**Primary 5-11 Curriculum Map Design and Technology**

***Year 1 Undergraduate***

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| **University Curriculum – Year 1** | | | | | |
| **Session Sequence** | **Session Content Subject Specific Components/s** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment mode** |
| **Session 1**    2 hours  What is Design  and Technology? | To understand there are principles of high quality design and technology teaching: The iterative process of researching,  designing, making and evaluating  products.  To develop a sound knowledge of the four aims of the National Curriculum for Design and Technology- .  To consider subject content within the National Curriculum- Design, make, Evaluate, Technical Knowledge  To understand that there are six key areas of study in the  primary D&T curriculum. | 1.6, 3.1, 3.2, 3.5, 5.1 | 1b,1c, 1e, 3a | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 1.  *The Really Useful Primary Design and Technology Book*  MCCLAIN,M., 2022. Towards a signature pedagogy for design and technology education: a literature review*, International journal of technology and design education,* 32,pp 1629–1648.  MCCLAIN, M, IRVING-BELL, D WOOFF, D & MORRISON-LOVE, D., 2019. How technology makes us human: cultural historical roots for design and technology education, *The Curriculum Journal*, 30:4, Pp 464-483.   DFE., 2021. *Development Matters*    DFE., 2021. *Early Years Foundation Stage Statutory Framework*    EARLY EDUCATION., 2021. *Birth to Five Matters*  BRICE, R,. 2020. Design and Technology: Real World Applications. In: C. FORSTER and R. EPERJESI., ed., 2020. *Teaching the Primary Curriculum.* pp. 45-62.  D.A.TA.., 2023. *Reimagining Design and Technology* D&T Association’s ‘Vision’ for the future of the subject in English Schools  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.*  OFSTED., 2012., *Ofsted’s subject professional development materials: Design and technology A training resource for teachers of design and technology in primary schools*  Coe, R., Aloisi, C., Higgins., & Major, L. E. (2014) What makes great teaching. Review of the underpinning research. Durham  University: UK. Available at: <http://bit.ly/2OvmvKO>  LOtC  [https://onlinelibrary.wiley.com/doi/10.1002/%28SICI%291098-237X%28199711%2981%3A6%3C763%3A%3AAID-SCE11%3E3.0.CO%3B2-O](https://onlinelibrary.wiley.com/doi/10.1002/(SICI)1098-237X(199711)81:6%25252525253C763::AID-SCE11%25252525253E3.0.CO%2525253B2-O) | Mind map – what do you already know about D&T?  Use of reflective journals  Mentimeter quiz  Peer evaluation of mechanisms using set criteria.  Return to mind map – add new knowledge  Complete end of session quiz on Blackboard. |
| **Session 2**  2 hours  Simple mechanisms | To understand how to use a quality picture book as a starting point for a project.  To understand how to develop technical skills and knowledge in children to create a range of simple mechanisms.  To understand how to manage risk and behaviour in when children are using tools and equipment.  To understand the importance of setting a project within a realistic context.  To identify adaptive and inclusive practices when teaching and planning mechanisms. | 3.3, 3.5, 5.1, 5.3, 7.1 | 1b,1c,1e, 1f, 1g, 3a, 3t, 4b | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 6.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 3**  2 hours  Healthy  Eating  Where Does Food come from? | To develop an understanding of how to provide meaningful and appropriate scenarios for children to design a product with a brief in mind.  To know where to find the programmes of study for Cooking and Nutrition and to understand that these are end of key stage composite knowledge.  To develop an understanding of how to provide opportunities for pupils to research and evaluate existing products.  To know that products are designed using several strategies eg exploded diagrams, annotated drawings.  