



London Design & Engineering UTC

Curriculum Policy

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Version Control Table

Version	Date	Amended by	Rationale
1.0	01/07/2016		Version approved by the Board of Directors
1.1	01/06/2020	Victoria Webb and Geoffrey Fowler	Written based on the updated curriculum model (macro and micro curriculum) and the introduction of a common template for curriculum overviews and plans for all subjects.
2.0	12/11/2020		Version approved by the Committee

Guidance on version Control:

The above is an example of how to complete the Version control table.

Versions are 0.1, 0.2 etc until such point as the document is approved. Then it becomes version 1.0.

Subsequent edited versions become 1.1, 1.2, or if it's a major update, 2.0. Do not worry about the numbers going up and up its about getting the policy right – it's all fine.

CURRICULUM POLICY

Policy Coverage

THE POLICY APPLIES OR COVERS THE FOLLOWING GROUPS			
Type of Learner	Tick (✓)	Type of Stakeholder	Tick (✓)
Key Stage 3 (KS3) Carousel	✓	Teaching Staff	✓
Key Stage 4 (KS4) GCSE	✓	Education Support Staff	✓
Key Stage 5 (KS5) Level 2	✓	Administrative Support Staff	
Key Stage 5 (KS5) Level 3	✓	Directors	✓
Key Stage 5 (KS5) A Levels	✓	Employers	✓
Apprentices	✓	Visitors / Contractors	

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1. Policy Aims

1.1 Intent statement

“To reduce the UK’s “skills Gap” by encouraging and supporting young people of all abilities to think about entering into a career in design and engineering.”

1.2 Rationale

The London Design & Engineering University Technical College (LDE UTC) is an industry led independent academy formed by a unique partnership of employers (Thames Water, Costain and Skanska), the University of East London, the Diocese of Chelmsford and the Department for Education. The intent is to create a world-class facility delivering a specialist curriculum in design and engineering for learners of all abilities who are in year 9 and above. Learners join LDE UTC because they are excited and have a passion for Science, Technology, Engineering, Arts and Maths (STEAM) related subjects and are thinking of pursuing a career in design and engineering related industries.

LDE UTC’s employer and university partners support staff to provide learners with unapparelled opportunities/experiences, through the examined and extra curriculum, that equip learners with the skills and knowledge which allow them to have confidence and excel in life and go on to secure employment or routes into higher education. Thus, creating a seamless progression for our learners to become the next generation of confident, independent individuals who are ready and enthusiastic to join said professions and make a positive impact on “closing the UK’s skills gap”.

1.3 An analogy “Two Golden Tickets”

At LDE UTC learners are provided with the chance of gaining two “Golden Tickets” to use when progressing onto their next stage in life, high-quality exam results and high-quality experiences.

First Golden Ticket: Exam results alone are not enough to do well in modern life, all learners attending all schools have similar opportunities to do well.

Second Golden ticket: We remind learners “to not look back on missed opportunities” to grasp and be part of as many experiences as possible and then use these experiences to form articulate and passionate conversations about their achievements to improve their current and future career opportunities.

1.4 LDE UTC Vision

‘Creating technology and employer led education that provides learners with the ability to exceed their potential, celebrate their diversity and embrace the opportunities of the 4th ‘industrial revolution’

1.5 Values

- **Passionate about everything we do** - We commit ourselves wholeheartedly to everything we do. We approach our work with enthusiasm, energy and positivity. We do what we do because we love it and this passion shines through.
- **Reach higher, be better** - We are always learning and challenging ourselves and each other, to be the very best we can be. We have the courage to improve the way we work and exceed expectations.

- **Be respectful and value everyone** - We take time to listen to each other and treat people in the way they want to be treated. We are supportive, inclusive and recognise everyone has their own skills and experience to offer. All our family has a voice.
- **Take care** - We look after ourselves, our colleagues and our community. We have a zero-compromise approach to health, safety and well-being.
- **Take ownership** - We take responsibility and never walk on by. We are proactive – focusing only on solutions instead of problems.
- **Be proud, be seen** - We celebrate our past, we are proud of what we do today, and we are excited about our future.

2. Curriculum

The intent of the colleges curriculum has been designed by our employer and university partners to provide a range of subjects and extra curriculum activities that equip all learners with the knowledge and skills required to make a seamless progression into this vibrant and exciting industry sector.

