# **Primary Initial Teacher Education: Curriculum Plan**

# **Design and Technology - Undergraduate Programmes**

# **Links to Practical Knowledge, Substantive/Theory, Disciplinary**

**Curriculum Vision:**

Through our initial Teacher Education Curriculum, it is our intention that all Edge Hill Primary teacher trainees will:

 be able to plan and teach high quality design and technology lessons.

 gain knowledge and understanding to develop a range of skills, learning behaviours and attitudes to support

progress across the curriculum.

 know that high quality design and technology education makes an essential contribution to the creativity,

culture, wealth and well-being of the nation.

 develop confidence and promote an enthusiasm for design and technology and believe all children can be

successful in the subject regardless of social background or other circumstances and that this is our moral

purpose as educators.

| **Phase 1** |
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| **University Based Learning** | **Practical Based Learning** |
| **Learn That** | **Learn How** | **Learn That** | **Learn How** |
| **Component Knowledge** | There are principles of high quality design and technology teaching: Theiterative process of researching, designing, making and evaluating products.LT 1.1, LT1.4, LT3.1 | Plan a design and technology lesson or project over a short series of lessons.LH2.1, LH2.2, LH2.4, LH2.5, LH2.6, LH2.9 LH3.1, LH3.3, L3.4 | Experienced teachers with strong SK,plan D&T lessons by carefullyintegrating substantive and disciplinaryknowledge, breaking these down intosmall steps and fully inclusive of alllearners.LT3.2, LT5.1, 5.3, 5.7 | to plan and teach a design and technology lesson or small series of lessons,taking the time to extend own D&TSK as part of the process. Learningshould be broken down into smallsteps and formative informationgathered in readiness for the nextlesson.LH8.2, LH2.1, LH2.3, |  |
| There are four aims of the National Curriculum for Design and TechnologyLT3.1 |  |  |  | Intent |
| There are six key areas of study in the primary DT curriculumLT3.1, LT3.2, LT3.5 |  |  |  |
| That children need to investigate and evaluate existing products before designingtheir own.LT3.2, LT3.6, LT3.7, LT4.6 |  Provide opportunities for children to research and evaluate existingproducts. This will be consolidated whilst on professional practice.LH2.4, LH3.14, LH3.10, LH3.4 | An experienced teacher will provide opportunities for children to research existing products or carry out market research before designing their own product.LT3.2, LT3.6, LT3.7, LT4.6 | With the support of expert mentors, provide product analysis and market research opportunities.LH2.4, LH3.14, LH3.10, LH3.4 |
| That products are designed using several strategies such as explodeddiagrams, annotated drawings.LT4.2, LT4.4, LT4.8 | Provide opportunities for children to learn how things work bydeconstructing products. LH4.3, LH4.7, LH4.10, LH4.12, LH4.14, LH4.15 |  |  |
|  A mock-up is a model which looks like the real thing but does not show itsfunctionality.LT3.2. LT3.3, LT3.4, LT3.5, LT3.6 | Provide appropriate and meaningful scenarios for children to design asimple product in accordance with a design brief. LH.14, LH4.15 |  |  |
| That products are made using a variety of materials and tools includingconstruction materials and textiles.LT3.2. LT3.3, LT3.4, LT3.5, LT3.6 | Provide appropriate tools and resources for children to select from to make their product.LH3.3, LH3.5, LH3.10 |  |  |
| That products need to be evaluated for their effectiveness using simple criteriawith the initial brief in mind.LT6.4, LT6.5, LT6.6 | Support children in evaluating the effectiveness of their finishedproducts against a given criteria.LH6.1, LH6.6, LH6.3, LH6.12 |  |  |
| That there is subject specific vocabulary in Design and Technology whichchildren need to use effectively and fluently.LH3.20 |  |  |  |
| Basic health and safety rules. For example, children need to be taught how usesimple tools such as scissors and kitchen knives safely.LT 5.1, LT5.3, LT5.5, LT5. LT7.2, LT7.4 | Manage risk and behaviour in practical design and technology lessons.LH7.1, LH7.3, LH7.4, LH7.5, LH7.6, LH7.8, LH7.12, LH7.16 | effective behaviour management begins in the planning stages and is particularly important when working practically in D&T.LT 7.1Risk assessments may need to be planned for within some D&T projects. | An experienced mentor managesbehaviour in practical D&T lessonsthrough observation and discussion.to manage behaviour and resources in D&T.LH 7.2; 7.How to write a risk assessment with the support of expert colleagues. |
| The role of government approved organisations in supporting the teaching andlearning of design and technology (Design and Technology Association,National Expert group for Design and Technology)LT8.3, LT8.7, LH8.3 | Plan for additional adults effectively.LH5.7, LH8.5, LH8.11, LH8.12, LH8.15 |  |  |
| The progression of skills and knowledge within a given strand of design andtechnology from EYFS to Y6.LT2.2, LT2.3, LT2.4, LT2.5, Lt2.6, LT2.7, LT2.8 | Identify basic skills required for specific making tasks and teach theseskills including rules for health and safety.LH4.2, LH4.5 |  |  |
| That products are designed and made with a specific need/problem in mindand have a specific audience.LT2.1, LT3.1  |  |  |  |
|  | Specific understanding of how simple mechanisms work, eg, hingemechanisms, levers, linkages.LT3.2, LT3.3 | Design and make products using a simple mechanism such as a slider, pop-up, wheel and fixed pivot. | There is specific technical knowledge and skills associated with different strands of D&T.LH3.2, LT 3.3. | To use specific technical knowledge and practical skills in different contexts after observing and with the support of expert colleagues. |  |
|  | The NC end points for the Cooking and Nutrition strandLH3.5, LH3.6, LH3.7, LH3.8 | How to identify the component knowledge required to achieve ambitious end goals from the NC in the Cooking and Nutrition strand.LH3.1, LH3.8 |  |  |  |
|  |  About food miles and seasonality. (sustainability) | Plan a meal using sustainable and seasonal produce. (sustainability) |  |  |  |
| **Assessment** | **Assessment** | **Assessment** |  |
| *What is being assessed?** All sessions begin with an informal retrieval activity.** All sessions provide opportunities for students to model teaching of specific skills and knowledge.** Students are to produce a lesson plan in their final session.**PED1024 assignment**All of the above to inform interventions.* | *How is it being assessed?*Online testAssignment | *What is being assessed?**Subject knowledge**Pedagogy* | *How is it being assessed?*Assessed throughout Professional Practice 1. Mentors will assess students against these statements and feedback to link tutors viathe weekly development summary. Feedback will be provided to student and link tutor by mentor. | Impact |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** |
| *By the end of this phase trainees will* ***know:*** | *By the end of this phase trainees will* ***understand:*** | *By the end of this phase trainees will* ***be able to:*** |
| That every teacher can develop children’screative, technical and practical expertiseto perform everyday tasks confidently andspecific tasks to meet specific needs. Key approaches and skills to teach simplemechanisms.LH3.14, LH3.8, LH3.20 Key approaches and skills to teachnutrition, where food comes from,seasonality and sustainable diets.LH3.14, LH3.8, LH3.20 Essential rules for health and safety.LH7.8, LH7.11 | The iterative nature of the design and technology. The importance of effective behaviourmanagement and how to manage risks to healthand safety.LH7.1, LH7.2, LH7.3, LH7.4, LH7.5, LH7.7, LH7.12 |  Model effective practice in the teaching ofsimple mechanisms and food and nutrition.LH3.1, LH3.2, LH3.3, LH3.7 Confidently plan a Design and Technologylesson following the Iterative process.LH2.4, LH2.5, LH2.9 |
| **Research** | **KEY RESEARCH****That Trainees will know that informs teaching and learning in Art and Design** |
| **National Curriculum for Design and Technology 2014**** Teaching Design and Technology – Food in Primary Schools from Food – a Fact of Life (DATA) Key research article.**** www.data.org.uk**** The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)**** www.foodafactoflife.org.uk**** Mastering Primary Design and technology book by Gill Hope** |