To understand hygiene and health and safety measures when preparing food with children.  To understand the component knowledge required to achieve the end points of the programmes of study and know how to research this.  To understand that food production and tastes differ across the globe, often due to climate.  To understand that culture and tradition play an important role in diets.  To understand how to plan a lesson about where food comes from using component knowledge.  To identify adaptive and inclusive practices in cooking and nutrition. | 1.2, 1.3, 1.4,1.6, 3.2, 3.6, 4.1,4.2, 6.1, 5.7, 7.4 | 1d, 1e,3t, 8d | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 3.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.*  BALLAM, R.,2018, Where next for food education?. Nutrition Bulletin, 43: 7-9    BRITISH NUTRITION FOUNDATION., 2022. *Characteristics of good*  *practice in teaching food*  *and nutrition education*  *in primary schools*    CLAMP, J. 2021., *Nutrition education in UK primary schools* NNEdPro Global Institute  DRUMMOND, C., 2011. Using nutrition education and cooking classes in primary schools to encourage healthy eating. *Journal of Student Wellbeing* 4.  LAWSON, C and WOOD-GRIFFITHS, S., 2017. Chapter 9 Creativity in Food in eds BENSON AND LAWSON, *Teaching design and technology creatively*. pp114-127.    SMITH, K, WELLS, K AND HAWKES, C,. 2022. How Primary School Curriculums in 11 Countries Around the World Deliver Food Education and Address Food Literacy: A Policy Analysis, *International Journal of Environmental Research and Public Health* 19, pp. 2019–2019 | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 4**  2 hours  IT Control and Monitoring | To understand that Primary Design and Technology should be taught in relevant contexts.  To understand that control mechanisms are used in robotics, manufacturing and in situations when it is too dangerous for humans to work.  To understand that the UK has a growing shortage of engineers, mainly because candidates for jobs lack technical skills.  To understand how technical equipment such as Lego and 3D printers can enhance children’s technical skills.  To be familiar with CAD, digital representations, and how it can be incorporated into Design Technology planning.  To identify adaptive and inclusive practices in IT control and monitoring. | 1.2,1.3,1.4, 1.6,2.2, 2.3, 2.6,2.7,2.9, 3.2, 3.3, 3.4, 3.5, 4.2, 4.3, 4.4, 4.6, 4.8, 4.9, 4.10, 5.2, 5.4, 5.5, 5.7, 6.1, 6.5, 6.7, 7.1, 8.5 | 1b,1c,1d,2d,2e,3c,3e,3g,3j,4b, 4k | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 8.  *The Really Useful Primary Design and Technology Book*  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Lecture 1**  1 hour  Inventors and inventions | To understand that across KS2 pupils should know about inventors, designers, engineers, chefs, and manufacturers who have developed ground-breaking products.  To understand how to provide creative opportunities for children to achieve the above learning outcome.  To understand how to plan a short unit of work for this learning outcome. | 3.2, 3.6 |  | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016.  *The Really Useful Primary Design and Technology Book*  MCLAIN, M, IRVING-BELL, D WOOFF, D & MORRISON-LOVE, D., 2019. How technology makes us human: cultural historical roots for design and technology education, *The Curriculum Journal*, 30:4, Pp 464-483.   THE JAMES DYSON FOUNDATION. Available from  [www.jamesdysonfoundation.com](http://www.jamesdysonfoundation.com)  BRICE, R,. 2020. Design and Technology: Real World Applications. In: C. FORSTER and R. EPERJESI., ed., 2020. *Teaching the Primary Curriculum.* pp. 45-62.  DFE., 2013. *Design and Technology Programmes of Study: Key Stages 1 and 1 National Curriculum in England.* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge |

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| **School Based Curriculum – Year 1** | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Observe how expert colleagues break tasks down into constituent components, in this subject, for at least one lesson.  **Teaching :** Rehearse and refine particular approaches in this subject for a group/whole class. Deliver group/whole class teaching.  **Assessment :** Check prior knowledge and understanding during lessons.  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | |
| **Subject Specific Components/s (know, understand, can do)** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment** |
| Observe a Design and Technology lesson in school to develop understanding of how schools plan and teach the subject. To develop an understanding of how behaviour is managed in line with the school’s behaviour policy. To develop an understanding of risk and how to manage this in a Design and Technology lesson.  Speak to the Design and Technology lead in school to further develop subject knowledge and to have the opportunity for professional dialogue. Develop an awareness of how schools plan for subjects in the long and medium term and make use of published resources if appropriate.  Plan and teach a Design and Technology lesson to a group/whole class (where appropriate) researching subject knowledge and modelling expectations. EYFS experience – look for links to Design and Technology in EYFS curriculum. Support play in these areas of learning. |  | 1a, 1c, 3d, 4a, 5b, 7a, 7b | As Above | Weekly mentor meetings.  Weekly Development Summaries.  Lesson observations.  Mentor and Link Tutor meetings. |

***Year 2 Undergraduate***

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| **University Curriculum – Year 2** | | | | | |
| **Session Sequence** | **Session Content Subject Specific Components/s** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment mode** |
| **Session 1**  2 hours  Introduction to Electrical Systems and Structures | To explore why we teach electronics.  To increase subject knowledge in electronics, linking to science(cross- curricular) and health and safety.  To review ideas for projects and learn key skills.  To explore why we teach about structures.  To increase subject knowledge on structures, links to work in EYFS.  To review ideas for projects and learn key skills.  To identify adaptive and inclusive practices when teaching and planning for Electrical systems and structures. | 1.2,1.3,1.4, 1.6,2.2, 2.3, 2.6,2.7,2.9, 3.2, 3.3, 3.4, 3.5, 4.2, 4.3, 4.4, 4.6, 4.8, 4.9, 4.10,5.1, 5.2, 5.4, 5.5, 5.7, 6.1, 6.5, 6.7, 7.1, 8.5 | 1b,1c,1f | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 4 and Chapter 7.  *The Really Useful Primary Design and Technology Book* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 2**  2 hours  Introduction to kitchens project  Product analysis and design | To revisit subject identity and the iterative process (pedagogy) unique to Design and Technology and understand how to develop strategies for regular purposeful practice with pupils.  Further develop an understanding of setting projects within meaningful contexts and working to a specific brief.  To understand that collaborative learning and dialogue are effective approaches to problem solving in Design and Technology.  Develop a deeper understanding of the importance of pupils engaging in product analysis with consideration to the end user.  To understand there are different methods of designing and how to model to pupils the purpose of **mood boards.**  To understand the importance of direct teaching and questioning.  Model positive learning behaviours and attitudes in Design and Technology lessons. | 1.3, 2.7, 2.8, 3.2, 3.6, 4.3, 4.4, 4.7, 4.9, 4.10, 7.1, 7.2, 7.5 | 4i,7e,7c | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 2.  *The Really Useful Primary Design and Technology Book* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 3**  **2 hours**  **Technical knowledge, making and evaluating** | To understand that there is specific technical knowledge and skills associated with different strands of Design and Technology.  To know how to model basic health and safety rules regarding safe use of equipment and materials.  To further develop their knowledge of how to adapt learning for pupils with identified SEND.  To understand that first attempts in design and making may not be successful but pupils should be encouraged to evaluate these and refine as appropriate.  To understand the importance of reflection, evaluation and how to assess pupils’ work. | 1.2,3.3, 4.3, 5.1, 5.2, 5.3, 5.5, 6.1,6.3,8.2 | 1c,3a, 4b,4g,4h,  6c | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 2.  *The Really Useful Primary Design and Technology Book* | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |

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| **School Based Curriculum – Year 2** | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Observe how expert colleagues break tasks down into constituent components over a sequence of lessons. Plan, as appropriate, for a sequence of lessons in all core and selected foundation subjects.  Plan, as appropriate, one lesson / group activity in all remaining subjects.  **Teaching :** Rehearse and refine particular approaches in all core and selected foundation subjects.  **Assessment :** Draw conclusions about what pupils have learnt by looking at patterns of performance over a number of assessments with support and scaffolding from expert colleagues  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | |
| **Subject Specific Components/s (know, understand, can do)** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | **Links to Research and Reading** | **Formative Assessment** |
| To know that cross-curricular teaching can be a beneficial approach to integrating Design and Technology in a meaningful context and to be able to design a short sequence of lessons linked to a theme.  To develop an understanding of how pupils acquire cultural capital in Design and Technology for example, by visiting an appropriate venue linked to a theme or inviting an expert into the classroom.  To know how to deploy additional adults to support and challenge individuals or groups of pupils.  To know that some pupils will require support to achieve their learning outcomes and to be able to adapt learning for pupils with identified SEND.  To be able to build resilience by ensuring that pupils have the opportunity to experience meaningful success. | 3.1  5.1, 5.2, 5.3  7.4 | 3a, 3b, 3c  8a  5g, 8h, 8j, 8k, 8l,  5a, 5b, 5c, 5h, 5n  7p, 7q | As Above | Weekly mentor meetings.  Weekly Development Summaries.  Lesson observations.  Mentor and Link Tutor meetings. |

