

Year 10 Electives Handbook 2020



**MAZENOD
COLLEGE**

Introduction	3
Electives 2020	4
The Arts	6
Digital Technologies	8
Humanities & Social Sciences	9
Design & Technology	10
Industry & Enterprise Program	12
Health & Physical Education	13

Introduction

In Year 10, all students study English, Maths, Science, Humanities and Social Sciences, Religious Education and Health & Physical Education as part of their curriculum. In conjunction with these compulsory subjects, students are able to choose elective subjects that provide opportunities for them to develop their talents in a wide variety of areas.

When choosing electives for Year 10, please bear in mind that some of these are important because of their academic content and prerequisite knowledge and skills for Year 11.

When selecting electives it is also important to take into account student's ability, skills and interests.

ELECTIVE SELECTION INFORMATION

The selection process for elective subjects is completed online.

Parents will receive an email providing the details required for making their selection.

The following pages outline the elective subjects available along with a brief description to assist with understanding what each course involves.

Students will need to select a total of 4 units.

You can use the following page to ensure you meet these requirements.



Electives 2020

Note: Some units are whole-year courses and count as two unit to your total selection of 6 units.

Design & Technology Units

No. of Units	Name	No. of Units	Name
1	Design (1 unit course)	1	Metalwork (1 unit course)
2	Design (2 unit course)	2	Metalwork (2 unit course)
1	Electronic Engineering (1 unit course)	1	Woodwork (1 unit course)
2	Electronic Engineering (2 unit course)	2	Woodwork (2 unit course)

Digital Technologies Units

No. of Units	Name	No. of Units	Name
1	UI and UX Design or Web Design II	1	Machine Learning and Artificial Intelligence
1	Programming: Computer Science	1	Networking Fundamentals

Visual Arts Units

No. of Units	Name	No. of Units	Name
1	Art (1 unit course)	1	Media Studies (1 unit course)
2	Art (2 unit course)		

Performing Arts Units

No. of Units	Name	No. of Units	Name
1	Drama (1 unit course)	1	Music (1 unit course)
2	Drama (2 unit course)	2	Music (2 unit course)

Health & Physical Education Units

No. of Units	Name	No. of Units	Name
1	Outdoor Education	2	Sport Science (2 unit course)
1	Specialised Physical Education		

Industry & Enterprise Units

No. of Units	Name	No. of Units	Name
2	Industry & Enterprise Program	2	Certificate I Construction (I&E Program)

Commerce Units

No. of Units	Name	No. of Units	Name
1	Commerce Unit 1: Business Management and Enterprise	1	Commerce Unit 2: Personal Finance for Young Adults

Below are some samples of elective combinations you might choose.

Design & Technology
Digital Technologies
Visual Arts
Performing Arts
Health & Physical Ed.
Industry & Enterprise
Commerce

1 Four single unit electives	Semester 1	Semester 2
	Media (1 unit course) Metalwork (1 unit course)	Music (1 unit course) Programming: Computer Science

2 One 2-unit elective and two single unit electives	Semester 1	Semester 2
	Electronic Engineering (1 unit course)	Drama (2 unit course) Machine Learning and Artificial Intelligence

3 Two 2-unit electives	Semester 1	Semester 2
		Woodwork (2 unit course) Sport Science (2 unit course)

The Arts



Art (1 or 2 unit course)

Art

Year 10 Art will build upon ideas and skills learned in Years 8 and 9. Students choosing either course will require some degree of drawing competency to cope with the level expected.

In both courses, Art appreciation is covered in preparation for the Year 11 Art courses, however, the emphasis is on the development of practical skills, encouraging creative thinking and the production of original works of art.

Students will complete projects in the areas of sculpture, printmaking, graphics and painting, whilst developing practical skills in using a variety of advanced media, including digital 'image manipulation' software.

Media (1 unit course)

Media Studies

In Year 10 Media Studies, students explore ways media works are constructed to challenge values of audiences in different contexts.

Students will need to consider the way changes in media technology and consumption impact a modern-day audience. Media students will make their own productions and respond to professional media work within selected media types and genres.