| **Phase 2** |
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| **University Based Learning** | **Practical Based Learning** |
| **Learn That** | **Learn How** | **Learn That** | **Learn How** |
| **Component Knowledge** | There is specific technical knowledge and skills associated with different strands of D&T.LH3.2, LT 3.3. |  | Some children will require support to achieve their learning outcomes.LT5.1, LT5.2, LT5.3 | How to adapt learning forchildren with identified SENDLH5.1, LH5.2, LH5.3, LH5.7LH5.8 | Intent |
| Collaborative learning anddialogue are effectiveapproaches to problem solving indesign and technology.LT4.7, LT4.9, LT4.12, LT4.13 | To break down NC end points intocomponent knowledge.LT3.3, LH2.8, LH4.1 | Cross-curricular teaching can be a beneficial approach to integrating D&T in a meaningful context. | Design a lesson linked to a theme.LH3.7, LH3.8 |
| The importance of direct teaching.LH4.3 | Design a lesson linked to a theme.LH3.7, LH3.8 |  |  |
|  The importance of questioning.LT4.6, LH4.15, LH4.16, LH6.4,LH6.6 | Model basic health and safetyrules regarding safe use ofequipment/hygiene ifappropriate.LH4.8LH4.2, LH4.7 | Building effective relationships is easier when pupils believe that their feelings will be understood.LT7.5 | Manage behaviour in a practical lesson under the guidance of the school mentor.LH7.2, LH7.3, LH7.4, LH7.5, LH7.6, LH 7.7 |
| That first attempts in design andmaking may not be successfulbut pupils should be encouragedto evaluate these and refine asappropriate.LH1.3 | Model positive learning behaviours and attitudes in design andtechnology lessons if appropriate.LH7.1, LH7.3, LH7.4, LH7.5, LH7.6,LH7.8, LH7.12, LH7.16 | Building resilience by ensuring all pupils have the opportunity to experience meaningful success. LT7.4 | Plan for additional adults.LH5.7, LH8.5, LH8.11, LH8.12,LH8.15 |
| Learning outside the classroom (LOtC)Is an effective teaching approach which enhances children’s cultural capital LT 1.1, LT1.2, LT1.3, LT1.4, LT1.5 |  |  |  |
| **Assessment** | **Assessment** | **Assessment** | Impact |
| *What is being assessed?*Subject knowledge.How to plan an effective series of lessons. | *How is it being assessed?*Online assessmentPlan a short series of lessons. | *What is being assessed?*Subject knowledge and pedagogy. | *How is it being assessed?*Lesson observations by school-based mentor. Students meet the subject knowledge requirements to proceed as set out in the Interim Placement Progress Report and End of Placement Progress report. |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** |
| *By the end of this phase trainees will* ***know:*** | *By the end of this phase trainees will* ***understand:*** | *By the end of this phase trainees will* ***be able to:*** |
| The key components of a successfulDesign and Technology lesson.The practical knowledge and associatedskills to make a product.LT2.1. LT2.2, LT2.3, LT2.4, LT2.5The relevant substantive knowledge toexplain reasons for their choices.LH3.8. LH3.9 | How to adapt Design and Technology lessons tomeet the needs of all pupils.LH5.1, LH5.2, LH5.3, LH5.7LH5.8That design and technology can be taught within across-curricular theme.LH3.7, LH3.8 | Confidently plan and teach high qualitydesign and technology lessons.LH1.3 Reflect on their teaching and consider howthey might improve their teaching in future.LH4.14, LH4.15 |
|  | **KEY RESEARCH****That Trainees will know that informs teaching and learning in Design and Technology** |  |
|  | **National Curriculum for Design and Technology 2014****• www.data.org.uk****• The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)**** Mastering primary design and technology book by Gill Hope (2018)****Teaching Design and technology creatively, book by Claire Benson and Suzanne** |  |

