ENGINEERING PROGRAMMABLE SYSTEMS

INCLUDED ON THE
KS4 PERFORMANCE TABLES

Mapping guide

OCR Level 1/Level 2

Cambridge National in

Engineering Programmable Systems

J824

For first teaching in 2022 | Version 1

Mapping the redeveloped Cambridge National in Engineering Programmable Systems (J824) to the current specification

ocr.org.uk/cambridgenationals

Cambridge Nationals

OCR
Oxford Cambridge and RSA

Introduction

We have updated our Cambridge Nationals for first teaching 2022 with first assessment in Summer 2024.

To make our changes we have worked in very close partnership with teachers, actively consulting at each stage of the development.

We are confident that our updates make our Cambridge Nationals qualifications the best option for teachers and students who are looking for an engaging and highly relevant vocational curriculum.

We make sure our Cambridge Nationals are accessible to a range of students, with a focus on vocational learning. Students will have the chance to learn and develop key practical skills that they can apply to real-life contexts and work situations.

We have created this mapping guide to help you move from the current Cambridge Nationals qualifications by highlighting which elements of the redeveloped qualification remain the same as before and where new content has been included.

This mapping guide

In the tables that follow, you can see:

- redeveloped unit details including Topic Area (TA) number and titles
- how the redeveloped units map to the current specification units that you may already know, at learning outcome level
- brief comments about the changes we've made
- **that all redeveloped units and Topic Areas (TAs)** map to the current qualification – there are no new units in this redeveloped Cambridge National
- the **current units and LOs that do not map** to the redeveloped Cambridge National.

For reference, the current specification unit and LO titles are included in the appendix.

In each unit, you'll see we now have teaching content in Topic Areas instead of learning outcomes. Read more in our redeveloped specification

Mapping

Redeveloped Cambridge National		Current Cambridge National		
Cambridge National in Engineering Programmable Systems (First teach 2022)		**Cambridge National in Systems Control in Engineering J833, J843**		
R047 Principles of electronic and programmable systems Examined, mandatory unit		**Unit number**	**LO number**	**Comment**
Topic Area number	**Topic Area title**			
1	Basic electronic circuit principles	R113	LO1	Same as old specification but specific requirements better defined
2	Electronic and programmable systems, components and devices	R113	LO2	Same as old specification but specific requirements better defined
3	Methods of prototyping and testing systems and circuits	R113	LO3	Same as old specification but specific requirements better defined
4	Commercial circuit production and construction methods	R113	LO4	Same as old specification but specific requirements better defined

Redeveloped Cambridge National		Current Cambridge National		
Cambridge National in Engineering Programmable Systems (First teach 2022)		**Cambridge National in Systems Control in Engineering J833, J843**		
R048 Making and testing electronic circuits NEA, mandatory unit		**Unit number**	**LO number**	**Comment**
Topic Area number	**Topic Area title**			
1	Drawing and simulating electronic circuits	R114	LO1	Same as old specification but specific requirements better defined
2	Constructing electronic circuits	R114	LO4	Same as old specification but specific requirements better defined
3	Testing electronic circuits	R114	LO3	Same as old specification but specific requirements better defined
R049 Developing programmable systems NEA, mandatory unit		**Unit no**	**LO no**	**Comment**
Topic Area nnumber	**Topic Area title**			
1	Plan the development of programmable systems	R116	LO1/LO2	Selected parts of system layout and initial system planning taken from old specification; no requirement now to investigate system layout and operation in other products or system
2	Develop programmable systems	R116	LO2	Same as old specification but specific requirements better defined
3	Test programmable systems	R116	LO3	Same as old specification but specific requirements better defined

Current content not in the redeveloped specification

Current unit number	Current unit title	Current LO number	Current LO title
R115	Engineering applications of computers	LO1	Understand how computers are used in engineering design, manufacture and process control
		LO2	Understand how computers are used for maintenance of engineering systems
		LO3	Know how computers are used to communicate and use data for production and maintenance

Appendix

Current qualification units and learning outcome (LO) titles

R113	Electronic principles	LO1	Understand basic electronic principles
		LO2	Understanding the operating principles of electronic components
		LO3	Know test methods for electronic circuits
		LO4	Understand commercial circuit construction method
R114	Simulate, construct and test electronic circuits	LO1	Be able to use CAD for circuit simulation and design
		LO2	Be able to construct circuits
		LO3	Be able to test electronic circuits
R115	Engineering applications of computers	LO1	Understand how computers are used in engineering design, manufacture and process control
		LO2	Understand how computers are used for maintenance of engineering systems
		LO3	Know how computers are used to communicate and use data for production and maintenance
R116	Process control systems	LO1	Understand the application and operation of microcontrollers and microprocessors in engineered products
		LO2	Be able to design, develop and simulate a control system solution
		LO3	Be able to test control systems

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