Year 10 Media Studies is only a minor option but will continue to refine student's media production skills and processes, problem solving, and working as part of a team. Production teams will be expected to follow group timelines, and learn skills and processes to use media equipment safely and responsibly.

Drama (1 or 2 unit course)

Drama

This course builds on skills introduced in previous years but is open to committed and enthusiastic new students. It will provide a firm background for further study in the areas of production, performance and design as well as adequately preparing you for Drama in Year 11.

There will be an introduction to analysing a play for performance and students will also extend skills in improvisation, scripted drama and technical theatre. Students will have a number of public performance opportunities throughout the year including: The Lunchtime Plays, the Catholic Schools Performing Arts Festival and Ensemble Evenings.

While the emphasis is on practical workshops and performance work, theoretical work begins to play a fundamental role in providing students with a deeper knowledge and understanding of their drama works and processes. A practical exam is included in the first semester, and students sit a written exam in the second semester.

Music (1 or 2 unit course)

Music

This course has its focus on musicianship, composition, performance, digital music technology and production skills such as recording, promotion and stage management.

Project assessments include composing music to media, remixing, recording individual and group performances, and developing music industry vocational skills. The study of these areas will culminate in a professional CD recording of student devised performance work.

Students are involved in all elements of the CD project - CD cover design, music composition, CD recording performance, and input into the studio mixing and track mastering.

Students will use software such as Mixcraft, Logic Pro and Ableton Live. This course is designed to give students an insight into the practical and vocational elements of the music industry.

Due to the performance aspect of this course, it is essential that students who take this option also learn a musical instrument, either privately or through the College.

Students are also encouraged to play an active role in the department at performances throughout the year in the various college ensembles and bands, to enable them to be eligible for the next Visual and Performing Arts Tour.



Digital Technologies

Digital Technologies (Unit 1) UI and UX Design or Web Design II

This course offers a design focused approach to web, user interface and user experience design. It will introduce students to the art of making beautiful app interfaces and websites. This practical course takes students through the project management process using a variety of resources including Adobe Illustrator, InDesign, Dreamweaver, HTML and CSS. Students will develop an understanding of the fundamentals of design to create diagrams, wireframing, mockups and prototypes of app and web interfaces.

Digital Technologies (Unit 3) Machine Learning and Artificial Intelligence

Machine Learning and Artificial Intelligence is an exciting area of technology and as we see more self driving cars, robots and similar technologies, we need to understand how it works and how we can make it work for us. This unit will explore what Machine Learning and Artificial Intelligence are, what it is used for and we will work to develop our own intelligence to help solve every day or complex problems.

Digital Technologies (Unit 2) Programming: Computer Science

This course explores computer science by covering topics such as programming, physical computing, HTML/CSS, and data.

Students engage with computer science as a medium for creativity, communication, problem solving, and fun. The course inspires students as they build their own websites, apps and games developing essential computational thinking skills and advanced computing knowledge.

Digital Technologies (Unit 4) Networking Fundamentals

Modern life will not be possible without computer networks so an understanding of how they work is beneficial. We will undertake learning in how to setup and maintain computer networks and use technology available to give students a real-world experience running a computer lab. We hope to link up with industry to give students some recognition of their knowledge and skills.



Humanities & Social Sciences

Commerce (Unit 1)

Business Management & Enterprise

The course aims to provide a detailed study of starting, owning and operating a small business. Students are challenged to become entrepreneurs and to use technology to create innovative business solutions. Topics include: Ethics, Investment, Commercial Law, Marketing, Product/Service Research and Development, Introduction to Accounting, Financial Modelling, Management Skills and Decision Making. Students prepare a comprehensive business plan including marketing and financial plans. They should become highly proficient in Excel. Competitions include CPA Plan Your Own Business and ASX Share Market Game. This unit will assist students who intend to pursue a career in Finance, Economics or achieve a trade and/or operate their own business.

