YEAR 10
ICT

SRI KDU International School SUBANG JAYA

PROGRAMME OF STUDY - TERM 2

THE EFFECTS OF USING IT

- **Microprocessor-Controlled Devices**
  - **Understand the Impact of Microprocessors:** Recognize the positive and negative effects of microprocessors and smart devices in home and transport systems.
  - **Lifestyle and Leisure Impacts:** Learn how microprocessor-controlled devices affect lifestyle, leisure time, and physical fitness.
  - **Data Security Concerns:** Understand the implications for security of data in smart devices and autonomous vehicles.
  - **Transport Safety and Autonomy:** Explore how microprocessors influence transport safety and the development of autonomous vehicles.
  - **Social Interaction Changes:** Discuss the degree to which microprocessors affect social interactions.
- **Health Issues Related to IT Equipment**
  - **Identify Health Problems:** Learn about health issues like repetitive strain injury (RSI), back problems, eye problems, and headaches associated with prolonged IT use.
  - **Causes and Prevention:** Understand the causes of these health issues and strategies for preventing them.

ICT APPLICATIONS

- **Communication Technologies:** Explore different communication media, including digital and mobile communication tools.
- **Computer Modelling and Controlled Systems:** Understand computer modelling in various sectors and the use of computer-controlled systems like robotics and autonomous vehicles.
- **Management Systems in Education and Retail:** Learn about school management systems, retail industry technologies (POS, EFTPOS), and online booking systems.
- **Banking and Medical Technologies:** Study banking applications (ATMs, EFT) and the role of computers in medicine, including patient record management and 3D printing in healthcare.
- **Expert and Recognition Systems:** Examine the use of expert systems in different fields and various recognition technologies (OMR, OCR, RFID, biometrics).
- **Satellite and Navigation Systems:** Understand the applications and implications of satellite systems, including GPS and GIS.

THE SYSTEM LIFE CYCLE

- **Analysis of Current Systems:** Understand methods like observation, interviews, and questionnaires to analyze existing systems, focusing on inputs, outputs, and processing needs.
- **System Specification:** Identify and justify suitable hardware and software for new systems.
- **Design Principles:** Learn to design file/data structures, input and output formats, and validation routines.
- **Development and Testing:** Understand the importance of testing before implementation, including test designs, strategies, and the use of various types of test data.
- **Implementation Methods:** Explore different methods of system implementation, such as direct changeover and parallel running.
- **Documentation Techniques:** Learn about creating both technical and user documentation, including system limitations, program listings, hardware and software requirements, and troubleshooting guides.
- **Evaluation of Solutions:** Evaluate the efficiency, ease of use, and appropriateness of a solution, and compare it with the original task requirements.

SAFETY AND SECURITY

- **Physical Safety in ICT:** Understand the risks of electrocution, fire, tripping hazards, and injuries from heavy equipment in ICT environments, along with prevention strategies.
- **Data Protection Principles:** Learn about the principles of data protection acts and the importance of legislation in safeguarding personal and sensitive data.
- **eSafety Practices:** Explore safe practices for using the internet, email, social media, and online gaming, including strategies to minimize potential dangers.
- **Security of Data:** Understand the threats to data security such as hacking, phishing, malware, and card fraud, and learn methods to prevent them.
- **Data Protection Methods:** Study various methods of protecting data, including biometrics, digital certificates, SSL, encryption, firewalls, two-factor authentication, and the use of user IDs and passwords.