Our learners are provided with unapparelled opportunities/experiences that allow them to have confidence and excel in life, we often remind them “to not look back on missed opportunities”. We use the “golden ticket” analogy, a ticket to pass onto the next level, the ticket in our case being the learners completed exam certificates. However, this is the same opportunity that all learners attending all schools in the country have, and therefore we believe that this is now no longer enough to achieve the learners desired aspirations. Therefore, here at LDE UTC we focus equally on a second golden ticket, experience. We provide learners with engaging employer or university led activities. This second golden ticket allows our learners the ability to hold articulate and passionate conversations about their achievements which improves their current and future career opportunities.

In order to achieve this curriculum LDE UTC has 4 focus areas:

- Employment Skills
- Literacy skills
- Numeracy Skills
- Life Skills

Our engaging macro and micro curriculum activities will inspire our learners to take advantage of opportunities that arise making sure that learners are keen and excited to take part thus raising attendance and in return attainment.

- The macro curriculum is the overall curriculum composition, the subjects offered and time allocations both in and out of lessons. Our macro curriculum has been designed and developed by our leadership team, the board directors and our employer and university partners.
- The micro curriculum is what we are asking the learners to do minute by minute, the detailed curriculum planning delivered by our subject teachers.

Our Key Drivers are:

- Showing the huge influences of Design and Engineering in the world today (to understand how and why we design and make.)

- Creating partnerships with industry (employers) and university partners to the benefit of our learners.
- Placing learning in real, inspiring and relevant contexts for our learners.
- Ensuring our learners are ready and skilled for the world of work.
- Ensuring that all learners are both numerate and literate and able to use these skills in their everyday lives.
- Modelling the behaviours and attitudes that make people successful at work.
- Giving learners the confidence to break barriers to success.

We do this by the nature of our unique curriculum offer:

- Core: Maths, English and Science as separate subjects, but also permeating other areas of the curriculum.
- Technical and Digital subjects: An emphasis on and commitment to a range of technical and digital subjects.
- Options that help our learners to have a broader and deeper understanding of their world.
- A Learning for Life course (could include more info on the course here)

We provide support to ensure the learners succeed to the best of their abilities:

- One to one support and guidance from an industrial mentor.
- Employer partners working in LDE
- University mentors
- Learner mentors
- The chaplaincy
- A learning support unit and SEND department.
- A careers hub and a GATSBY rated careers education and guidance provision.

3. Macro-Curriculum

We define the macro-curriculum as being the totality of the experience that we design for our learners. It starts with the subjects that we chose to include and the time allocations that we provide for them in the college timetable. However, our macro-curricular intentions go much deeper than this. The intention of our macro-curriculum is to enable us to deliver our aims and values to those who attend, as they study for the valuable qualifications they will obtain. This means we examine the specifications of the subjects we select for our curriculum and identify opportunities to put the learning therein, into real life contexts supported by our industrial partners.

At the heart of our macro-curriculum is our intention to be a centre of excellence for design and engineering. This involves not only having first class workshops and studios, but also having an extensive partnership with local and national industries. The world of work has a special place in our curriculum as it permeates all the subjects we deliver. We aim to support the development of every individual so they can make a positive contribution to society and be ready for further/ higher education or the world of work.

Our macro-curriculum includes a special course “learning for life”, and all our subjects include life/work skills, literacy and numeracy development in their topics using carefully differentiated course materials and a special element we call Employer Lead projects, EE. This is employer led projects delivered within and integrated into the different subjects of every learners’ timetable.

Clearly, subjects such as Maths, English, Engineering, Design and Science will make important contributions to the macro-curriculum simply in terms of their subject content. They and other subjects must embrace the ambition and vision of the UTC to:

Deliver a range of valuable qualifications, but with a particular emphasis on those that embrace the opportunities of the fourth industrial revolution and work in general.

- Examine and understand how the design and engineering of the artefacts that we see and use every day, impacts on us and our surroundings.
- Provide opportunities to develop and practice skills and abilities that are important in the workplace.
- Promote positive attitudes to work.
- Create confident, independently minded thinkers, enquirers and problem solvers.
- Enable learners to communicate clearly using both linguistic and mathematical skill.
- Ensure learners are not constrained by their backgrounds, gender or cultures, and have the ambition to be the best they can be.