Commerce (Unit 2)

Personal Finance for Young Adults

This Unit is an in-depth study of personal finance for young adults. Activities include: Buying a Car assignment, Insurance, Budgeting, Banking, operating a Market stall, Share Markets, Taxation, Income sources, Saving, Investing and Credit. Books investigated include: 'The Four Pillars of Investing: Lessons for Building a Winning Portfolio'. 'Generation Earn: The Young Professionals Guide to Spending, Investing, and Giving Back'. Students will experience being an entrepreneur working in a small team, play the Visa Financial Football World Class Game and the ASX Schools Share Market Game.



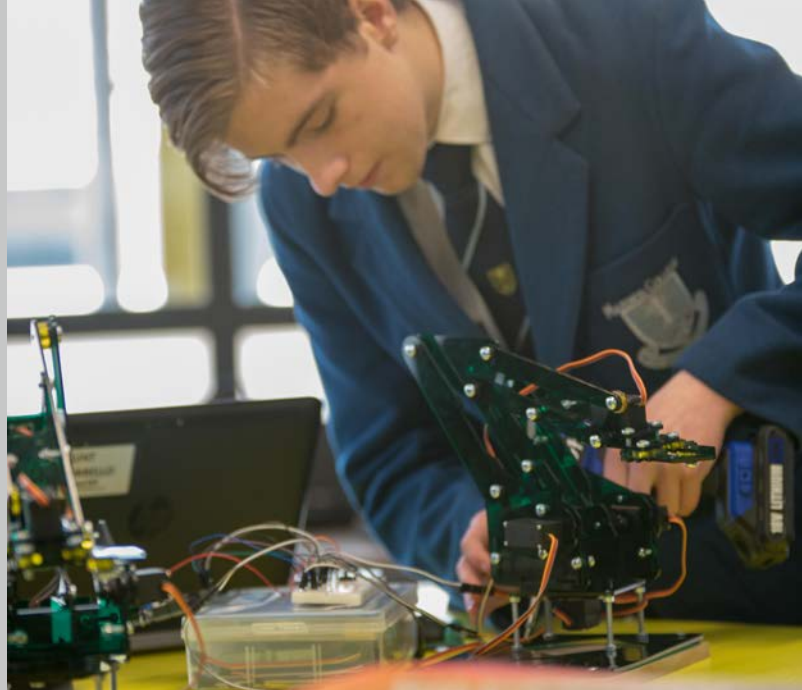
Design & Technology

Design (1 or 2 unit course)

Design

This course is designed to further expand the knowledge and skills learned in Years 8 and 9. Students revisit Computer Aided Design through a number of different software applications such as Autodesk Inventor, ArchiCAD, and 2D Design to design their own products and design solutions. Students will then test their designs through manufacture by making use of 3D printers, 3-D Modelling and VR software, and Laser Cutters. Emphasis is placed on the technical correctness of drawings together with the overall visual impact as a graphic communication of a solution to a drawing problem. ArchiCAD work will be based around a residential design with specific requirements and Inventor work will be creating an object for a client with a specific need.

Emphasis is placed on the technical correctness of drawings together with the overall visual impact as a graphic communication of a solution to a drawing problem.



Engineering Unit (1 or 2 unit course)

Electronic Engineering

The content and assessment of this course is divided between theory and practical work and will build on skills learned in the Year 9 course, however no prerequisites are required. Theory in the course includes electrical safety, basic electronic principles, understanding and recognition of components, calculations in resistance, capacitance and simple circuit laws. Practical work involves the construction of integrated circuitry on manufactured printed circuit boards. Students will also program simple electronic and robotic devices to perform specific functions.

Students will investigate needs, opportunities and problems that are defined in a design brief. They devise a solution that considers factors such as function, environment, materials, components and parts. As part of this process students will be introduced to elements of design and the use of Computer Aided Drafting (CAD) programs.

Practical work involves the construction of integrated circuitry on manufactured printed circuit boards.



Metalwork (1 or 2 unit course)

Metalwork

This course is designed to encourage students to expand their knowledge of metalworking practices and to extend them to develop and construct projects. The course also expands their knowledge of machine tools and specialised metalworking equipment as well as developing an understanding of plans and working drawings.