**Year 3 Undergraduate**

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| **University Curriculum – Year 3** | | | | | | | | | | |
| **Session Sequence** | | **Session Content Subject Specific Components/s** | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | | **Links to Research and Reading** | | | **Formative Assessment mode** |
| **Session 1**  2 hours  Introduction to textiles project  Make and finish textile product. | | Revisit aims of D&T curriculum.  They should provide realistic opportunities to work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].  Know how to promote the importance of sustainable products in their local area and globally, specifically upcycling of unwanted fabrics and the dangers of plastic pollution.  Technical knowledge: Measure out and cut pattern pieces and use these to make economical use of fabric.  Understand how to join fabrics using back stitch.  Understand how to adapt teaching/technical skills.  Understand how to finish a product to a high standard ensuring it meets the design brief.  Know how to assess a product according to the DATA 6 point assessment criteria. | 3.1, 3.2,  3.3,4.1, 4.2, 4.3, 4.8,5.1, 5.2, 5.3,6.1, 6.6 | | 1c,1b,1f, | | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  Design and Technology: an international journal  Available from <https://openjournals.ljmu.ac.uk/index.php/DATE>  FLINN, E. AND PATEL, S. 2016. Chapter 5.  *The Really Useful Primary Design and Technology Book* | | | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 2**  2 hours  Planning and assessment in Design and Technology | | To know how to plan a short unit of work using textiles considering technical skills required for a specific age group.  To understand how to adapt teaching and learning for a range of needs.  To understand how to assess pupils’ learning over time.  To identify effective practice in D&T lessons using research and examining practice including risk assessment.  To explore how formative and summative assessment is utilised effectively in lesson sequences in D&T and make connections to progression in knowledge and skills. | 2.7, 2.8,5.1, 6.1 | | 1d, 2e,2b,2c,2e,2i, 3c, 3f, 4e, 4k, 4o | | DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 9.  *The Really Useful Primary Design and Technology Book*  HOPE, G. (2020). *Mastering primary design and technology*. Edited by J. Roden and J. Archer. London, England  MCCLAIN,M., 2022. Towards a signature pedagogy for design and technology education: a literature review*, International journal of technology and design education,* 32,pp 1629–1648. | | | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **Session 3**  2 hours  The Role of the Design and Technology Subject Leader | | To understand the roles and responsibilities of the Design Technology Lead in school.  To have an understanding for how to make a Design and Technology action plan.  To have a clear understanding of how to make links with EYFS and KS3 /4 settings.  To consider how can we promote LOtC as a Design and Technology Leader?  To develop as curriculum thinkers in D&T to know that a whole school curriculum is progressive, reflective of substantive and disciplinary knowledge and fosters creativity and supports the development of cultural capital.  To ensure continuing professional development from high quality sources and engaging with current research.  To identify adaptive and inclusive practices in Design and Technology. | 1.4, 1.5, 1.6, 2.7, 3.2, 3.7, 3.10, 4.2, 4..5, 4.11, 5.2, 5.6, 5.7, 6.7, 7.7,8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7 | | 2b,2c,2e,2i, 3c | | D and T leader  DESIGN AND TECHNOLOGY ASSOCIATION (DATA). Available from  [www.data.org.uk](http://www.data.org.uk)  DEPARTMENT FOR EDUCATION, 2013  *National Curriculum in England: Design and Technology*  FLINN, E. AND PATEL, S. 2016. Chapter 10.  *The Really Useful Primary Design and Technology Book*  HOPE, G. (2020). *Mastering primary design and technology*. Edited by J. Roden and J. Archer. London, England  MCCLAIN,M., 2022. Towards a signature pedagogy for design and technology education: a literature review*, International journal of technology and design education,* 32,pp 1629–1648. | | | In-session retrieval activities/questioning  In-session peer discussions and focused tasks  Self-assessment against key knowledge  Self-assessment against key knowledge  Complete end of session quiz on Blackboard. |
| **School Based Curriculum – Year 3** | | | | | | | | | |
| **Observing :** Observe how expert colleagues use and deconstruct approaches, in this subject, in at least one lesson throughout school.  **Planning :** Plan a sequence of lessons in all core and foundation subjects.  **Teaching : 1.** Rehearse and refine particular approaches in all core and selected foundation subjects.  **Assessment :** Discuss with expert colleagues summative assessment, reporting and how data is used.  **Subject Knowledge :** Discuss and analyse subject specific components with expert colleagues | | | | | | | | | |
| **Subject Specific Components/s (know, understand, can do)** | | | **Learn That**  **(CCF reference in numerics e.g. 1.1)** | | **Learn How**  **(CCF reference bullets alphabetically e.g. 1c)** | | **Links to Research and Reading** | **Formative Assessment** | |
| Identify from the school’s long-term plans where D&T sits within the curriculum and know where to find the learning outcomes for their placement year group.  Confidently plan and teach a sequence of lessons or unit of work in D&T demonstrating elements of good practice as indicated in the EHU ‘lesson observation prompts’  Learn how to make judgements over time (summative assessments) based on whether the pupils are progressing through the intended curriculum and using the DATA 6 point assessment grid to assess the quality of finished products.  Understand how to transfer learning from one subject to another. For example, knowledge of electrical circuits in science to build moving parts/motors in toy cars. | | |  | | 3a  2d, 2h, 2i, 3f,5a  6e, 6m, 6n  2g | | As Above | Weekly mentor meetings.  Weekly Development Summaries.  Lesson observations.  Mentor and Link Tutor meetings. | |