JOHN MONASH
SCIENCE SCHOOL

CO-CURRICULAR PROGRAM

Subject List

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PRIMARY SCHOOL OUTREACH

Primary School Outreach

Little SCIENTISTS

UNESCO PILLAR

Learning to Live Together

Our school offers a range of activities to promote STEM to primary school students. JMSS students have the opportunity to be involved in this promotion. Our Primary School Outreach initiative is a fantastic opportunity for our JMSS students to develop leadership skills and impart their knowledge, and is a big hit for all involved!

As a Little Scientist Mentor, you will assist in teaching local primary students the basics of science including exploring the science of flight, everyday chemical reactions, evolution and adaptation, and even teach them how to create a robotic hand!

These Little Scientist primary students will then make a project and present it with JMSS students at our Science Fair or Exhibition Night.

SKILLS

- Communication skills
- Caring for those younger than you
- Teaching skills
- Patience
- Understanding how others learn
- Troubleshooting
- Hands on demonstration skills
- Leadership skills

Primary School Outreach

Mini MATHEMATICIANS

UNESCO PILLAR

Learning to Live Together

Our school offers a range of activities to promote STEM to primary school students. JMSS students have the opportunity to be involved in this promotion. Our Primary School Outreach initiative is a fantastic opportunity for our JMSS students to develop leadership skills and impart their knowledge. Students may be encouraged to continue for multiple terms to refine their skills.

As a Mini Maths Mentor, you will assist in providing local primary students with the opportunity to explore mathematics and problem-solving like real mathematicians do. You will guide them through hands-on problem-solving games, puzzles, and kinetic challenges (all designed with a healthy dose of mathematics).

SKILLS

- Communication skills
- Caring for those younger than you
- Teaching skills
- Patience
- Understanding how others learn
- Logic skills
- Troubleshooting
- Leadership skills

Primary School Outreach

Spike Prime-ARY ROBOTICS

UNESCO PILLAR
Learning to Live Together

This Primary Outreach program uses the LEGO Spike Prime robotics platform to teach coding and problem-solving skills to senior Primary students.

You do not need to be an expert in LEGO Spike Prime, just a willingness to work alongside Grade 5/6 students to nurture their learning.

Spike Prime features a drag-and-drop programming language based on Scratch, which can be expanded to include text-based coding in Python.

You will be helping groups of Grade 5 and 6s to develop critical thinking, creativity and collaboration through engaging, playful learning activities.

SKILLS

- Bargaining skills
- Communication skills
- Teamwork
- Creative thinking
- Critical thinking skills
- Development of sound arguments
- Confidence under pressure
- Patience
- Spatial Awareness
- Technical Skills
- Troubleshooting

Aerospace ENGINEERING

UNESCO PILLAR

Learning to Do

This 12-week unit will be an introduction to the fundamental concepts of aerospace engineering.

It will include content on aeronautics, astronautics and design.

Students will design a vehicle design project, where the performance, weight and principal characteristics of the vehicle are estimated using physics, mathematics and chemistry.

> This unit is led by Monash University students from the Aerospace Engineering club.

SKILLS

- Design
- Aerodynamics
- Avionics
- Materials Engineering
- Computations Simulation

Board Games & ORIGAMI

UNESCO PILLAR

Learning to Know

Take a much-needed break from your studies with Board Games and Origami.

From Dungeons and Dragons to Snakes and Ladders, learn how to play a variety of games that will challenge your teamplay, worldbuilding, and logic skills, and then take a break to challenge yourself to develop and master the art of Origami.

You will develop soft skills that can be used in other areas of life, relax and have fun with fellow students, make new friends and teammates, and importantly - recharge your "batteries" before your next class!!

Students believe this subject is successful because the promise of co-curricular is relaxation. Board Games and Origami, conducted as intended, is a relaxing and entertaining break.

