

IONA COLLEGE



STUDIES GUIDE

YEAR 9

2024

This Studies Guide is designed to:

- give you an overview of the subjects available to students in Year 9
- familiarise you with the details of core subjects that all students must study;
- be of assistance to parents and their sons in choosing elective subjects.

Necessarily, this overview of subjects offered here at Iona College is brief. Should you require more specific details, please contact the Head of Faculty or subject teacher, who will gladly assist.

Core subjects are subjects that all students must study. In 2024, these subjects are:

Religious Education

Mathematics

English

HASS

Science

Sport

In addition, students choose three elective subjects for Year 9 from the following subject list:

Aerospace

Commerce

Marine Studies

Music

Design

Drama

Digital Technologies

Industrial Technology

Art and Film

Japanese

Physical Education

Science, Technology, Engineering and Maths (STEM)

Elective choices are an opportunity for you to explore and discover your particular talents and interests. Developing and discovering these talents and interests involves personal development and gradually becoming aware of what you might like to do in the future. This whole process occurs in both the core and elective subjects. Elective subjects require that you and your parents make some decisions now. You must consider what you might like to do and investigate these subjects yourself. Choosing elective subjects is a personal choice – based on your talents and interests. You are not required to make career choices now. The nature of Iona's core subjects means that most career pathways are still open to you at the end of Year 10 studies.

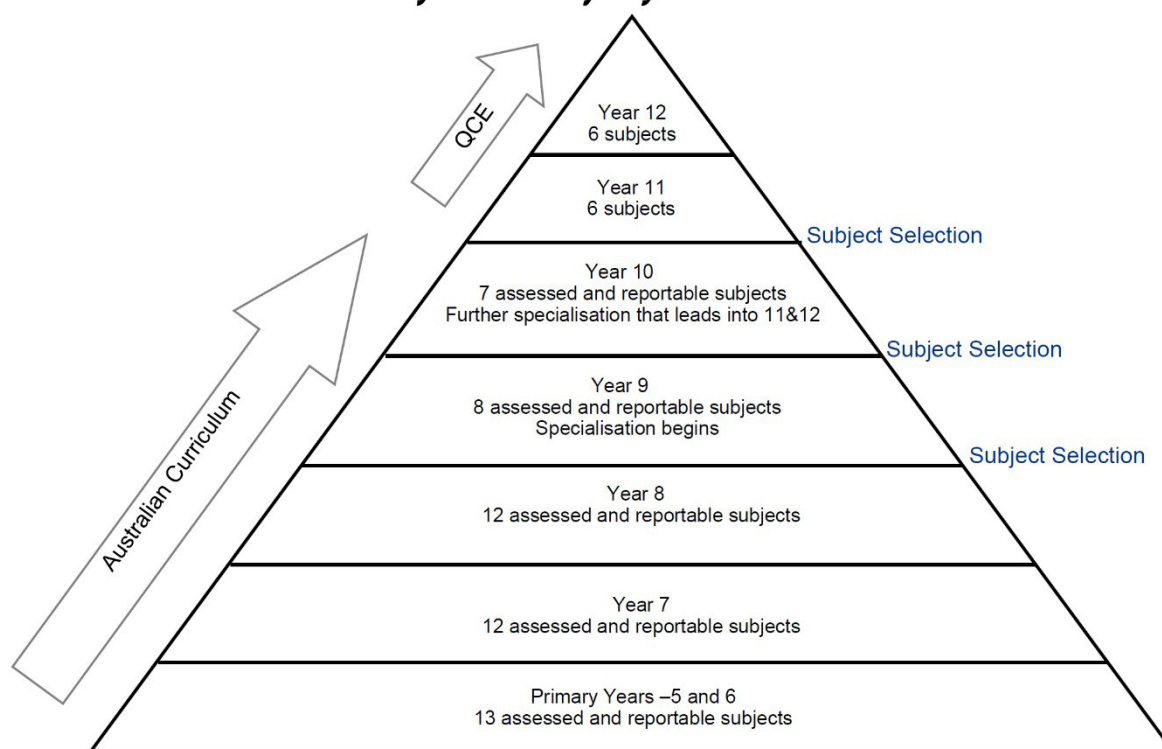
However, it is very important to note the exceptions to this rule of thumb:

Japanese must be studied in Years 9 and 10 for students wishing to study this subject in Years 11 and 12.

