

2023 Learn . Energise . Connect Program

Friday 24th November - Amora Hotel, 200 Creek Street, Brisbane

7:30 - 8:30

Registration and Arrival Tea & Coffee

8:30 - 8:40

Welcome

8:45 - 9:55

SESSION 1

1A: TI-Nspire™ CX II Fundamentals

Are you new to TI-Nspire™ technology? Learning the basics will give you the confidence to use this powerful technology in your classroom and provide students with the skills they need to use it effectively in their courses. In this session we will explore the Calculator and Graph applications through carefully selected questions applicable to students in years 10 through to 12. Time permitting, we will extend our explorations to the Lists and Spreadsheet and Data and Statistics applications. You will also learn how to use the TI-Nspire software to help your students and finish the session saying "I didn't know it could do all of that!".

Technology: TI-Nspire™ CX II

Presenter: Rodney Anderson

ROOM: Patterson 1

1B: TI-84PlusCE™ Fundamentals

Are you new to the TI-84PlusCE™? Learning the basics will give you confidence to use the technology in your classroom and provide students with the basic skills they need to use it efficiently in their courses. In this session we will explore the basic features, commands, navigation and APPS. You will find answers to your questions and are sure to leave saying: "I did not know it could do that".

Technology: TI-84Plus CE™

Presenter: Brian Lannen

ROOM: Patterson 2

1C: Preparing Students in Yrs 7 - 10 for a PSMT

How many of the fractions: $\frac{1}{12}$, $\frac{2}{12}$... $\frac{12}{12}$ will not simplify? What can this simple question teach students about primes and anti-primes? What happens if you calculate $\frac{1}{x+1}$ and store the result in x, then just keep pressing enter, what number do you get? Now calculate the reciprocal of your answer, now square it? What's going on here? So many wonderful questions to explore, so come along, bring your sense of inquiry and your chosen technology.

Technology: TI-Nspire, TI-84PlusCE & TI-30 MathPrint resources provided

Presenter: Peter Fox

ROOM: Gilmore

1D: Specialist Mathematics - Calculus

In this session we will explore a range of opportunities, using TI-Nspire technology, to help students understand differential and integral calculus, including applications of integral calculus, rates of change and differential equations.

Technology: TI-Nspire™ CX II

Presenter: Peter Flynn

ROOM: Mackellar

1E: Specialist Mathematics - Calculus

In this session we will explore a range of opportunities, using TI-84 Plus CE technology, to help students understand differential and integral calculus, including applications of integral calculus and rates of change

Technology: TI-84Plus CE™

Presenter: John Bament

ROOM: Simpson

10:05 - 11:15

SESSION 2

2A: Functions PSMT

In this session we will explore skills required to generate the solution of a PSMT with a Year 10/11 Methods focus. We will unpack strategies to effectively run the PSMT as a scaffolded learning experience as students begin to engage with this style of assessment. Participants will go away with sample PSMTs that use functions learnt in Year 10 and 11.

Technology: TI-Nspire™ CX II

Presenters: Shelley Cross and Evan McGarrity

ROOM: Patterson 1

2B: Mathematical Methods: Calculus

In this session participants will look at basic skills to help students understand and be successful when covering differential and integral calculus in Mathematics Methods. Participants will complete activities and receive resources to assist in the classroom.

Technology: TI-84Plus CE™

Presenter: Brian Lannen

ROOM: Patterson 2

2C: Scientific Calculator (Years 7-10)

In this session participants will explore the TI-30XB/TI-30 MathPrint scientific calculators and discover how they can be used effectively in junior and middle school mathematics.

Technology: Scientific Calculators -TI-30XB & TI-30X Plus Mathprint **Presenter: Melissa Hourigan** **ROOM: Gilmore**

2D: Mathematical Methods & Specialist Mathematics - Probability and Statistical Inference

In this session we will use the TI-Nspire CX II to illustrate, explore and consolidate some important ideas relating to probability and statistical inference in these subjects.

Technology: TI-Nspire™ CX II **Presenter: Peter Flynn** **ROOM: Mackellar**

2E: Specialist Mathematics -Complex Numbers and Matrices

In this session we will explore a range of activities and questions that help develop student understanding in key areas of the Specialist Mathematics course, including Complex Numbers and Matrices using TI-84Plus CE technology.