Students will be asked to solve a design problem in which they will need to come up with their own solution. In doing so the students will learn the relevant design processes needed as well as how to communicate their ideas through the use of Free Hand Sketching and Computer Aided Drafting. Throughout the course the students are introduced to a range of machines and tools and safe working practices are strongly promoted. The course will provide the solid foundation vital for those students who are looking to take on Certificate II in Engineering Pathways (metals) or General Materials Design & Technology (metals) in Years 11 and 12. Safety will underpin all teaching and learning experiences.



Woodwork Unit (1 or 2 unit course)

Woodwork

This course is designed to encourage students to expand their knowledge of woodworking practices and to extend them to develop and construct projects. The course also extends student's knowledge of various machines and specialised woodworking equipment as well as developing an understanding of plans and working drawings.

A focus of this subject will be product design. Students will be asked to solve a design problem in which they will need to come up with their own solution. In doing so the students will learn the relevant design processes needed as well as how to communicate their ideas through the use of Free Hand Sketching and Computer Aided Drafting.

Throughout the course the students are introduced to a range of hand tools and safe working practices are strongly promoted.

Students should be aware that this course forms part of the foundation for the Materials Design and Technology (General) Woodwork course

and also the Certificate II in Furnishings (pathways) course in Year 11.

It is strongly recommended that any student who wishes to study the above subjects in Year 11 should select a Woodwork unit in Year 10.



Industry & Enterprise Program

Industry & Enterprise

The Industry and Enterprise Program is a VET program designed to assist students with aspirations for a career in the trades and provide a transition through school into further education and training.

Entry to the program is by invitation and invitation letters have already been sent out. If you would like your son to be considered for this program and you haven't received an invitation, please contact Mr Buselich.

This program involves a modified curriculum in English, Science and Humanities & Social Sciences to integrate the skills and learning necessary for the students to take on the next phase of their learning. The I&E program prepares students for both a General pathway in Senior School as well as for the workplace.

Students choosing to be part of this program need to select "Industry & Enterprise Program" as their first option and "I&E - Certificate I Construction" as their second option.

As part of the Industry and Enterprise Program, students will be doing Woodwork, Metalwork and Design, along with other construction activities.



Health & Physical Education

Sport Science

Sports Science provides students with an opportunity to develop their practical skills and strategies, and to explore these in contexts similar to those studied in Years 11 and 12 Physical Education Studies.

The practical component links the human body systems to the sporting movements required in sports such as badminton, floorball, softball and other sports not usually covered in physical education classes. Practical assessment is based on skill development, execution and technique in these sports.

Students examine the functional anatomy of the human body. Structure and function of the skeletal and muscular systems are studied to explain how the human body creates movement. They also investigate recent developments in Biomechanics, Sports Psychology and Motor Learning & Coaching, and apply these in a practical context.

Outdoor Education

Year 10 Outdoor Education aims to educate students about environmental awareness and risk management. This course will allow students to explore topics such as navigation, orienteering, bush survival, first aid, minimal impact, hiking, camping, fishing and mountain biking.

Outdoor Education is about learning life skills which are facilitated in the outdoors and the learning objectives of this course include: developing teamwork skills, decision making and problem solving skills, improving communication, instilling leadership qualities, and fostering initiative and resourcefulness. The course culminates with a 2-3 day expedition where the skills and knowledge learned in the course are put into practice.

Please note there is a limited number of places offered in Outdoor Education for logistical and safety reasons. Selection criteria will be based on suitability to the subject and recommendations from classroom teachers and the Head of the Health & Physical Education Department.

Specialised Physical Education

This practical course is offered to students who enjoy HPE and want to further develop their skills and strategies. A variety of sports that are not covered in physical education classes are selected, such as flag gridiron, lacrosse and badminton. Students are given the opportunity to improve their skills and understanding of the methods to improve performance. Students ability to transfer tactical knowledge and strategies from one context to the next is a focus. Practical performance in the selected sport forms the basis for student assessment in this course.





**MAZENOD
COLLEGE**