TECHNOLOGIES: DIGITAL

ELECTIVE SUBJECT: Across Four Semesters

WHY STUDY DIGITAL DESIGN?

Digital Technologies enrich and impact on the lives of people and societies globally. Digital Technologies, in their development and use, are influenced by and can play an important role in transforming, restoring and sustaining – our societies and our natural, managed, and digital environments. The Technologies learning area draws together the distinct but related subjects of Design Technologies and Digital Technologies. The Australian Curriculum: Digital Technologies will ensure that all students benefit from learning about and working with traditional, contemporary and emerging technologies that shape the world in which we live.

COURSE AIMS:
Digital Technologies aims to develop the knowledge, understanding and skills to ensure that, individual and collaboratively, students:

- design and are creative, innovative and enterprising when using digital technologies, and understand how technologies have developed over time
- frame problems and create solutions using the computational concepts of abstraction; data collection, representation and interpretation; specification, algorithms and implementation; digital systems; and interactions and impact
- use digital systems to efficiently and effectively automate the transformation of data into information and to creatively communicate ideas in a range of formal and informal settings
- apply protocols and legal practices that support safe, ethical and respectful communications and collaboration with known and unknown audiences when developing social and intellectual capital
- monitor, analyse, predict and shape the interactions within and between information systems and the impact on individuals, societies, economies and environments

COURSE ORGANISATION:
The study of Technologies in Computers can be studied across 4 semesters. The level of work and understanding increases as students move through the Digital Computer units. Students build on previous knowledge to complete more complex programming and production scenarios.
**Semester 1 – TC622 – Computer Coding – Introductory Unit**

Through the use of guided instruction, problem solving and online tutorials, students will design and produce computer programs and simple games, learning the basics of computer coding with a real world focus. They will begin to program online resources (author websites) and develop basic games using Visual Studio. Students will develop problem solving skills, logic sequencing and syntax principles to achieve the desired outcome. A variety of tasks will be given over the semester following the software design lifecycle.

**Assessment**

Assessment will be completed in class. Students will complete one major challenge per unit involving a detailed design write up as well as digital computer theory involved in the product being designed. Students will follow industry standards.

**Semester 1 – TC633 – Web & Database Design (must have completed TC622)**

This course is built on the foundations of TC622. Through the use of guided instruction, problem solving and online tutorials, students will design and produce websites using Adobe Dreamweaver, learning the basics of online design and publishing. They will develop a detailed design, the application itself and reflect on future versions of their programs. Students will also discover how databases are structured and store information and plan to develop their own databases in Microsoft Access. They will begin to program computer applications and become online digital authors. Students will learn problem solving skills, logical sequencing and syntax principals to achieve the desired outcome. A variety of tasks will be given over the semester utilising the Software Development Life Cycle.

**Assessment**

Assessment will be completed in class. Students will complete one major challenge per unit involving a detailed design write up as well as digital computer theory involved in the product being designed. Students will follow industry standards.

**Semester 1 – TC722 App Development (must have completed TC633)**

Through the use of guided instruction, problem solving and online instruction, students will design and produce mobile Apps. The emphasis will be on understanding mobile apps and become digital authors. Following the Software Development Lifecycle, students will design and develop user friendly mobile applications for mobile devices and tablets. Students will learn problem solving skills, to achieve the desired outcome. A variety of tasks will be given over the semester.

**Assessment**

Assessment will be completed in class. Students will complete a variety of tasks with a focus on one major challenge per unit following the software development lifecycle. Students will also test their projects and that of their peers to determine the best possible projects that they can create.

**Semester 2 – TC622 Computer Coding – Introductory Unit**

Through the use of guided instruction, problem solving and online tutorials, students will design and produce computer programs and simple games, learning the basics of computer coding with a real world focus. They will begin to program online resources (author websites) and develop basic games using Visual Studio. Students will develop problem solving skills, logic sequencing and syntax principles to achieve the desired outcome. A variety of tasks will be given over the semester following the software design lifecycle.

**Assessment**

Assessment will be completed in class. Students will complete one major challenge per unit involving a detailed design write up as well as digital computer theory involved in the product being designed. Students will follow industry standards.
Semester 2 – TC633 – Web & Database Design (must have completed TC622)

This course is built on the foundations of TC622. Through the use of guided instruction, problem solving and online tutorials, students will design and produce websites using Adobe Dreamweaver, learning the basics of online design and publishing. They will develop a detailed design, the application itself and reflect on future versions of their programs. Students will also discover how databases are structured and store information and plan to develop their own databases in Microsoft Access.

They will begin to program computer applications and become online digital authors. Students will learn problem solving skills, logical sequencing and syntax principals to achieve the desired outcome. A variety of tasks will be given over the semester utilising the Software Development Life Cycle.

Assessment

Assessment will be completed in class. Students will complete a one major challenge per unit involving a detailed design write up as well as digital computer theory involved in the product being designed. Students will follow industry standards.

Semester 2 – TC722 App Development (must have completed TC633)

Through the use of guided instruction, problem solving and online instruction, students will design and produce mobile Apps. The emphasis will be on efficient and effective program design to achieve a creative outcome. Following the Software Development Lifecycle, students will design and develop user friendly applications. They will also review their programs and reflect on future versions of their apps.

Students will learn problem solving skills, syntax principals and logical sequencing to achieve the desired outcome. A variety of tasks will be given over the semester to give the students exposure to different programming elements.

Assessment

Assessment will be completed in class. Students will complete a variety of tasks with a focus on one major challenge per unit following the software development lifecycle. Students will also test their projects and that of their peers to determine the best possible projects that they can create.

Semester 2 – TC733 System Development (must have completed TC722)

Through the use of guided instruction, problem solving and online instruction, students will design and produce a Network for a fictional small business. The emphasis will be on business outcomes and effective technical computer ability. Students will design and develop their solution and learn ways on how to sell their solution to a target audience.

Students will learn problem solving skills and enhance research abilities to achieve the desired outcome. Students will continue learning about app development and enhance their skills in User Experience using the Software Development Life Cycle. The platforms will be for mobile and tablet.

Assessment

Assessment will be completed in class. Students will complete a variety of tasks with a focus on one major challenge per unit following the software development lifecycle. Students will also test their projects and that of their peers to determine the best possible projects that they can create.