Notwithstanding the above information, all students should know that most courses in Years 11 and 12 have prerequisites for entry. These are related to the levels of achievement and behaviours required to succeed in the senior years. Generally, a minimum of a C standard is required to enter the ATAR pathway. Some higher prerequisites are required to enter Mathematical Methods, Specialist Mathematics and some Science courses. Students wishing to undertake Industrial Technology in Years 11 and 12 must have consistently demonstrated safe practices during Years 9 and 10 in the workshop.

The Year 9 programme is the first step in specialising subjects, leading students onto their Senior pathway.

Pyramid of Specialisation



POSSIBLE SUBJECT PROGRESSIONS AND PATHWAYS (as at June 2023)

	YEAR 9	YEAR 10	YEAR 11/12
Arts	Drama	Drama	Drama
	Music	Music	Music
	Art and Film	Art and Film	Film, Television & New Media Visual Art Cert III Screen and Media Visual Art in Practice*
Commerce	Commerce	Commerce	Accounting Business Economics Legal Studies Certificate III in Business **
Design & Innovation	Aerospace	Aerospace	Aerospace Systems
	Design	Design	Design Industrial Graphics Skills *
	Digital Technology	Digital Technology	Digital Solutions
	Industrial Technology	Industrial Technology	Building and Construction Skills * Engineering Skills * Industrial Technology Skills *
English & Languages	English	English	English Literature Essential English *
	Japanese	Japanese	Japanese
STEM	Science, Technology, Engineering and Maths (STEM)	Introduction to General Mathematics Introduction to Mathematical Methods Introduction to Essential Mathematics Physical Science Life Science	General Mathematics Mathematical Methods Specialist Mathematics Essential Mathematics * Chemistry Physics Biology Marine Science Physical Education

Mathematics	Mathematics	Introduction to General Mathematics Introduction to Mathematical Methods Introduction to Essential Mathematics	General Mathematics Mathematical Methods Specialist Mathematics Essential Mathematics *
Humanities	Humanities & Social Sciences	Humanities & Social Sciences	Ancient History Modern History Geography Study of Religion
Religious Education	Religious Education	Religious Education	Study of Religion Religion and Ethics *
Science and Health	Science Marine Science	Physical Science Life Science	Chemistry Physics Biology Marine Science Physical Education
	Physical Education	Physical Education	Physical Education #Certificate III in Fitness ** #Certificate III in Sport and Recreation **

* Applied subject

** Vocational Education & Training (VET) Course – additional fees apply

Faculty of Religion Education

RELIGIOUS EDUCATION

(Core Subject)

The Religious Education programme in Year 9 at Iona College has been developed according to the guidelines of the Archdiocese of Brisbane. Students will study units underpinned by the four interrelated strands of Sacred Texts, Beliefs, Church and Christian Life. These strands are complementary and taught in an integrated way and in ways that are appropriate to our specific local context.

Topics explored in Year 9 are focussed on the theme, The faith life of believers and include:

- The priestly, prophetic and kingly work of Jesus Christ and how believers live their Christian vocation by participating in this work.
- They consider sources of inspiration, strength and guidance for believers today, including Catholic social teaching.
- They are introduced to Biblical criticism and apply skills learnt to understand, interpret, and use a range of Biblical texts.
- Students learn about the divergent understandings of God (Allah, God, G*d) in monotheistic religions.
- They continue to develop their understanding of prayer in the Christian tradition.

In addition to a study of the above topics, students will have opportunities to enrich the spiritual dimension of their lives through experiences of prayer and liturgy, e.g., College Masses, Sacrament of Reconciliation, classroom prayer, meditations, and year-level camps.

