KOTARA HIGH SCHOOL

We Aim High

YEAR 8

ELECTIVE CHOICES

2022

OVERVIEW YEAR 8 2022

This handbook outlines the Technology (Mandatory) and Elective Program for Year 8 in 2022. It has been prepared so that parents and students will be aware, not only of the variety of courses offered, but of the choice that is possible within subject areas. Our program relies heavily on student choice and a careful study of this handbook is needed.

If further advice is required, please contact any of the following staff.

Key contact	Email
Principal: Mr Mark Snedden	mark.snedden@det.nsw.edu.au
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CURRICULUM STRUCTURE

Students in Year 8 2022 will follow the pattern of study indicated below:

1. English
2. Mathematics
3. Science
4. HSIE
5. PD/Health/PE
6. Japanese
6. Mentoring
7. Sport
8. Technology Mandatory
9. Two Electives – one for each Semester

This booklet provides information regarding the available options for students to satisfy requirements of points 8 and 9 above.

Parents and students are advised that:

- Each student will be emailed an individual access code in order to make their selections online at https://spring.edval.education/login. Course selections will close Friday 16 July 2021 at 3pm.

- Kotara High School offers Year 8 students a choice of **two Elective Courses.** Descriptions of these courses are on pages 7 - 13 in this booklet. A summary of all elective courses can be found on pages 4 and 5.

- Students are advised to choose their Elective courses carefully. The number of classes allocated to particular courses and staffing result from these choices. Changes to selections after the closing date cannot be guaranteed.

- Once selections are made, students will be enrolled in one elective course for Semester 1 and one elective course for Semester 2. This means that students who are currently in Year 7 **must choose two main preferences from those on offer in this booklet**. The nature of the selection

process is such that we cannot guarantee that all of the options will run in 2021. For this reason, we ask students to choose **two reserve options**.

- Whilst every attempt is made to give students their **first** preferences, in some cases, this is not possible. Some students may find that the structure of curriculum results in a clash of courses, with two or more of a student's choices being allocated to the same line of the timetable. In other cases, if insufficient students choose a particular course, the course may not run. Students involved will then be allocated their reserve selections in order of preference.

- Students will only be able to apply to change courses in the last two weeks of this school year or the first two weeks of next year. In applying to change courses, **students should <u>not</u> assume that the application will be granted**. Any change will depend upon vacancies in the course to which the student wishes to change, whether or not the change will result in a course clash and whether the student's course pattern still complies with NESA requirements. Changes will only be considered if an application is made after completing a form available from the foyer of the administration building or the Deputy Principal.

- Parents and students are advised that **some** elective courses **involve a cost.** Where applicable, these costs are indicated at the course descriptions from page 5 – 12 of this booklet. Parents are requested **to meet these costs as early as possible in the semester**. If there is difficulty in meeting the contribution, **assistance** is available through the Student Assistance Scheme. Application forms are available from the school office.

MAKING SELECTIONS

Opens: **Tuesday 15th June 2021 at 9.00am**
Closes: **Friday 16th July 2021 at 3.00pm**

Instructions

1. Visit the website https://spring.edval.education/login
2. Use your unique access code to login and make your selections.
3. Choose 2 courses from the Electives group.
4. You will also choose two reserve preferences from the Electives group.
5. Please note that Technology Mandatory courses in 2021 will be determined by which class students are in next year and there is no choice in these subjects as all students are to complete all areas of **Agriculture and Food Technologies, Digital Technologies, Engineered Systems and Material Technologies**
6. NO subject can appear twice in your selections.
7. If a subject is important for you, then select it before any less important subjects.
8. The number of classes to be run in a subject will depend upon the number of students who select that subject in their preferences.
9. If the school decides not to run a subject that you have selected, then it may be replaced by one of your reserve subjects.
10. Consult with Ms Swamy or Mr Kolmajer if necessary for any concerns.

OVERVIEW OF ELECTIVE COURSES 2022

FACULTY	COURSE	CONTRIBUTION	PAGE
TECHNOLOGY AND APPLIED STUDIES (TAS)			
Mandatory Courses (Fee $60 per year- Covers all subjects listed below)			
	Agriculture & Food Technologies Digital Technologies Engineered Systems Material Technologies	$60	6
ELECTIVES			
ART, LANGUAGE, PERFORMING AND CREATIVE ARTS (ALPACA)			
	Visual Arts	$25	7
	Beginning Photography	$25	7
	Drama	$10	7
	Rock Music	NIL	8
HUMAN SOCIETY AND ITS ENVIRONMENT (HSIE)			
	Minecraft Machinations	$10	9
	Ocean Tech	$10	9
PD/HEALTH/PE			
	Biomechanics of Sport	Nil	10
	Technology & Sport	Nil	10
	Sports Studies	Nil	11
TECHNOLOGY AND APPLIED STUDIES (TAS)			
	Game Design	$10	11
	Interior Design	$30	11
	Future Foods	$60	11
	Engineering	$20	11
SCIENCE	Forensic Science	$20	12