SKILLS

- Bargaining skills
- Communication skills
- Teamwork
- Creative thinking
- Critical thinking skills
- Development of sound arguments
- Confidence under pressure
- Patience
- Spatial Awareness
- Technical Skills
- Troubleshooting

BOLLYWOOD

UNESCO PILLAR

Learning to Be

An exploration of multiple styles to build a movement vocabulary and enjoy currently trending music while building flexibility, strength and spatial awareness. This class is for dancers of all abilities. All are welcome!

In 2025, the focus of the CCR Dance unit will be the Bollywood genre.

Bollywood dancing is a colourful, dynamic and highly theatrical dance style seen in Indian films. It combines classical forms of dance including traditional Indian, folk, salsa, belly-dance while also incorporating more contemporary western forms such as hip hop, jazz and funk. Having no set rules, Bollywood dancing is the perfect means to encourage freedom of expression.

Bollywood will be run by fun and experienced Bollywood dancers. With no set rules, fitness requirements or gender restrictions, Bollywood dancing is the perfect way to enjoy freedom of expression and connection with others.

SKILLS

- Timing, rhythm and musicality
- Spatial awareness of the body
- Cultural awareness
- Creativity
- Self-expression
- Fitness

Cells to SYSTEMS

UNESCO PILLAR

Learning to Know

This Co-Curricular subject is designed to provide a foundational understanding of human anatomy and physiology.

Students will explore the fascinating human body's form and function starting from the structure of cells to its complex tissue systems.

This subject is available for Year 10 students only, and only runs in the second and third blocks of Co-Curricular.

> Students may also have the opportunity to take part in dissection experiments!

SKILLS

- Understanding how the human body works
- Understanding how humans fit within the world

CHESS

UNESCO PILLAR
Learning to Know

In Chess we will explore fundamentals and concepts of the game, bringing students of all levels into the world of chess and providing them with a solid foundation for play.

We will dive into frequently occurring themes and look into tournament rules and processes - preparing students for tournaments around Melbourne.

At the end of the trimester, we will put these skills into practice at the CCR Chess tournament.

If you love chess and want a challenging and fun experience, then choose Chess - one of JMSS's most highly requested subjects!

> Congratulations to Chess Club Alumni, Douglas, who placed 3rd in the 2024 Victorian Schools Chess Final!

SKILLS

- Logical thinking
- Thinking of future consequences
- Troubleshooting
- Patience
- Learning from loss
- Analytical thinking

Creative & Critical THINKING

UNESCO PILLAR

Learning to Be

Want a brain break but still be kept mentally stimulated?

In this program, students will participate in a series of activities, puzzles, and discussions, all centred around enhancing their key cognitive abilities.

Students will learn to think on their feet and outside the box, so as to analyse, evaluate, and problem solve with curiosity and innovation.

Simultaneously, students will also learn to reflect on their past experiences, and uncover the strengths and values within them that have led them to becoming the person they are today.

SKILLS

- Creative skills
- Critical thinking skills
- Enhancing key cognitive abilities
- Thinking outside the box
- Curiosity
- Innovative thinking

DEBATING

UNESCO PILLAR

Learning to Live Together

The debating program will build student confidence in public speaking and in forming clear arguments.

There will be opportunities for a wide range of discussion on current issues and an opportunity for students to develop their skills in research, forming arguments, and thinking on their feet. For students wishing to put these into practice, there will be opportunities for competitions both internally at JMSS and also externally through the Debating Association of Victoria competitions.

Debating is not just about competitions though, it can be a lot of fun and a great opportunity to work with friends and challenge yourself. Good debaters are able to apply these skills across all of their subjects.

**Students wishing to compete in the DAV season (March to July), who have not debated at JMSS before, will need to complete one block of Debating.