Faculty of Humanities

HUMANITIES AND SOCIAL SCIENCES (HASS)

(Core Subject)

This course has been designed to meet the requirements of the National Curriculum and focuses on the foundations of the contemporary world. It provides opportunities for students to engage in worthwhile historical inquiry to develop knowledge, values and abilities that enable them to be aware and capable participants in the modern, democratic Australian society. The programme's main aim in Year 9 is to provide students with an understanding of the recent past and how it has affected our lives today. The students will examine key events on both an Australian and international level. There will be an emphasis on the analytical, interpretative and evaluative writing skills necessary for success in the contemporary world. Building upon the knowledge and skills established in Years 7 and 8 HASS, each student will complete Year 9 units on:

- a. The Industrial Revolution
- b. World War I (19-14-1918)
- c. World War II
- d. Geographies of interconnections

With the increasing importance of analytical and writing skills in both senior secondary and further education, it is important that all students have the opportunity to develop these abilities. To this end, HASS will be assessed each semester by:

- A research assignment
- Multi-modal assignment
- An essay exam
- Short response/response to stimulus examinations.

Humanities and Social Sciences provide a solid foundation for many senior subjects, particularly the social sciences of Ancient History, Modern History and Geography.

Faculty of Arts

DRAMA

(Elective Subject)

Through engaging in Drama, students develop key personal attributes such as confidence, public speaking, the ability to work in groups, creativity, determination and self-drive. They also boost their cognitive memory skills and learn to step out of their comfort zones.

Drama provides a medium for exploration, social criticism, celebration and entertainment. It enables students to define and shape their identities within our social and cultural contexts. By blending intellectual and emotional experiences, Drama offers a unique means of inquiry that contributes to a student's understanding of our world and the issues they face in their lives.

The Year 9 Drama course emphasises effective communication and creative expression. During the course, the students will interpret and present published materials as well as write and perform a variety of their different dramatic pieces. Furthermore, the students attend various professional performances and participate in workshops with visiting master artists, actors and theatre practitioners.

The Year 9 Drama Course

Improvisation - Students explore the Elements of Drama through improvisation and the study of script extracts. This extends their communication skills and ability to interpret social interaction, thus enhancing their social intelligence.

Realism - Students study Theatre History and the acting style of Realism. They explore texts and develop their abilities to interpret and perform characters. Students interpret, manipulate and realise dramatic action through the process of "Method Acting".

Greek and Physical Theatre – Students study a classic Greek play by exploring movement, mask and mime. They experiment with non-verbal forms of communicating stories to realise contemporary dramatic meaning and style from an inherited text.

Comedy– The study of comedy allows students to comment on their world's social and political climate through farce and satire. They organise, sequence and create an original piece of theatre while analysing and manipulating the dramatic elements and conventions.

MUSIC

(Elective Subject)

Music is a vibrant learning community where you will explore and respond to music from various cultures, times and places. Develop your practice and skills in composing and performing music from many genres for many purposes. Work collaboratively with peers and teachers. Studying music can lead to careers in creative industries, public relations, arts administration, communication and science and technology.

More and more workplaces and organisations value creativity and diversity in their employees.

Music processes and practices will help you develop transferable 21st-century skills such as creative and critical thinking, collaboration, ICT, social/personal, and communication skills.

You do not have to be learning an instrument. All students can select music. We will support you in developing the skills you need to be successful.

In Year 9, we focus on connecting the aural and visual modes of conveying meaning.

Through the study of Music, students have the opportunity to:

- Develop critical thinking and problem-solving skills
- Develop effective communication skills
- Collaborate with others and consider diverse perspectives
- Engage in creative processes
- Gain cultural awareness
- Become productive users of technology
- Experiment with ideas, explore and experience through inquiry processes

Topics explored in Year 9 Music can include:

Video Game Music

Music in video games is an exciting area of contemporary music. The music is designed to motivate players and spark emotion. Learn how to set the mood and the tone of the game through the manipulation of the musical elements.

Put it Together

Explore presenting and performing music. Plan, rehearse and perform, demonstrating your understanding of a chosen style of music.

Hero or Villain?

Analyse how a film composer creates the theme for their Villain or Hero. Perform a piece of music from Film in a small ensemble. Apply your understanding to create your own superhero or supervillain theme.

ART AND FILM

(Elective Subject)

Our Art & Film course for Year 9 offers students a breadth of experiences, including Photography, Animation, Skate Deck Design, Painting and Drawing Skills. Students should consider this option if they are interested in Art, Animation, Photography, Film and Television or Creative Industry.

