**Engineering Curriculum 2024/2025**

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| **Year** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **7** | Puzzle CAD project  H&S in the workshop  Characteristics of natural wood  Introduction to 2D Design and laser cutter  Tools and machines in the workshop Logo and packaging designs | Novelty Hook Project  Characteristics of metal  Metal working tools and machines  CAD laser cut designs  CAD sticker machine designs | Rotation | Rotation | Rotation | Rotation |
| **Assessment** | Formal Assessment at the end of rotation | Formal Assessment at the end of rotation |  |  |  |  |
|  | *Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Comprehension tasks, Word-searches, Homework Tasks, Use of word banks and find the missing word, Use of learning logs for recount and recall, DO NOW tasks* | | | | | |
| **8** | Pewter Casting Project  H&S metal casting process  Pewter casting  CAD mould designing  Finger joint box in pine Quality of finish | Electronic lamp project  Soldering skills  Intro to electronic components  Intro to plastic/Vacuum forming  Logo’s and packaging  Wood working skills | Rotation | Rotation | Rotation | Rotation |
| **Assessment** | Formal Assessment at the end of rotation | Formal Assessment at the end of rotation |  |  |  |  |
|  | *Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Comprehension tasks, Word-searches, Homework Tasks, Use of word banks and find the missing word, Use of learning logs for recount and recall, DO NOW tasks* | | | | | |
| **9** | Intro to Engineering  Engineering sectors and products  Materials and their properties  Scales of production  Toffee hammer practical  Intro to working with the lathe  Internal and external threading  Dipcoating in plastic  H&S in the workshop and processes | Intro to Engineering  Characteristics of metal  Bottle opener project  Creating templates  Drilling techniques  Cutting and filing aluminium  Metal finishes  Risk assessment  Measuring accurately | I |  |  |  |
| **Assessment** | Written test, overall practical grade | End of unit written test |  |  |  |  |
|  | *Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials, News articles, Writing frames and scaffolding techniques, Use of word banks, DO NOW tasks, Revision guide comprehension tasks for theory element, exam question analysis and breakdown tasks* | | | | | |
| **10** | Component 1 Practical skills  Measuring accurately  Cutting and filing engineering materials Drilling  Lathe techniques  Tap and Die for internal and external threading | Component 1 Practical skills  Intro to Engineering drawings Completing 4 mini projects using drawings.  Skills covered  Drilling, lathe skills, heat processes, hand tools, cold bending, forging, milling. | Component 1 – PPE Practical  (20 hours)  Risk assessments  Plan of production  Reading engineering drawings  Producing product set by exam board. |  | Component 2- Re-design a product PPE  Engineering drawing techniques. Oblique and isometric drawing. Intro to 3D CAD  Re-design set task. | Preparation for Practical exam in September.    Practising practical skills with small component tasks |
| **11** | Component 1 -Actual Practical exam worth  50% of final grade | Component 1 -Actual Practical exam worth 50% of final grade    Component 2- Re-design a product exam worth 20% of final grade | Component 3 – External set exam  Preparation and delivery of external set exam in January | All Components-  Completion for moderation. | Course complete |  |

*Digital Literacy Student Leadership: Actively promote news related articles on: Being Safe, Use of Software, Cyber Security, Health and Well Being, New Technology*

*ICT Competition Key:* **CEIAG SMSC ICT Enrichment**

**Engineering Curriculum 2022/2023**

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|  |  |  | Complete any outstanding work in components 1&2 |  |  |  |
|  | *Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Writing frames and scaffolding techniques, Use of word banks, DO NOW tasks, Revision guide comprehension tasks for theory element, exam question analysis and breakdown tasks* | | | | | |



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