SKILLS

- Develop reasoning skills
- Understand opposing views of arguments
- Learn to respect different opinions
- Active listening
- Develop sound arguments
- Communication skills
- Public speaking skills
- Confidence
- Research skills
- Thirst for knowledge
- Self-reflection and self-improvement

Digital ARTS

UNESCO PILLAR

Learning to Do

In the Digital Arts program, you will explore the vast potential of technology to create compelling and imaginative artworks. This unit encourages you to harness your creativity through digital mediums, with a particular emphasis on using Adobe Photoshop, a powerful tool in the world of digital art. Whether you're an experienced artist or just beginning your journey, this program is designed to help you express your unique vision.

Throughout the term, you will focus on two main outcomes: digital collage and image-making. These projects allow you to combine various elements—such as photographs, and visual images—to create new, original works of art. The process is not only about mastering the technical aspects but also about developing your artistic voice and sharing your ideas with others. During the final term, you'll have the opportunity to present your projects to the class, explaining the concepts and inspirations behind your creations.

For those new to digital art or Photoshop, fear not. The program includes a basic tutorial on using Adobe Photoshop, ensuring that everyone can start from scratch and gradually build their skills. The goal is to take you from "zero to hero,". Remember, in digital art, the only limit is your imagination.

SKILLS

- Creative thinking skills
- Critical thinking skills
- Presenting design ideas
- Communicating design ideas
- Adobe Photoshop software basic skills

Drawing & PAINTING

UNESCO PILLAR

Learning to Be

In the first 4 - 5 weeks students will learn 1 point, 2 point and 3 point perspective drawing techniques. They can choose one of these methods and render an image of their choice, in either grey lead pencil or colour pencils. Students will be taught rendering techniques to create realistic 3D drawings.

In weeks 4 - 8, students will develop skills in creating a black and white lino print. They will have the opportunity to hand colour their prints with paints or pencils.

A portfolio will be developed through the 8-week program, and many of the students' art pieces will be displayed at the end.

This subject takes place during a double period.

SKILLS

- Creative thinking
- Critical Thinking
- Appropriating works by other artists and printmakers

Effective ALTRUISM

UNESCO PILLAR

Learning to Live Together

Effective Altruism at John Monash Science School is part of a global community dedicated to doing the most good resourcefully.

This Co-Curricular encourages discussion and action through school-based initiatives.

This Co-Curricular will include a series of guest speakers and a guided exploration into the key ideas of Effective Altruism and problem-solving in the real world.

Whether you're curious or already committed, we welcome you to join this Co-Curricular in thinking critically to make a meaningful impact.

SKILLS

- Communication skills
- Care for others
- Patience
- Troubleshooting
- Leadership skills

Innovation & DESIGN

UNESCO PILLAR

Learning to Do

Expand your creative and entrepreneurial capabilities by learning all about Design Thinking.

Come up with novel ideas and solutions to real-world problems and then put them into practice by developing digital and physical interventions based on modular electronics.

In Innovations class, you will develop skills in: Innovation, Design and Critical Thinking, 3D Modelling, Modular Electronics and Devices, Programming.

SKILLS

- Entrepreneurial skills
- Creative thinking
- Problem solving skills
- Engineering skills
- Critical thinking
- Programming skills
- Understanding of electronics and devices
- Innovative thinking

Knitting & PHILOSOPHY

UNESCO PILLAR
Learning to Know

Students learn about the great thinkers, concepts, and underlying theory of philosophy.

They discuss texts and engage in philosophical debates. Students also do all of this whilst knitting and crocheting!

SKILLS

- Understanding how people think
- History of Philosophy
- Logical thinking
- Critical thinking
- Analytical thinking
- Active listening
- Development of sound arguments
- Communication skills
- Fine motor skills
- Problem solving
- Creativity
- Better interpretation of instructions
- Patience
- Spatial awareness
- Technical skills
- Troubleshooting

LEADERSHIP

UNESCO PILLAR

Learning to Be

Join our Leadership Program and unlock your potential to lead in today's world.