Students may then go on to further study:

- Visual Art as a General subject in Years 11 and 12
- Visual Art in Practice as an Applied subject
- Film, Television and New Media as a General subject in Years 11 and 12
- Cert III in Screen Media

Art & Film prepares young people for a future in the workforce by requiring them to learn technical skills, seek creative solutions to complex design problems, think divergently and develop an individualised style. At a time when creativity is sought by industry, Art significantly contributes to the design and manufacture of images and objects. Through the study of Art & Film, students have the opportunity to:

- Develop creativity, imagination, and problem-solving skills
- Work as individuals and cooperatively
- Meet and learn from visiting industry professionals
- Learn to be self-driven
- Have the freedom to choose their projects and areas of study
- Acquire digital skills and techniques
- Acquire physical skills and techniques
- Develop an appreciation of the value of art and creative industries
- Be inclusive and appreciative of multiple perspectives or points of view
- Gain knowledge of art and film theory

Students exhibit their works in the annual Iona College exhibition, the *Iona Art & Film Project*, in Term 3 and are encouraged to enter local competitions. Excursions to the Queensland Art Gallery and the Gallery of Modern Art are regularly included in our programs. Industry professionals are also invited to the college to conduct workshops and share their unique ways of working with the students.

Various assessment techniques include individual practical activities involving developing and applying skills or processes, journals, written research projects and verbal communication techniques. Homework is set and assessed as needed. Students will be expected to complete some work on assessment outside of class time, such as developing ideas, completing designs and individual practice. There are both practical and theoretical components for each task completed. The theory component of the course is 'related theory' and links to the practical work being produced.

Faculty of Commerce

COMMERCE

(Elective Subject)

Commerce aims to guide students toward personal competence and responsible participation in society. In doing this, it provides a distinctive and significant contribution to the total school curriculum and, thereby, students' general education.

As participants in the commercial environment, individuals assume various roles such as consumer, producer, worker, owner, manager and taxpayer. A study of Commerce, therefore, aims to develop an understanding of Australia's changing business and economic environment to support their responsible participation in society. It should also provide a means to make young people aware of the forces of change, including changes in politics, information technology, the law, the economy and the environment.

Topics covered in the Year 9 course are as follows:

- Needs, Wants and Money
- Personal Finance
- Marketing and Advertising
- International Business

Various assessment techniques, including short answer examinations, essays, research assignments and class presentations, will be used. Assessment in Commerce will be based on cognition, focusing on Knowledge, Understanding, Interpretation and Evaluation, and Communication and Presentation skills.

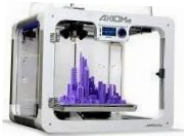
Amongst the many learning opportunities, students will be required to develop and present a marketing and business plan. Using computer technology and relevant software is integral to the study of Commerce.

Whilst Commerce is a separate and distinct subject, the complexity of the commercial environment means that a course in Commerce will have links across the school curriculum. Accordingly, it plays a complementary and interdependent role within the curriculum, drawing upon and contributing to other subject areas. Though it is not a prerequisite, studying Commerce should introduce students to concepts covered in their senior studies of Accounting, Business, Economics and Legal Studies.

Faculty of Design and Innovation

DESIGN

(Elective Subject)



In Design, students interact with new technologies such as laser cutting/engraving, 3D printing, CNC milling, and more. The course is structured to expose students to the range of digital and physical tools used in the Design fields and to provide the underlying skills to select the proper process for their

desired outcome in future projects. Design is focused majorly on divergent and convergent thinking strategies where students will be challenged to solve aspects of real-world problems in a controlled or specific environment by considering and exploring many potential solutions. This course sometimes includes some practical work to realise design solutions in the form of prototyping, modelling, and in some casing production of quality products.

Students undertaking Design will:

- Consider many factors when approaching design problems
- Focusing on the needs of the end-user and/or clients with empathy
- Think inside and outside 'the box' when devising solutions
- Work with emerging technologies
- Analysing new opportunities
- Experience entrepreneurial skills
- Prototype, iterate, and model solutions
- Develop and use sketching and digital modelling skills
- Explore Divergent and Convergent thinking strategies
- Consider sustainability factors
- Evaluating products and processes

Pathways

Learned elements in Design will be developed further in Design (General Subject) and Industrial Graphics (Applied Subject).