KS3																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Year 9	English Language & Literature				Mathematics				Combined Science - Biology, Chemistry, Physics								Design Mechatronics DT Built Environment				Computer Science Enterprise Geography Graphics Science			Art Computer Science Graphics History Spanish		L4L	Sport	Societies			Pastoral		
KS4																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Year 10	English Language & Literature				Mathematics				Combined Science - Biology, Chemistry, Physics								Design Mechatronics DT Built Environment				Art Enterprise Geography Science			Computer Science Graphics History Spanish		L4L	Sport	Societies			Pastoral		
Year 11	English Language & Literature				Mathematics				Combined Science - Biology, Chemistry, Physics								Design Mechatronics DT Built Environment				Art Business Studies Computer Science Geography Graphics			Computer Science Graphics History Science Spanish		L4L	Sport	Societies			Pastoral		
Post 16																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Year 12 L2 One year pathway	L2 Manufacturing												English Language			Mathematics			Life Skills														
Year 12 L2 Access Pathway	L2 Design Production L2 Digital Production L2 Engineering Design												English Language			Mathematics			Life Skills														
Year 12 L3 Apprenticeship Pathway	L3 Engineering Design L3 Engineering Mechatronics L3 Digital Media												A level option or Applied option						Mathematics English Language			EPQ		Life Skills									
Year 12 L3 University Pathway	A level A						A level B						A level C or Applied option						AS option			EPQ		Life Skills									
Apprenticeship Pathway	Qualifications: 1. BTEC L3 Diploma in Civil Engineering 2. BTEC L3 Diploma in Construction & the Built Environment 3. EAL L2&3 Diploma Advanced Manufacturing Engineering							NVQ	On the job Work based learning																								
	Off the job training																																

4. Micro-Curriculum

All subjects have a responsibility to support the aims of the macro-curriculum via the teaching in their allocated time.

Each subject will do this by attention to the detail of their micro-curriculum. The micro-curriculum is the individual subject specifications as well as the way in which topics and lessons are delivered and the contexts in which the learning is placed. It is particularly important that the micro-curriculum is designed to deliver the macro-curricular intentions at a specialist college such as a UTC. The detail of the micro-curriculum also includes how we make individual lessons exciting, inspirational and relevant and also how we engage with local industry and business.

Hence, all subjects will use the LDE template for their Course Overviews and Course Plan documents and ensure there are explicit references linking “lessons” to the macro-curricular intentions. These references will enable us to see the extent to which the macro-curriculum intentions are met via the micro-curriculum delivery across the whole college. It is far better that the delivery of the macro-curriculum within the micro-curriculum permeates it and is integrated into it, rather than being something “extra”.

Subjects will be able to use topics and lessons they have to teach to find a way of providing a context and delivery model that supports the intentions of the macro-curriculum. These references will have (links to) descriptions, resource materials, likely delivery model and learning objectives, so that we can get a more complete picture and ensure that the whole is greater than the sum of its parts.

5. Course Overviews and Course Plans

5.1 Four Key Drivers

In order to deliver LDE UTC’s curriculum intent and support the planning of the micro curriculum, we have created 4 key drivers that thread throughout the examined and non-examined curriculum. The 4 focus areas are: Employment Skills, Life Skills, Literacy skills and Numeracy Skills.

Employment Skills

Staff will:

- Create partnerships with industry (employers) and university partners to the benefit of our learners. Examples include master classes, designing project briefs, organising workplace visits, creating competitions, supporting clubs and societies, attending careers fairs and providing up to date industry specific careers advice.
- Make references to the huge influences of Design and Engineering in the world today (to understand how and why we design and make.)
- Place learning in real, inspiring and relevant contexts for our learners.
- Ensure our learners are ready and skilled for the world of work.
- Model the behaviours and attitudes that make people successful at work.
- Give learners the confidence to break barriers to success.

Life Skills

Staff will:

- Make use of and thread through the learning for life curriculum in their lessons/clubs/societies on a weekly basis.
- Make use of and thread through the British Values curriculum in their lessons/clubs/societies on a weekly basis.
- Make use of and thread through current news and affairs in their lessons/clubs/societies on a weekly basis.
- Research current industry applications/trends and use in their lessons/clubs/societies.
- Encourage learners to take part in opportunities/experiences inside and outside of their lessons/clubs/societies.
- Include careers advice where possible.

Literacy skills

Staff will:

- Ensure that all learners are literate and able to use these skills in their everyday lives.
- Teaching staff will on a weekly basis include extended writing activities with the lesson.
- Correct incorrect literacy when seen using the SPAG policy.
- Encourage all learners to read.
- Make use of the accelerated reader program.
- Make sure they follow the Drop everything and read program in form time.