Through engaging discussions and interactive activities, you'll explore vital leadership areas such as storytelling, character strengths, emotional intelligence, mental health and problem-solving.

You'll develop teamwork skills and learn to drive community action in fields like science and social media.

The program also features insights from industry speakers, providing real-world perspectives to enhance your learning. This is your chance to grow into a confident, impactful leader who will continue to make a difference in JMSS and beyond.

> This subject was designed by the JMSS Wellbeing Team to help students develop key soft skills needed to succeed in every day life.

SKILLS

- Storytelling
- Self development
- Critical self analysis and self awareness
- Identification of emotional intelligence
- Problem solving
- Teamwork
- Leadership skills

Lego ROBOTICS

UNESCO PILLAR

Learning to Do

The Lego Robotics club prepares students to compete in Lego-based competitions using Lego Mindstorms-based robots.

Students will build, develop, and participate in a range of activities that will challenge their coding and engineering skills.

Students may even work towards competing in the FRC and VEX competitions.

SKILLS

- Coding skills
- Construction skills
- Engineering skills
- Creative thinking
- Troubleshooting
- Teamwork
- Communication skills

Minecraft ENGINEERING

UNESCO PILLAR

Learning to Do

Students will learn engineering concepts such as building logic circuits using Redstone in Minecraft, an element in the game which is a fun way to learn and apply real world electrical circuits.

Students will complete tasks and work towards an in-class competition at the end of the 9-week program.

SKILLS

- Computer skills
- Creative thinking
- Coding skills
- Engineering skills
- Seeing how games can be used in the real world
- Learning through play
- Understanding that learning can be fun

Monash SPORTS

UNESCO PILLAR
Learning to Be

In this class, students will rotate through different sports across the trimester.

Activities in this subject will range from Volleyball, Netball, Basketball, Badminton, and many others.

Students enrolled in Co-Curricular sports will use the entire Co-Curricular time at Monash Sports to participate in a range of activities to help develop their skills and enjoy physical activity.

> Monash Sport is one of our **MOST** requested subjects!
> Now with four classes running each trimester, we can accommodate ~250 enthusiastic athletes a year!

SKILLS

- Develop a better sense of physicality and bodily awareness
- Teamwork skills
- Communication skills
- Fitness
- Learn how important physical exercise is for your brain!

Music Composition & SONGWRITING

UNESCO PILLAR
Learning to Live Together

Interested in writing a symphony, a poetic sing-a-long or creating the hottest Trap beats? This is the subject for you!

Students will develop musical works in their favoured composition mediums, from pen and paper to digital workstations and sequencers.

Students will create a portfolio of works that can be recorded and performed at the end of the 8-week sequence.

What to bring?
Laptop/tablet/phone and headphones.

> Students rated Music Composition and Songwriting a whopping **9/10**, and its facilitator a rating of **8.3/10**!
> When asked how they would improve the unit, students responded with, "it's perfect, no improvement needed".

SKILLS

- Communication skills
- Performance skills
- Creative skills
- Language analysis skills
- How to share life experiences and emotions with others in a universal way
- IT skills
- Musical skills
- Looking at the world through different perspectives through music, lyrics and compositions

Personal Fitness TRAINING

UNESCO PILLAR

Learning to Do

The Personal Training program provides the expertise and experience to help people of all fitness abilities to improve their health and energy levels, gain muscle and maintain health goals.

Drawing on the services of Personal Trainer, Sofya Kugler, this 8 week fitness program will be outdoors, and focus on enhancing daily functional movements and strength for long term wellness.

The group program will cater to all genders and ability levels.

SKILLS

- Develop a better sense of physicality and bodily awareness
- Communication skills
- Fitness
- Learn how important physical exercise is for your brain!

PHOTOGRAPHY

UNESCO PILLAR
Learning to Live Together

Across this programme, students will learn essential skills for photography, including camera operations, lighting, editing, and framing.