Design occupations can include:

Industrial designer	Other Creative Industries	Draftsperson
Interior Design	Landscape Architect	Industrial Engineer
Graphic Designer	Building Architect	Civil Engineer
Digital Designer	Other Architectural Fields	Other Engineering field

INDUSTRIAL TECHNOLOGY

(Elective Subject)



In Industrial Technology, students explore the role of manufacturing fields in modern society from various perspectives. The course is designed to offer students a high level of practical work, workshop skills, some design elements, and problem-solving tasks.

Students undertaking Industrial Technology will gain experience in:

- Making products to specifications and standards
- Applying techniques to manipulate resistive materials in production
- Using a wide range of hand tools for wood and metal
- Using a wide range of portable power tools such as drills, drivers, and trimmers
- Using a wide range of fix machinery
- Focusing on the safe operation and appropriate uses

Pathways

Learned elements in Industrial Technology will be developed further in Industrial Technology Skills (Applied), Engineering Skills (Applied) and Building and Construction Skills (Applied).

Industrial Technology occupations can include:

Boiler Maker	Plumber	Building technician
Machinist	Tiler	Foreman
Fitter and Turner	Painter	Draftsperson
Sheet metal Fabricator	Plasterer	Mechanic
Other Metal Trades	Other Building Trades	Engineer
Carpenter	Technology teacher	

AEROSPACE

(Elective Subject)

Aerospace aims to guide students towards an understanding of the aviation and aerospace industries, whose development has been one of the most exciting and challenging adventures in human history. As a very practical and 'hands-on' subject, Aerospace students will build remote-controlled aircraft and study basic aeronautical knowledge. There will be an ongoing focus on drones, the aviation business and developments in military aircraft. Students will use aircraft simulators to model flight and understand the importance of safety and regulation in the aviation industry.



In a single lifetime, the technology of powered flight has progressed from a faltering hop of a few metres to giant machines efficiently carrying hundreds of passengers and cargo non-stop halfway around the planet. Major

aircraft manufacturers forecast massively increased demand for air travel in the Asia-Pacific region in 2025. Today, military aircraft routinely conduct missions with pinpoint accuracy, often at supersonic speeds. Satellite technology facilitates instant global communication, and the Earth and the rest of the universe are being surveyed in ever-increasing detail. Men have visited the Moon, and a permanently inhabited space station is now a reality.

Additionally, this course will encompass a study/overview of the following key elements:

- Introduction to the aircraft maintenance/construction industry
- Safety in the aircraft industry workplace
- Basic aerodynamics, aeroplane aerodynamics and flight controls
- Use of hand and power tools in the construction of miniature/model aircraft
- Maintenance practices
- Basic aircraft hardware
- Basic aeroplane structures and aircraft materials
- Propulsion systems
- Basic electrical and electronics

A variety of assessment techniques will be used, including objective/short answer examinations, essays, reports, research assignments and oral presentations.

While Aerospace is a separate and distinct subject, the complexity of the aviation, commercial, computing and engineering environment means that a course in Aerospace will have broad links across the school curriculum. Accordingly, it may play a complementary and interdependent role within the curriculum, drawing upon and contributing to other subject areas. Though it is not a prerequisite, studying Aerospace should introduce students to concepts covered in their senior studies of Aerospace Systems.

DIGITAL TECHNOLOGIES

(Elective Subject)

Digital Technologies aim to teach students how to use technology effectively to present information, solve problems, develop solutions and entertain. Over the two-year course, students learn how to use various computer-based applications, develop skills, and understand Digital Technology's role in society. Information Technology is a significant part of modern society, and there is an expectation that students will have effective IT skills.

All units explore technology and the role that technology plays in society. Students can apply technology skills to subjects such as Art and Film, Religion, English and Humanities and Social Sciences. The course covers a broad range of skills and software, so students choosing not to study Digital Solutions in Years 11 and 12 have sufficiently developed skills and knowledge to use IT successfully in the future.