TECHNOLOGY MANDATORY 2022 - COURSE DESCRIPTIONS

Technology Mandatory engages students in design and production activities as they develop solutions to identified needs and opportunities. Through the practical application of knowledge and understanding they learn about:

- **Agriculture and Food Technologies**
- **Digital Technologies**
- **Engineered Systems**
- **Material Technologies**

The syllabus identifies the knowledge, understanding, skills, values and attitudes that students are expected to develop in the Technology learning area. Students are required to study Technology Mandatory for 200 hours. This is achieved in years 7 and 8.

Course Description

Technology Mandatory engages students in design and production activities as they develop solutions to identified needs and opportunities.

What will students learn?

Students develop knowledge and understanding of the four Technology contexts through the Design and Production of solutions to meet identified needs or opportunities.

In Agriculture and Food Technologies students learn about the processes of food and fibre production and investigate the innovative and sustainable supply of agriculturally produced raw materials. Students are provided with opportunities to develop knowledge and understanding about food selection and preparation, food safety and how to make informed choices when experimenting with and preparing nutritious food.

The Digital Technologies context encourages students to develop an empowered attitude towards digital technologies, use abstractions to represent and deconstruct real-world problems, and implement and evaluate digital solutions. Students have the opportunity to become innovative creators of digital technologies in addition to effective users of digital systems and critical consumers of the information they convey. Students are provided with opportunities to develop fluency in a general-purpose programming language and use these skills to solve information problems and to automate repetitive tasks.

The Engineered Systems context focuses on how force, motion and energy can be used in systems, machines and structures. Students are provided with opportunities to experiment and develop prototypes to test their solutions. They are lead to understand how forces and the properties of materials affect the behaviour and performance of engineered systems, machines and structures. Knowledge of these principles and systems enables the design and production of sustainable, engineered solutions.

The Material Technologies context focuses on the application of specialist skills and techniques to a broad range of traditional, contemporary and advancing materials. Students develop knowledge and understanding of the characteristics and properties of a range of materials through research, experimentation and practical investigation. These are applied when they produce products to satisfy identified needs and opportunities.

FROM THE ALPACA FACULTY

BEGINNING PHOTOGRAPHY

Learn about the basics of photography! Students will learn how to compose images with a camera and skills in taking and manipulating digital photographs. They also get to use the darkroom to process different types of analogue images.

Requirements: A Visual Arts Diary (A4)

Contribution - $25

VISUAL ARTS

Develop skills in making a variety of artworks. You get to use your creativity across a large variety of artmaking techniques and explore a variety of media and materials. Forms may include drawing, painting, sculpture, printmaking, ceramics as well as aspects of graphic design. This elective course is an excellent foundation for the Visual Arts course in Stage 5.

Requirements: A Visual Arts Diary (A4)

Contribution - $25

DRAMA

In this subject fun and games will combine to work out ways of exploring your hidden talents. The course involves participation in all aspects of theatrical skills (warm-ups, improvisation, mime, play-building and workshops), leading to a performance.

The aim of the course is that students will acquire an understanding of the nature of dramatic arts and its forms. Students will be involved in workshops where dramatic themes and forms are explored through active participation. This includes acting, directing, stage management, designing, costuming, lighting, make-up, sound effects and projections.

Contribution - $10

ROCK BAND

The Rock Band course is entirely practical and will begin by extending on students' skills from the mandatory Music Course, where students can choose to focus exclusively on a rock band instrument of their choice, typically being voice, guitar, bass, drum kit and keyboard.

The course will also cater for students who already have skills on other instruments, as well as those that are starting from scratch. The course will culminate with students creating an original song that relates to a project or event in the school.

Contribution – NIL

FROM THE HSIE FACULTY

MINECRAFT MACHINATIONS MEETS SPHERO CIRCLE WORK

Ever dreamed of immersing yourself in a world of your own creation, battling foes near and far, then this is the course to for you. Through project based HSIE centered lessons, students will build critical 21st century skills like collaboration, creative problem solving and digital citizenship. After you have mastered your world learn to code in Minecraft with Codebuilder and you will then be introduced to Sphero where you will continue your coding journey compliments of C and Javascript.

Contribution - $10

OCEAN TECH

Students will be immersed in the wonders of the ocean. Project based learning tasks will provide the students with opportunities to solve environmental issues relating to the aquatic ecosystem using technology.

Through a range of design, experimentation and testing procedures students construct their own miniature solar powered watercraft and build a model, self-sufficient autonomous building in a group activity. Students will incorporate elements of energy efficiency, durability and aesthetic features into their design projects and work collaboratively in project-based learning groups to design and construct their autonomous building projects.