Numeracy Skills

Staff will:

- Ensure that all learners are numerate, think like a mathematician and are able to use these skills in their everyday lives.
- Make use of the Ninja maths program in form time.
- Encourage learners to think systematically, logically and to break down problems into smaller parts so see things sequentially (*e.g. ideas such as Six Degrees of Separation*).
- Ask mathematical questions such as '*How could you sort these...?*', '*Can you group these... in some way?*', '*What happens if...?*', '*Is there a pattern?*', '*What is the same/different?*'.
- Organise and present information mathematically (Venn diagrams, flow charts, timelines etc.).

LDE UTC has developed a standard template for the course overview and course plan. Each course overview and plan will consist of the following sections:

- Course Intent
- Key Concepts
- Learning objectives
- Activities
- Assessment

5.2 What is a Course Intent?

A paragraph which provides a holistic outline of what the learners will be able to do by the end of the course and beyond the end of the course. This is not always related to the skills from the specification of the curriculum. Your course intent should be derived from LDE UTC curriculum intent. Within the course intent you highlight the opportunities that the subject provides

5.3 What are Key Concepts?

'Key' = important

'Concept' = a grouping of an idea/theory

Key concepts are the most important ideas and understandings, grouped coherently.

By approaching these key concepts in different ways and by revisiting them in different contexts across a period of time, learners come to refine and embed understanding.

6. Learning Objective Expectation

Learning objectives are created from the key concepts, identifying the knowledge and skills to be understood by learners at this point in time on the course and revisited at later points in the course as part of retrieval practice.

- Learning objectives shape what learners focus on learning. When learners know what they are expected to learn, they can direct their attention towards those particular areas and use [deliberate practice](#) to strategically work towards learning those concepts and skills
- Creating and outlining learning objectives helps teachers select and organise course content

Learning Objectives should use:

- Measurable terminology
- Learner-centred language by ensuring it is simple and clear.

Learning Objectives should not include:

- Long waffling paragraphs, but preferably bullet pointed lists of knowledge and skills.
- The why/how learners will use this in the future will be included in the activities.

- Differentiation for higher, middle and lower attainers which will be set in the activities.
- Words such as: Know, comprehend, understand, appreciate, familiarize, study, become acquainted with, gain knowledge of, cover, learn, realize are difficult to assess and measure and therefore should be used with caution.

7. What Do We Mean by Activities?

Every lesson will have a consistent of 3 definitive activities, '**Do Now**', '**Check for prior learning**' and '**Main Activities**'

Do now: Has been researched to be an excellent technique for classroom management technique. It is a quick, independent or collaborative activity that should typically require minimal guidance from the teacher. A '**Do Now**' can be used to activate learners learning for the lesson, surface prior knowledge, and familiarise learners with lesson vocabulary. This will be a compulsory part of the 'prepare' stage and will take place at the start of every lesson, therefore planning 'do now' activities are essential.

Check prior knowledge: When checking for prior knowledge, occasionally this can be a part of your 'do now' activity. However, be mindful that the 'do now' activity is ideally to settle learners in with little/no teacher involvement. When you want to check for prior understanding this often involves teacher guidance and therefore may be a separate activity. Always do a short recall of previous learning. Daily review can strengthen previous knowledge and lead to fluent recall. This is an opportunity to highlight how you are implementing [spaced practice](#) by checking prior knowledge over a period of time.

Main activity: This is the present, apply and review section of our teaching and learning policy.

Present: This is the real 'hook' for the session. It's our opportunity to engage the learner, to stimulate curiosity and to reach them emotionally; so that they care about what comes next.

- Teachers are using a variety of kinaesthetic, aural and visual tools.
- Teacher presents new information in small steps.
- Guided practice is key, give the learners step-by-step directions on how to complete complex task. Once you name the steps you should come up with a way to make the steps memorable.
- New information is mastered through practice and repetition.
- "Learners may appear to thoroughly comprehend the material after one or two activities, but to ensure the information is learned *for life they need to devote a sizable amount of time and effort to master the new terms*"

Apply: This part of the lesson is designed to give the learners the opportunity to show that they really do understand what they've been learning. It's an opportunity to apply what they've learnt, not just repeat it.

- There should be a range of tasks and sufficient time to allow learners to demonstrate their developing understanding.
- Learners will be involved in exploratory talk and discussion.

- Effective questioning allows the teacher to determine how well the material is learnt and how then to proceed with the next steps.