Year 9 Computing is a full-year subject that examines various technology literacy skills in various contexts. The course covers Ethics, Robotics, Software Design and Creative Technologies. The core Office Skills will be developed within these contexts, helping students maximise their use of Word, Excel, PowerPoint, Access and the integration of software packages. Students are taught various skills in document presentation, including columns and tables, tabs and tab stops, headers and footers, margins, page borders, customising toolbars, text boxes and frames, bullets and numbering. These skills are used in the presentation of their assignments.

Digital Design: Students will construct a project using a software development environment. Skills include design and development, variable choice, sequencing, and understanding programming constraints. This is a more challenging unit for the students as it involves using a range of coding techniques, exploring design issues and problem solving. Students will also use word processing software to produce written documentation to support their finished product.

Digital Systems: Students learn the properties of different computer hardware; learn networking infrastructure and data storage principles.

Algorithms and Programming: Students learn the role of algorithms in software development. They begin to learn pseudo-code in order to create solutions to real world problems. They learn how to propose ideas and support their concepts with evidence through multi-modal presentations. Students will also begin to learn Python.

Robot Rescue: Students design, build and program LEGO Mindstorm robots that follow a randomly designed path to a rescue zone, and then locate and rescue a simulated victim. This unit uses a range of technology skills and enables students to solve real-world problems in a safe, small-scale environment. In Industrial Technology, students explore the role of the industrial technology fields in modern society from a range of perspectives. The course is designed to offer students a high level of practical work, workshop skills, some design elements, and problem-solving tasks.

Faculty of English and Languages

ENGLISH

(Core Subject)

The aim of English in Year 9 is to help students engage imaginatively and critically with literature, language use and literacy practices. Students become confident, effective and critical users of texts and language by learning to make meanings in texts, operating language systems, and evaluating and reconstructing meanings in texts in English. This can generate an appreciation and enjoyment of texts and language, an interest in learning about the world, and an ability to make judgments about and accept or challenge meanings in texts. English is also the basis for learning in all other spheres and is therefore undertaken by all the students at the College.

COURSE OUTLINE

In Year 9, English is divided into thematic units of work, each with a clearly defined focus. Units offered include:

Year 9:

- Stop Laughing, this is Serious - a look at what creates humour with a focus on visual texts
- The Teen Journey – a novel study that investigates social issues, that impact teenagers
- Cops, Spies and Private Eyes – analysis of crime and mystery texts (novels, poems, short stories, television programs and films)
- Some are More Equal than Others – a novel study looking at power struggles in relationships.

ASSESSMENT

Assessment is continuous, with a range and balance of tasks undertaken at various times and under varying conditions. Assessment techniques may include:

- expository or analytical essays
- persuasive speeches
- literary articles
- film analyses
- multimodal presentations
- narratives or short stories

Students will be awarded a level of achievement based on their results for all pieces of assessment over the semester.

JAPANESE

(Elective Subject)

The study of another language and culture widens horizons, extends communicative competence and deepens intercultural understanding, enabling language learners to successfully take their place as global citizens. Learning another language:

- fosters an appreciation of cultural diversity which is especially important in our increasingly multicultural Australian society;
- deepens a student's understanding and knowledge of the nature, purposes and styles of language, contributing positively to the study of the subject of English;
- develops cognitive flexibility and problem solving ability;
- enhances career prospects.

Furthermore, research indicates that the study of another language early in life (ie before the end of adolescence) facilitates successful acquisition of another language later in adult life.

The study of Japanese is particularly relevant as Australia's political, economic, education and trade links ensure that Queenslanders are increasingly coming into contact with Japanese business people, tourists, students and residents.

The Year 9 Japanese course builds on the introductory Year 8 course and consolidates and further develops the Comprehending skills of Listening and Reading and the Composing skills of Speaking and Writing. Therefore, it is highly desirable that anyone wishing to continue with Japanese studies in Year 9 (and beyond) should have achieved a sound level (C) or better in Year 8 Japanese, with strong Hiragana recognition skills. In Year 9, students are introduced to the script of Katakana. Therefore, students are required to be independent learners and expected to demonstrate a strong understanding of both Hiragana and Katakana by the end of Semester 1. Successful completion of the Year 9 and 10 Japanese course is a prerequisite to Senior Japanese.

