MAZENOD COLLEGE

DIGITAL TECHNOLOGIES LEARNING PATHWAY

VCE VET ICT

- Semester Exam (Summative Assessment)
- Programming Intermediate Skills and Concepts (Summative Assessment)
- Completing specific coding challenges (Formative Assessment)
- Programming Foundation Skills and Concepts (Summative Assessment)
- Completing specific coding challenges (Formative Assessment)
- Project Management (Summative Assessment)
- Completing coding constructs (Formative Assessment)

Students learn basic programming skills and concepts using Object Orientated Programming, focusing on problem-solving, program development, and fundamental constructs like sequence, selection, and iteration.

VCE Software Development

- Semester Exam (Summative Assessment)
- Collaboratively Develop a Solution (Summative Assessment)
- Progressive solution iteration (Formative Assessment)
- System Design (Summative Assessment)
- Collaborative skills building (Formative Assessment)
- Project Management using the PSM (Summative Assessment)

Students enhance their programming skills with an Object Orientated Programming Language by creating and testing complex applications.

Software Development - Foundation | **Year 10** | **Software Development - Extension**

- Constructing Robots, Programming and Iterating (Summative Assessment)
- Design and develop robots to complete set tasks (Formative Assessment)
- *EV3 Obstacle avoidance robots* (Summative Assessment)
- Overview Of Different Robots (Formative Assessment)
- *Solar Cars* (Summative Assessment)
- *Knowledge construction of renewable energies* (Formative Assessment)

Students learn about wireless networks, apply Science and Mathematics concepts to design, build, code, and test projects using LEGO EV3 Mindstorm kit

- Game Development & Testing (Summative Assessment)
- Programming Foundation (Summative Assessment)
- Skills development in programming constructs (Formative Assessment)
- *Application Design and Analysis* (Summative Assessment)
- History of Games (Summative Assessment)

- Analyse historically successful games

Game Development with MakeCode by Microsoft offers students a hands-on coding experience in a fun and engaging context

9 Game Development

- Coding an Emerging Technology (Summative Assessment)
- Simulating Drones & 3D contruction (Formative Assessment)
- *Storyboard and wire frame* (Formative Assessment)
- Data Information and Infographics (Summative Assessment)
- MS Office folio activities (Formative Assessment)

Students use Microsoft Office for business solutions in the first term and learn to code autonomous missions with Tello drones in the second term.

9 STEM Robotics | **Year 9** | **9 Digital Technologies**

Robotics & Programming

- Portfolio Tasks (Summative Assessment)
- Programming fundamentals (Formative Assessment)
- Major Stem Project (Summative Assessment)
- Co-spacesTasks (Formative Assessment)
- Integrative Technologies

The Enhancement STEM program in Year 8 offers students the chance to collaborate, develop interactive skills, and work with various technologies. (by invitation only)

STEM ENHANCEMENT

- Coding an emerging technology
- Drone solutions
- Skills development tasks

Year 8

- Coding and building (Summative Assessment)
- Skills development tasks (Formative Assessment)

- Networking Essentials
- Understand how networks function
- Understand how Networks affect computing systems (Formative Assessment)
- Written worksheets (Summative Assessment)

Students learn about networked systems, data transmission, and programming skills.

- *Create a range of projects using the Microbit* (Summative Assessment)
- Micro Learning Tasks (Formative Assessment)

Microbits

Microbits as a development model

- Design and develop a website (Summative Assessment)
- HTML Skills Development (Formative Assessment)
- Web Design and Development Creating Digital Solutions

Year 7