Review: This is an opportunity for learners to revisit what they've learnt and how. It should be as much a verbal process as a written one. Reflection on the learning outcomes should occur to form the connections between all parts of learning.

- Ensure there is a routine of recalling recently-learned material embeds knowledge in long-term memory to develop.
- Embed spaced and interleave practice to aid long term memory retention.
- Distinguish practice for reflection vs recall
- Identify opportunities for AfL
- Cross curricular links: Embed the opportunity to create links in their learning - between topics/ texts even other subjects/ real life situations.

Assessment expectations: When planning activities, you will embed clear strategies and opportunities of checking that learners are going to understand the expected concepts. You will also take into consideration the whole college feedback for formative and summative scheduled dates. Within your planning you may have scheduled in weekly knowledge retrieval sessions as a part of the 'do now' or 'check prior learning' stages.

When planning effective AfL techniques we're predominantly focusing on the **review** stage of learning.

This is a key part of the LDE learning cycle, it should be embedded within the activities.

There may be several review opportunities in the 'do now' 'check prior learning' and/or 'main activities'.

- Ensure there is a routine of recalling recently-learned material embeds knowledge in long-term memory to develop.
- Embed spaced and interleave practice to aid long term memory retention.
- Distinguish practice for reflection vs recall
- Identify opportunities for AfL
- Cross curricular links: Embed the opportunity to create links in their learning - between topics/ texts even other subjects/ real life situations.

8. Apprenticeships

8.1 Provision

LDE UTC commenced delivery of apprenticeship training in September 2017 using the new apprenticeship standards. The UTC aims to provide learner pathways from as early as Year 9 into a relevant apprenticeship opportunity in both the Civil Engineering Technician (CET), Digital Engineering Technician (DET), Engineering Design and Draughts person (EDD) and variations thereof. LDE UTC's employer partners are prolific supporters and users of the provision and we service both local and national employers.

The apprenticeship provision at LDE UTC has been designed to develop knowledge, skills and behaviours (KSB's) as required by employers in response to advancement in technologies for now and the future, providing apprentices with the highest possible support in achieving their End Point Assessment (EPA).

8.2 Off the Job

The provision of on and 'off the job' training enables teaching and learning of the overall KSB's. The off the job (in college aspect) includes the delivery of a BTEC Level 3 and EAL Level 2, these are a mandatory aspect of LDE UTC's provision but not necessarily a mandatory aspect of the Apprenticeship (depending on the standard) but it has always been the intention of LDE UTC to deliver these qualifications as a vehicle to deliver the KSB's. The BTEC and EAL therefore follows the curriculum overview and curriculum plan format and are subject to the same quality assurance rigors as with the rest of the UTC's provision.

8.3 On the Job

The 'on the job' training is achieved via NVQ portfolio assessment and is delivered by a team of assessors who largely work offsite. The NVQ 'curriculum' sequence is dictated by tripartite training needs analysis (TNA's) involving our assessors, our apprentices and employers. The NVQ unit sequencing is therefore greatly individualised and as such is managed by a dedicated MIS system (Smart Assessor). Smart Assessor allows the apprenticeship management team monitor the progress of the NVQ and track completion of Assessment Criteria (AC's). The UTC's quality assurance process will therefore involve the use of Smart Assessor overview statements in the case of the NVQ.

8.4 Gateway and End Point Assessment

Assessment of the overall apprentices' progress against the KSB's is derived via several sources, the completion of the BTEC, EAL, NVQ and a Level 2 English and Math achievement (a support provision is available if required). Gateway will only be achieved once the apprentice has satisfied the above aspects and once their employer has deemed them ready to attempt the End Point Assessment (EPA).

The EPA is a vital aspect of the Apprenticeship Standard and an apprentice will only successfully complete their apprenticeship if they 'pass' the EPA. The success criteria and apprentice assessment task are provided by the End Point Assessment Organisation (EPAO) and to LDE UTC during the final year of the apprenticeship. LDE UTC therefore works very closely with the ICE and NOCN who are the two EPAO's for the standards offered as part of our provision. This enables appropriate curriculum planning for the final year of the apprenticeship delivery to involve important support KSB's relevant to the EPAO task.

9. Monitoring and Evaluation

The Board of Directors and the Principal will monitor the operation and effectiveness of UTC's Curriculum policy and procedures.

10. Links with Other Policies

This policy links to the following policies and procedures:

- Assessment policy
- Marking and feedback policy
- Teaching and learning policy
- SEN policy and information report
- Equality information and objectives