Topics tackled through learning experiences and various activities in the four macro skills include units such as:

- Me, Myself & Mine - Personal identification, family, friends & pen-pals, talents & abilities, emails to exchange students / potential host families
- It's My Life – Likes and dislikes, daily routine, hobbies & pastimes, week-ends & holidays, school life, TV, 'manga' and 'famikon' (X-box, Nintendo & PS2)
- Going Out – Movies, shopping (dollars & yen), mates, dates, 'makkas', pocket money, trips & school excursions
- Let's Party! – Celebrations, birthdays, Christmas, festivals, presents & souvenirs, Sayoonara Party!

Assessment: The macro skills are tested separately once or twice per semester. There are no assignments.

Students will also have the opportunity to participate in cultural activities, excursions (such as dinners, cultural performances and immersion days) and cultural exchanges, as a visitor to Japan and/or as a host to Japanese students visiting Australia.

Faculty of Mathematics

MATHEMATICS

(Core Subject)

In Year 9 all students study Mathematics. While most students undertake the regular course, special programs exist for gifted mathematicians and those who require support with Mathematics.

The goals of the Year 9 Mathematics courses are twofold. Students are to acquire and consolidate basic arithmetic and mathematical skills and will be introduced to computational technology (scientific and graphics calculators). As well, these courses aim to promote thinking skills and these enhance the student's capacity to analyse and solve problems in a variety of areas.

This course covers the content strands of 'Number and Algebra', 'Measurement and Geometry' and 'Statistics and Probability'. The ideas are consolidated through exercises from the textbook and through weekly homework sheets.

Assessment is based on formal exams, one with a calculator and one without, conducted at the end of each term. There are also some opportunities throughout Years 9 & 10 for alternative assessment in the form of problem solving and modelling tasks. The assessment covers the proficiency strands of 'Understanding', 'Fluency', 'Problem Solving' and 'Reasoning' which are broken up into simple familiar, complex familiar and complex unfamiliar type questions.

Faculty of Science and Health

SCIENCE

(Core Subject)

Science in Year 9 follows the guidelines of the Australian Curriculum by providing students opportunities to develop an understanding of important scientific concepts and processes, the practices used to develop scientific knowledge, of science's contribution to our culture and society, and its applications in our lives. Science has three interrelated strands: Science Understanding, Science as a Human Endeavour and Science Inquiry Skills.

Science Understanding refers to the concepts, facts, principles, laws, theories and models that have been established by scientists over time. There are four sub-strands: Biological sciences, Chemical sciences, Earth and Space sciences and Physical sciences.

Science as a Human Endeavour highlights the development of science as a unique way of knowing and doing, and the role of science in contemporary decision making and problem solving. There are two subunits: Nature and Development of Science (which aims to develop an appreciation of the unique nature of science and how current knowledge has developed over time) and Use and Influence of Sciences (which explores how science has affected peoples' lives and how science is influenced by society).

Science Inquiry Skills involves identifying and posing questions; planning, conducting and reflecting on investigations; processing, analysing and interpreting evidence; and communicating findings. This strand is concerned with evaluating claims, investigating ideas, solving problems, drawing valid conclusions and developing evidence-based arguments.

Assessment is continuous throughout the course and assessment items include practical reports, research assignments, reports, essays, presentations and formal examinations.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS (STEM)

(Elective Subject)

STEM is an elective course offered to students who have a passion and talent in the curriculum areas of science, technology and mathematics. The course is independent of current ACARA courses, and it primarily focuses on inquiry-based learning to develop understanding and skills within a range of topics that are both relevant to the four primary areas of STEM; science, technology, engineering and maths. Topics are both contextualised and multi-disciplinary. They include:

- Communication Technology
- Engineering Technology
- Astrophysics and Rocketry
- Forensic Science
- Computer Programming
- Biomedical Sciences
- Alternative Energies
- Applied Mathematics

This course is designed for the highly motivated student, who needs to be proficient at working productively in both collaborative and independent environments. STEM provides an excellent opportunity to develop higher order cognitive skills required for future success in higher studies leading into a range of careers. Students are required to have a minimum grade of a B in both Year 8 Science and Maths. In addition to this, it will be an advantage to possess the following important skills:

- Problem solvers
- Collaborative workers
- Innovative
- Logical thinker
- Technologically literate
- Self-reliant.