They will also practice soft skills, including working with subjects and in production teams.

Through practical and team-based work, students can express themselves creatively and assemble a portfolio of their work.

> This subject offers students a range of opportunities beyond just learning the essentials of photography - practical work, getting out of the classroom, and teamwork. It's a lot of fun and I enjoyed working with the students!
>
> ***Oscar Lupton, Photography Facilitator***

SKILLS

- Interpersonal and team skills
- Creative expression
- Framing, set design and lighting skills
- Photography principles
- Photography fundamentals
- Editing software skills
- Adobe Lightroom

READING

UNESCO PILLAR
Learning to Know

The Reading Group is for students who are looking to develop their personal reading practices and depth of knowledge around reading.

We will support the development of personal reading interests and practices as well as academic practices and techniques.

Each meeting will begin with an engager activity and focus on a theme for the group. There will be time for discussions and private reading, allowing students to tailor this time to their interests.

We will discuss different types of reading strategies and approaches to different non-fiction and fiction resources. The group will be introduced to and use tools such as Goodreads to develop and track their personal reading journeys.

> Students will not only have time to sit and read - they will also learn how to utilise databases and other resources accessible at JMSS and other public libraries, and participate in reading related activities!

SKILLS

- Better understanding of the world through text
- How do we record things that have happened?
- How do we convey emotion via the written word

Robotics & Emerging TECHNOLOGY

UNESCO PILLAR
Learning to Do

Are you interested in robotics and emerging technologies?

This beginner-friendly subject will guide you through the process of building and controlling Arduino-powered devices to perform a series of fun challenges.

Throughout this subject, students will work in teams to gain skills in Arduino programming, electrical and mechanical engineering.

SKILLS

- Programming skills
- Coding skills
- Construction skills
- Creative thinking
- Troubleshooting
- Teamwork
- Communication skills
- Learning about new technologies and their uses

Role Play GAMES

UNESCO PILLAR

Learning to Know

Students will engage in role play based activities, developing original characters, settings, and storylines through collaborative storytelling.

Sessions will focus on creative exploration and narrative construction, incorporating game mechanics such as dice rolls and statistics to support decision-making and outcomes.

SKILLS

- Bargaining skills
- Communication skills
- Teamwork
- Creative thinking
- Critical thinking skills
- Development of sound arguments
- Confidence under pressure
- Patience
- Spatial Awareness
- Technical Skills
- Troubleshooting

UNESCO PILLAR

Learning to Live Together

Theatre Sports: THE POWER OF PLAY

Calling all thespians!

This subject will provide drama and theatre sports opportunities to all students, from beginners to total theatre experts.

Over 8 weeks, you will:

- Engage with a group of like-minded peers in a series of collaborative theatre games and analyses of professional performance;
- Develop stage skills, confidence and self-expression;
- Create, refine and perform an original solo or group performance.

Whether you're an established science-drama polymath or just looking to step out of your comfort zone, this is the space for you!

SKILLS

- Creative and critical thinking
- Improvisation
- Adaptability to different situations
- Put yourself in others' shoes
- Being open to new ideas and change
- Teamwork
- Analytical thinking
- Confidence
- Self expression
- Public speaking
- Stage skills

Women's HEALTH

UNESCO PILLAR

Learning to Be

Women's Health is for female-identifying students exploring topics such as nutrition, body image, period health, healthy relationships, safety and mental health.

Each session will include a self-care activity, and explore creativity, mindfulness and gentle movement.

This elective offers a rare opportunity for female students to dialogue with each other, in conditions of trust, respect and safety. No topic is off-limits.

Run by our School Counsellor, Angelique Vardis, the sessions will be well facilitated, draw on reputable resources and information, and offer follow-up support as needed.

SKILLS

- Self-awareness
- Critical thinking
- Self-reflection
- Body positivity
- Respect for others and self
- Learning to build healthy relationships and connections with others