Technology: TI-84Plus CE™ **Presenter: John Bament** **ROOM: Simpson**

11:15 - 11:40

MORNING TEA

11:45 - 13:00

SESSION 3

3A: Mathematical Methods: Calculus

In this session participants will look at basic skills to help students understand and be successful when covering differential and integral calculus in Mathematics Methods. Participants will complete activities and receive resources to assist in the classroom.

Technology: TI-Nspire™ CX II **Presenters: Melissa Hourigan** **ROOM: Patterson 1**

3B: Methods & Specialist Mathematics - Probability and Statistical Inference

In this session we will use the TI-84Plus CE to illustrate, explore and consolidate some important ideas relating to probability and statistical inference in these subjects.

Technology: TI-84Plus CE™ **Presenters: John Bament** **ROOM: Patterson 2**

3C: Capturing Data & Imaginations

Technology makes data capture quick, easy and exciting. In this session you will learn how to use your calculator to fly a drone, avoid an airborne virus, drive a semi-autonomous vehicle and out-think others in a challenging game. Be warned, while we are having all this fun a plethora of mathematics will sneak in like a friendly Trojan horse.

Technology: TI-Nspire / TI-84Plus CE **Presenter: Peter Fox & Stephen Broderick** **ROOM: Gilmore**

3D: Specialist Mathematics: Exam Review

In this session we will look at questions from the QCAA Specialist Mathematics Technology Active External Examinations from 2021 and 2022. Enhancing your expertise of the TI-Nspire with time saving methods to both reach solutions and check answers. Whether you're new to TI-Nspire or looking to expand your skills, this session will give you the technical knowledge frequently required in paper 2 of the Specialist External exam.

Technology: TI-Nspire™ CX II **Presenter: Evan McGarrity** **ROOM: Mackellar**

3E: Mathematical Methods: Examination Skills

During this session we will explore how to efficiently use TI-84Plus CE technology to answer technology active Mathematical Methods questions in class and during examinations. Whether you're new to TI-84Plus CE technology or looking to expand your skills, this session will give you the technical knowledge frequently required in paper 2 of the Methods examination.

Technology: TI-84Plus CE™ **Presenter: Brian Lannen** **ROOM: Simpson**

13:05 - 14:15	Lunch
14:20 - 15:30	SESSION 4
<p>4A: Mathematical Methods: Examination Skills During this session we will explore how students can efficiently use their TI-Nspire calculator to answer technology active Mathematical Methods questions both in class and during their examinations. Technology: TI-Nspire™ CX II Presenter: Rodney Anderson ROOM: Patterson 1</p>	
<p>4B: Specialist Mathematics: Exam Review In this session we will look at questions from the QCAA Specialist Mathematics Technology Active External Examinations from 2021 and 2022. Enhancing your expertise of the TI-84Plus CE with time saving methods to both reach solutions and check answers. Whether you're new to TI-84Plus CE or looking to expand your skills, this session will give you the technical knowledge frequently required in paper 2 of the Specialist External exam. Technology: TI-84Plus CE™ Presenter: John Bament ROOM: Patterson 2</p>	
<p>4C: Powerful visuals and interactive content improves Encoding resulting in better Retention & Retrieval TI-Nspire technology can be used to create powerful visuals, interactive content and obtain immediate feedback to ensure students are correctly encoding mathematical concepts. Think of it this way, if you have a terrible golf swing, all the practice in the world won't improve your score. In this session we will work through a range of examples from algebra to differential equations. I guarantee, your mind will never be the same again! Technology: TI-Nspire CX II Presenter: Peter Fox ROOM: Gilmore</p>	
<p>4D: Specialist Mathematics: Complex Numbers, Vectors & Matrices In this session we will explore a range of activities and questions that help develop student understanding in key areas of the Specialist Mathematics course, including ,Complex Numbers, Vectors and Matrices using the TI-Nspire CX II calculator. Technology: TI-Nspire™ CX II Presenter: Peter Flynn ROOM: Mackellar</p>	
<p>4E: Functions PSMT In this session we will explore skills required to generate the solution of a PSMT with a Year 10/11 Methods focus. We will unpack strategies to effectively run the PSMT as a scaffolded learning experience as students begin to engage with this style of assessment. Technology: TI-84Plus CE™ Presenter: Brian Lannen ROOM: Simpson</p>	