MARINE STUDIES

(Elective subject)

An essential aspect of Science is to allow students to develop a better understanding of the world in which we live. Students at Iona College are very fortunate to have Moreton Bay as their very own backyard. From the sand islands of Moreton and Stradbroke islands that border the bay through to the mangrove communities that hug its shoreline, Moreton Bay is home to an array of unique and fragile ecosystems that are at risk due to Brisbane's significant population growth.

The Marine Studies course is designed to cater for those students who possess a passion towards preserving the beauty and ecology of Moreton Bay. Students would be required to have a minimum grade of a C in Year 8 Science. The College's location allows students regular access to the bay. An important aspect of the course is to build connections with current university and community projects in the hope that the College itself develops its own identity as a part of the ongoing pursuit to conserve the bay. Students would be involved in field studies, gathering firsthand data to better analyse the health and conditions of the bay.

Outline:

Throughout the course students will study four important aspects of Marine Studies.

- **Marine Ecology:** Students are introduced to the enormous biodiversity that exists in Moreton Bay in order to gain a better understanding of the important relationships that exist through interactions of these organisms and their environment. It is also the impact that human interactions play in the delicate balance of these relationships.
- **Oceanography:** Students explore the important geological features that shape the coastline and influence the distribution of organisms within the bay. It is important to develop an awareness of the roles human activities have in shaping the bay. Examples might be the impact of expanding the Port of Brisbane or the effect urban developments such as canal development have on the natural landscape.
- **Conservation and Sustainability:** Gathering and interpreting data from marine environments can determine the effects of humans and help guide sustainable resource management decisions. Students will explore the various aquaculture, ecotourism, recreational and commercial influences on the bay.
- **Marine Research Skills:** An essential aspect of the course is the inquiry focus that requires students to develop marine research skills to gather data and undertake investigations. Skills range from reading weather charts, recognising dangerous hazards through to develop essential skills in water safety.

PHYSICAL EDUCATION

(Elective Subject)

Physical Education in Year 9 allows the students to experience topics and sports associated with Year 11 and 12 Physical Education. The boys will be able to experience various terminology and technology critical to excelling in the subject. Exposure to video analysis, GPS tracking and digital fitness testing equipment engages students in the science of physical activity. Our Year 9 Physical Education elective is designed for students who have a passion for sports and physical activity and want to develop the skills to excel in the subject in their senior studies.

UNITS STUDIED:

Term 1 – Introduction to Senior Physical Education & Volleyball

In this term, we introduce key terminology associated with Physical Education

While participating in the sport of Volleyball, students will learn the skills required to play volleyball, as well as analyse and evaluate their personal performance.

Type of assessment – Exam (17%) and Practical Performance (8%). 25% of Overall Grade.

Term 2 – Components of Fitness and Touch Football

In this term, students are introduced to the broader topic of Energy Systems, Training and Fitness. Gaining an understanding of the components of fitness through the analysis of Football. Students will develop the skills required to conduct fitness testing and critique their own performance through video analysis.

Type of Assessment – Investigation Report (17%) and Practical Performance (8%). 25% of Overall Grade.

Term 3 – Sports Psychology and Badminton

In this term, students engage in the topic of Sports Psychology, focusing on applying psychological techniques in the performance of Badminton to improve concepts such as Arousal, Attention & concentration and Self Confidence. In this highly integrated unit, students develop the skills to produce a project folio to evaluate the effectiveness of a personal Sport Psychology strategy.

Type of Assessment – Project Folio (17%) and Practical Performance (8%). 25% of Overall Grade.

Term 4- Anatomy and Sports Injuries and AFL

In this term, students will apply their understanding of the musculoskeletal system to common sports injuries in AFL. Demonstrating injury management skills for a range of common Sports injuries ranging from soft tissue injuries, dislocations and broken bones.

Types of Assessment – Exam (17%) and Practical Performance (8%). 25% of Overall Grade.