upon completion of the course, it is expected that students' data literacy will be improved through acquiring the skills to apply the local and international law relating to data in daily lives, and to critically analyse legal and ethical issues relating to application of data. Students will also be able to appreciate the role of data as an important asset that drives growth and change in the society.

GED 112 Network Fundamental and Cybersecurity

(3 Credits)

We increasingly need solutions to connect surrounding digital devices, store data and use that data efficiently to build smart applications. These applications highly rely on high-speed network communication. Besides, protecting internet-connected systems, such as hardware, software and data from threats becomes increasingly important. In this course, students will learn about the layer network model and important concepts such as IP addressing and network services. Moreover, the course introduces the concept of cybersecurity and how to protect from threats.

GED 113 Understanding Metaverse – Trends and Applications

(3 Credits)

This course is given to non-technical students with a holistic understanding of how the Metaverse and its applications can be adapted to socio-economic innovations and human daily life. Students will study the fundamental concepts, principles and theories used in constructing the Metaverse for today. By studying various innovative concepts and cutting- edge applications, students can understand, analyze and apply existing technological approaches to address new problems in the Metaverse. The design of technical workshops, assignments and a group project in this course allows students to obtain an elementary level of operating interactive 3D applications for building virtual environments.

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GED 114 Diving into the Language Data Pool

(3 Credits)

This course aims to introduce key concepts and tools in corpus linguistics, enabling students to manipulate collections of texts for different purposes. For instance, students learn to identify and compare language data that are AI-generated or human-authored. The course will provide students with hands-on practice in using corpus techniques in data collection, annotation, and analysis. Corpus-based approaches uncover additional information that is essential for effective communication, such as sex, age, socio-economic group, and region. Students will develop practical skills in digital data retrieval and processing in their respective fields, making them well-equipped for the digital world.

GED 115 3D Beginners' Village: Introductory Bootcamp for 3D Design

(3 Credits)

This course aims to provide introductory 3D modeling and design training for complete beginners of 3D design. Through plenty of hands-on exercises and step-by-step tutorials, students can gradually learn the basic operations and design techniques of 3D modeling software. The curriculum covers software interface introduction, basic shape modeling, stretching and modifying models, application of materials and textures, lighting and rendering adjustment, etc. The course has no prerequisites of any 3D foundations and teaches everything from scratch. By joining this bootcamp, students can complete multiple practical 3D model works under the careful guidance of teachers, so as to initially master the basic workflow and methods of 3D design and lay a solid foundation for further learning in the future. This course is suitable for beginners who are interested in 3D design but have never touched related software before.

GED 116 Understanding Esports Universe: From Game to Beyond Game

(3 Credits)

This course provides students with an essential but comprehensive understanding of the rapidly evolving esports industry. It explores historical development, current landscape, plus future technological and commercial trends of esports, while critically examining its societal impact through discussing the critical concerns related to esports. Students will gain insights into the business, management, IT, and sports aspects of esports, along with the ethical plus legal challenges facing the industry. Through a combination of theoretical knowledge and practical skills, the course guides students to explore the various aspects of esports ecosystems. It develops their critical thinking abilities in the dynamic digital field.

GED 213 Artificial Intelligence (AI) in Everyday Life

(3 Credits)

AI is going to transform societies and economies. This course will explore AI in everyday life using cases and applications in different industries such as AI in smart cities, AI in media and entertainment, AI in financial service, AI in intelligent transportation, AI in computer vision, AI in healthcare service, and AI in education. Students will learn basic AI concepts such as supervised and unsupervised learning, deep learning, and neural networks. This course will review various social issues surrounding AI such as ethics, security, and privacy. Students can also demonstrate AI in action using HKSYU Cloud Pak for Data.

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GED 214 Smart Cities - Technologies and Applications

(3 Credits)

The aims of the course are to introduce the concept of smart cities, the new technologies and their applications that help in the development of smart cities. Students will learn topics in smart city technologies from software to hardware, such as Internet of things (IoTs), big data, artificial intelligence (AI), blockchain, cloud computing and wireless communications, etc. Apart from learning the affordances of these technologies, students will learn how these technologies transform our personal daily lives and society to be SMARTER. Finally, this course encourages students to critically reflect on both the advantages and disadvantages of developing smart cities.

GED 216 Introduction to Spatial Data and Geographic Information System (GIS)

(3 Credits)

This course aims to introduce spatial data and Geographic Information System (GIS) for geographic data management, analysis and visualization. GIS provides useful descriptions of phenomena for which location is relevant and become increasing popular nowadays. The course will also explore and review the use of GIS in multiple areas including but not limited to environment, community, city planning, utilities etc. Finally, the students will also be introduced to online GIS tools that facilitate model building and prototyping.

GED 217 Exploring Data Analysis and Visualisation with R

(3 Credits)

This course aims to introduce the basics of data analysis and visualisation with R programming language to the students and provide them with hands-on experience in implementing the basic concepts using R. It also aims to develop critical thinking and statistical reasoning skills of the students through various lab activities. After taking this course, the students will be able to apply the basic statistical concepts and programming skills to explore datasets of any kind and conduct quantitative analysis and visualise data in their own field of study.

GED 218 Digital Safety in Daily Life

(3 Credits)

This course aims to help students obtain basic knowledge of digital safety, including using digital devices in healthy ways, data safety and cybersecurity. Students will learn to analyse their digital footprint, generate healthy ways to use digital devices, perform cybersecurity practices, and safeguard their data from corruption, compromise or loss.

GED 219 Legal Pitfalls in the Digital Era

(3 Credits)

This course introduces the fundamental legal knowledge encountered in lives in the digital era. Students will learn the basic legal requirements with an aim to identify and prevent falling on the legal pitfalls especially when business transactions are held online. These pitfalls lie in the use of smart-phone, social media, e-commerce platform, electronic communication platform, e-banking and other digital engagements. Through lectures and case studies, we examine a range of contemporary issues related to digital applications from a legal perspective. Students will develop their awareness and reasoning skills to critically evaluate and resolve basic legal issues to prevent traps from the legal pitfalls that relates to the digital era.

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GED 220 Becoming Computational Thinkers: Solving Problems in Arts and Humanities

(3 Credits)

This course aims to equip students with the mindset and skills needed to apply computational thinking principles in arts and humanities disciplines. As computing increasingly permeates various aspects of society, including fields beyond software development and engineering, such as business and the humanities, the ability to utilise computational thinking to address real-world challenges becomes crucial. This course intends to cultivate students' capacity to think computationally and harness digital tools effectively for problem-solving purposes. They will explore how computational approaches intersect with arts and humanities, integrating computational thinking with subject-specific knowledge.

GED 221 Introduction to the Art of Image Processing

(3 Credits)

This course introduces the core concepts and techniques of image vision, focusing on practical applications in various fields. Through hands-on tasks and projects, students will explore methods like image presentation, image enhancement, restoration, segmentation, and compression. Activities include improving image quality with noise reduction, detecting key features through edge detection, and evaluating compression efficiency. The course also highlights how image processing can enhance digital learning tools and create engaging visual aids in the education system. Real-world case studies in digital marketing, smart city surveillance, medical imaging, and satellite analysis provide valuable context, while collaborative problem-solving sessions encourage teamwork and critical thinking. By the end of the course, students will be equipped with practical skills and a deeper understanding of how image processing contributes to advancements in fields like smart cities, healthcare, remote sensing, multimedia, education, etc.

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