Students will participate in several excursions to both the ocean and the lake to undertake the following activities:

- Water testing
- Catch, size and grade fish
- Test the durability of the watercraft they have created

Contribution - $10

FROM THE PD/H/PE FACULTY

BIOMECHANICS OF SPORT

Sports biomechanics allows detailed analysis of sports movements. It studies the effects of forces and motion on sport performance. It allows students hands-on experience in investigating how the body best moves and performs. Using laws and principles grounded in physics that apply to human movement, students design training activities that match the mechanical demands of sport and fitness. This course combines the field of sports and fitness with the fields of biology and physiology, and it applies mechanical principles to the human body in order to understand how and why it moves in the way it does.

Students will study the theory and science behind biomechanics and apply it in practical lessons based around sport, fitness, training, and movement.

Contribution – Nil

TECHNOLOGY & SPORT

The growth of technology and how it is improving sports performance is big business. From wearable technology that tracks your performance and fitness to fabrics and sporting equipment designed to help not just performance but recovery as well. Research the history of Technology in Sport and the myriad of jobs related to technology and science.

Students will engage with information and communication technologies (ICT) to explore and develop strategies to solve problems, collaborate online and communicate information and ideas.

Where possible there will be some time for practical applications to analyse physical fitness and movement skill, design training programs and generate feedback to improve performance.

An excursion to the Australian Institute of Sport or similar could be organised to allow students to experience hands on technology applications in sport.

Contribution - Nil

SPORT STUDIES

Sports Studies is an exciting, educational, and enjoyable course which is an extension of the Personal Development, Health and Physical Education and Physical

Activity & Sport Studies syllabuses. It is a movement-based course and uses a variety of sports as the focus for practical and theory units. Students are given the opportunity to increase their awareness of issues relating to fitness, movement skill development, coaching, strategies and techniques, event management and career opportunities. Teams, games, competitions, skills, and techniques will be used to provide examples that will provide knowledge and skill of selected sports as well, as providing an opportunity for students to transfer this knowledge to other forms of physical activity and sport. Students need no prior experience of sport but do need a willingness to participate enthusiastically in practical lessons and an organised approach to theory lessons.

Contribution – Nil

FROM THE TAS FACULTY

INTERIOR DESIGN

Students will design and make fashionable clothing and interior items and learn about the technology of colour in dyeing and printing fabrics and explore production techniques using both machine and hand methods of construction. Individual designs will also incorporate elements of E-textiles technology.

E-textiles incorporates the use of soft circuits as a system that can be applied to interior and clothing items.

Contribution: $30

FUTURE FOODS

With the world's population expected to reach almost 10 billion people by 2050, the production and provision of sufficient, nutritious food is a global challenge.

This food practical course explores food product development, healthy food choices and the impact of agriculture on climate change.

Student will explore food selections and what effects this has on changing food cultures and how to make better choices in food consumption and monitor healthy eating through digital health guides.

Further opportunities will investigate how technological advances are changing the food system and explore solutions for enabling changes.

Contribution: $60

ENGINEERING

The Engineering elective provides opportunities for students to develop knowledge, understanding and communication skills in relation to engineering and its associated industries.

Practical projects allow students to develop knowledge and skills in the use of a range of materials, tools, and manufacturing techniques.

Students may have the opportunity to study a range of topics such as race car design, robotics and control technology, mechanical toys, and war machines (catapults).

This course will give the students the opportunity to develop skills in problem solving, communication and the chance to apply mathematics and science into real life experiences.

Contribution: $20

GAME DESIGN

Computer gaming is a major recreational pastime. As a result, the game design and development industry is enormous and forever growing. Computer games have developed in sophistication and complexity over the past twenty years.

Students will plan, develop, and evaluate their own games using a range of game creation software including Minecraft, Microsoft Makecode Arcade, Gamemaker Studio and Construct 3. Students will plan game scenarios using storyboards and develop graphic design skills, whilst being introduced to object oriented programming. Students will implement, test, and share game solutions with the wider school community. This course provides students with opportunities to develop skills in problem solving, communication and digital literacy.

ASSESSMENT: Project based assessment
Contribution: $10

FROM THE SCIENCE FACULTY

FORENSIC SCIENCE

Welcome to the amazing and magical world of forensic science. It is an ever exciting and changing field - new technology is popping up faster than we can keep track! But in a way that's good news, because new types of crimes are popping up everywhere too. Students will learn how the field developed and investigate some of the techniques used.

Students will investigate areas such as:

Crime scene and eyewitness basics
Physical evidence
Fingerprinting
Impression evidence
Hairs and fibers
Chromatography
Blood analysis
DNA (Device Neutral Assignments) analysis
Accident reconstruction analysing collisions
And finish with a Crime Scene Investigation adventure using their skills. Contribution - $20