| **Phase 3** |
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| **University Based Learning** | **Practical Based Learning** |
| **Learn That** | **Learn How** | **Learn That** | **Learn How** |
| **Component Knowledge** | The role and work of the Design and technology Association for supporting professional development/CPD.LT8.2, LH8.3, LH8.7 | To use the DATA assessment approach. |  | To make judgements based over time (summative assessments) based onwhether pupils are progressing through the intended curriculum and using the DATA 6 point assessment approach.LT6.6, LH6.3, LH6.12 | Intent |
| Designers come from a range of diverse backgrounds and the impact their products have on society | How to adapt learning in Design and Technology LH5.1, LH5.5 |  | Transfer/link learning from one subject to another.LT3.7 |
| Social justice can be positively and negatively impacted by manufacturing. | Go beyond the NC – cultural capital. |  | Annotate schemes of work LH3.5, LH5.9 |
| Progress is knowing, remembering more and doing more.LT6.6, LH6.3 | To sustainably design and manufacture a product to a specific brief. |  |  |
| **Assessment** | **Assessment** | **Assessment** | Impact |
| *What is being assessed?* | *How is it being assessed?* | *What is being assessed?*Subject knowledgePedagogy. | *How is it being assessed?*Lesson observations by school-based mentor. Students meet the subject knowledge requirements to proceed as set out in the Interim Placement Progress Report and End of Placement Progress report. |
| **Composite Knowledge** | **Composite knowledge/understanding/skills** |
| *By the end of this phase trainees will* ***know:*** | *By the end of this phase trainees will* ***understand:*** | *By the end of this phase trainees will* ***be able to:*** |
| How to plan, teach and assess a series oflessons in Design and Technology.LT3.3, LT3.5, LT4.1, LT6.1, LT6.3, LT6.4 | That there are practical skills and knowledge and disciplinary knowledge required for each strand ofthe design and technology curriculum.LH3.8. LH3.9 | Confidently plan, teach and assess asequence of lessons in design andtechnology (adapting published schemes ofwork if necessary) demonstrating elementsof good practice indicated in EHU ‘lessonobservation prompts.LT3.5, LH3.3, LH4.1, LT6.1, LT6.3, LT6.4 |
| **Research** | **KEY RESEARCH****That Trainees will know that informs teaching and learning in Design and Technology** |
| **National Curriculum for Design and Technology 2014****• www.data.org.uk****• The really useful primary design and technology book Elizabeth Flinn and Sarah Patel (2016)****• Mastering primary design and technology book by Gill Hope (2018)****Teaching Design and technology creatively, book by Claire Benson and Suzanne Lawson.(2017)** |