



## **IGNITE PROGRAM**

### **Aims of the IGNITE Program**

IGNITE is the name of our gifted and talented program. We aspire to ignite a passion for learning. To this end, we have designed an exciting and unique curriculum for our academically gifted students. Each IGNITE unit is made up of a variety of opportunities for creative, high-order, lateral-thinking and problem-solving activities, where each student has the flexibility to develop her strengths. These exciting courses provide opportunities in the areas of STEM (science, technology, engineering, and mathematics) and creative arts. All units challenge students beyond their comfort zone in a supportive environment.

### **Year 5**

Students participate in the course from Terms 2 - 4. The weekly sessions start at 8.15 am, continue through Homeroom and Period 1, missing a core subject lesson.

### **Year 6**

Students participate in the course from Terms 1 - 4. The weekly sessions start at 8.15 am, continue through Homeroom and period 1, missing a core subject lesson.

### **Year 7**

Students participate in the course from Terms 2 - 4. They are withdrawn for one period a week from a core class and will be expected to attend IGNITE at either a before-school or after-school session.

### **Year 8**

IGNITE is offered as a year-long elective. Students participate in the program for four periods a cycle.

### **Assessment Structure**

Each course requires the student to complete a project based on the theme of the unit. Projects are given teacher and peer feedback. This course is not graded.

### **Student selection processes in Years 5 -7**

An application process is required to enter the IGNITE program. Selection will be based on the written application, school-based testing, NAPLAN results and teacher recommendations.

### **For those wishing to participate in the Year 8 IGNITE elective**

Students who completed IGNITE in Year 7 are automatically invited into the Year 8 program. For those who have not participated in IGNITE in Year 7 but who have been identified as students who could benefit from this program, an invitation asking students to participate will be sent home.

## Year 5 Course Description

### Term 1: Selection Process

The selection process takes place. Parents and students will be informed of the success of their application by the end of Term 1.

### Term 2: Communicating in the 21st Century

Podcasting has emerged as one of the most popular media of communication in the last decade – but why has it become so popular? Podcasts perform several functions: they educate, they entertain, they inform, they inspire, they make people laugh, and they make people cry. Most importantly, podcasts connect. In this unit, students will be invited to work in groups to create a podcast based on a theme of their choosing. They will tell stories from Santa Maria, national and international communities, and they will learn the art of producing a podcast.

### Term 3: Rube Goldberg

Rube Goldberg spent 55 years drawing cartoons of machines and contraptions. His cartoons depicted simple household items, connected in funny but logical ways to perform a simple task. Rube Goldberg believed that most people preferred doing things the hard way instead of using a more direct and straightforward path to accomplish a goal. In the words of the inventor, the machines were a “symbol of man’s capacity for exerting maximum effort to achieve minimal results”. His drawings became so well known that the Webster’s Dictionary defined the term Rube Goldberg as “accomplishing by extremely complex, roundabout means what seemingly could be done simply”. Inspired by cartoonist Rube Goldberg, students design a machine that uses a complex process to complete a simple task.

### Term 4: Creative Coding

Scratch allows students to bring their ideas to life using coding. Students will design and implement their own Scratch program developing their computational thinking skills as well as their creativity and critical thinking. Students will then incorporate a user interface into their program using Makey Makey.

## **Year 6 Course Description**

### **Term 1: Mathmagicians**

Students discover the magic of maths using tricks that employ their maths skills including an introduction to algebra, card patterns, card counting and area trickery. They will be introduced to the binary system and use it to create their own magic tricks using deduction and problem-solving skills. Parents should be warned that they will be tricked with amazing magic throughout this unit of work.

### **Term 2: Robotics**

From exploring the volcanoes on Mars to vacuuming our floors, robots are part of life in the 21st century. In this unit of study, students investigate the world of robotics, build their own robots and program them to complete tasks. An exciting and innovative program, Robotics truly integrates STEM and the creative arts.

### **Term 3: Sustainability**

Students will develop their understanding of sustainability issues that are facing Australia and research some of the solutions currently available. This unit involves activities and discussions about privilege, disadvantage, personal choices, behaviour change and their own moral compass, to understand the complex issues surrounding our environment.

### **Term 4: Philosophy & Critical Thinking**

This Philosophy unit provides students with the tools they need to critically examine the world around them. Students will share different ideas, learn how to disagree with each other in a respectful way and see the value of different perspectives. They will engage in questioning, arguments and rigorous methods of thinking promoting the capacity for self-expression, reflection and life-long learning.

## **Year 7 Course Description**

### **Term 1: Selection Process**

The selection process takes place. Parents and students will be informed of the success of their application by the end of Term 1.

### **Term 2: Ciphers & Codes**

In this unit of work, students learn about the history and development of cryptography from ancient Greece through to modern-day algorithms. Students will create their own codes using traditional techniques as well as learning to decrypt codes. They will then learn how to apply formulae and spreadsheet design using excel to decrypt higher-level codes.

### **Term 3: Creative Circuitry**

Students will learn about series and parallel circuits, currents and resistance. They will then design and create an object applying their knowledge in an original and creative way. This could include a wearable piece, a sculpture, a picture, a sign and it may incorporate the use of LED lights, switches, 3D printing and textiles. The only limits are time and imagination.

### **Term 4: The Final Frontier**

Students will learn about space, and in particular, the NASA mars exploration program. When and how will we be able to travel to Mars? What are the barriers and considerations to establishing a colony on Mars? We will consider the ethical and scientific considerations of sending a one-way manned mission to mars and discuss the implications of inhabiting a new world.

## **Year 8 Course Description**

### **Term 1: Robotics**

Students will use EV3 robots to complete engineering challenges incorporating gears and pulleys culminating in a space challenge. Students will work at their own pace to progress through levelled challenges based on their experience and ability. They will learn basic programming using the Scratch platform including loops and or switches as well as develop their critical thinking and problem-solving skills.

### **Term 2: Neuroscience**

The wondrous workings of the brain are discovered in this neuroscience unit. We begin by investigating the different parts and functions of the brain. Students continue this work by researching an area of the brain that interests them. Students present their findings to the class by creating an experiential lesson for their classmates.

### **Term 3: Silent Movies**

The world of silent movies of both the past and present are explored in this engaging unit. We discover the stars of yesteryear and investigate their continuing impact on modern movie making. Once the students' imaginations are sparked their task is to create their own silent movie.

### **Term 4: NAIDOC Minecraft Challenge**

Students learn stories, language, and cultural knowledge about Whadjuk Country. They then build their understanding of Country in Minecraft: Education Edition. Students combine their Minecraft world and audio recordings together, to create an Augmented Reality experience to share with the College Community.

*\* Please note that all courses are subject to change.*