**ENGINEERING**

Overview:

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| --- | --- | --- | --- | --- | --- |
| **Subject:** | Engineering | **Exam board:** | OCR Cambridge | **Lessons per week:** | 11 x lessons at KS4 Varied at KS5 |

KS4 Components:

|  |  |  |
| --- | --- | --- |
| **Qualification One** | **Qualification Two** | **Qualification Three** |
| Engineering Design | Engineering Manufacture | Engineering Principles and Business |

KS5 Components (Extended Certificate – One A-Level Equivalent):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Unit 1** | **Unit 2** | **Unit 3** | **Unit 4** | **Unit 10** | **Unit 22** |
| Mathematics for Engineering | Science for Engineering | Principles of Mechanical Engineering | Principles of Electrical and ElectronicEngineering | Computer Aided Design | Engineering and the Environment |

KS5 Components (Diploma – Three A-Level Equivalent *– includes Extended Certificate Units*):

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit 9** | **Unit 11** | **Unit 13** | **Unit 14** | **Unit 15** | **Unit 16** | **Unit 17** | **Unit 18** | **Unit 19** | **Unit 21** | **Unit 24** | **Unit 25** |
| Mechanical Design | Materials Science | Mechanical Operations | Automation Control and Robotics | Electrical, Mechanical, Hydraulic and PneumaticControl | Systems and Programming | Computer Aided Manufacture | Lean and Quality | Inspection and Testing | Maintenance | Project Management for Engineers | Promoting Continuous Improvement |

Curriculum overview (Diploma Units in Red):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term`** | **Year 10** | **Year 11** | **Year 12** | **Year 12** |
| 1 | Passport to Engineering | Engineering Design Engineering Manufacture Engineering Principles and Business | Unit 1- Mathematics for EngineeringUnit 2 – Science for EngineeringUnit 3 – Principles of Mechanical Engineering Unit 4 – Principles of Electrical and electronic EngineeringUnit 10 – Computer Aided DesignUnit 13 – MechanicalOperationsUnit 14 – Automation Control and Robotics Unit 24 – Project Management for EngineersUnit 9 – Mechanical DesignUnit 17 – Computer Aided Manufacture | Unit 22 – Engineering and the Environment.Unit 11 – Materials ScienceUnit 15 – Electrical, Mechanical, Hydraulic and Pneumatic Control Unit 16 – Systems and ProgrammingUnit 18 – Lean and Quality Unit 19 – Inspection and TestingUnit 21 - Maintenance Unit 25 – Promoting Continuous Improvement |
| 2 | Engineering Design Engineering Manufacture Engineering Principles and Business |
| 3 |
| 4 |
| 5 |
| 6 |  |  |