



## The Curriculum at Isaac Newton Academy

**“It is the supreme art of the teacher to awaken joy in creative expression and knowledge.” Albert Einstein**

### Aims

At Isaac Newton Academy our aim is to equip every student with the knowledge, learning power and character necessary for success at university and beyond. Our stated target is for 90% of each cohort to achieve 5 or more A\*-C /5-9 grades at GCSE level, including in English and Maths. However we believe in the potential of **all** students to reach and exceed this qualifications level and we know that A\* and A grades, rather than C grades, are required for success at advanced level and for access to top universities.

In designing the curriculum at Isaac Newton Academy we have asked two key questions:

How can we impart knowledge whilst instilling a love of learning and developing learning power?

How can we develop in our students the character necessary to translate that knowledge and learning power to success in life?

Delivering a challenging, academic, creative, interesting and inspiring curriculum is central to achieving our ambitious goals.

At Isaac Newton Academy it is important that the curriculum provides:

#### **Depth**

so that students become proficient in Literacy and Maths skills and core academic subjects quickly

so that students develop the depth of learning required for success at the highest grades and to progress to more advanced levels

**Breadth** so that, building upon that foundation, students gain knowledge, skills, understanding and qualifications that demonstrate academic, aesthetic, creative, human, social, political, physical, manipulate, linguistic, literary, mathematical, moral, ethical, scientific, spiritual and technological qualities and awareness

**Skills & Character development** so that students leave the academy with the learning dispositions and character traits necessary for success in life (see section on BLP and the INA BRIDGES below)

**Academic rigour & knowledge acquisition**

preparing students to compete successfully against their highest performing peers nationally for places at top universities (see section on knowledge acquisition below).

The challenge is to ensure coherence, with planning as a whole entity across each year and the key stages to ensure progression and the opportunity for all students to maximise their progress and achieve their potential.

**Skills & Character Development**

**a. Building Learning Power (BLP)**

At Isaac Newton Academy we explicitly talk about the brain's capacity to grow and we support students in exercising and strengthening their brains through a BLP curriculum and the BRIDGES Framework.

Building Learning Power (BLP) is about building a culture in classrooms (and the academy as a whole) that systematically cultivates habits, learning dispositions, attitudes and characteristics that enable young people to face difficulty and uncertainty calmly, confidently and creatively. Students who are confident of their own learning ability learn faster and learn better. They concentrate more, think harder and find learning more enjoyable. They do better in their tests and external exams. And they are easier and more satisfying to teach.

Spending time on BLP does not conflict with teaching subject content, it complements it. Research suggests that achievement levels are highest when students have first had their sense of themselves as learners strengthened, then been helped in learning how to learn and then assisted in mastering useful and important bodies of knowledge. BLP is about helping students to build up the mental, emotional and social resources to enjoy challenge and cope well with uncertainty and complexity. To thrive in the 21st century, at university, in a career and in adult life, it is not enough to leave school with outstanding

examination results. Students need to have learnt how to be tenacious and resourceful, imaginative and logical, self-disciplined and self-aware, collaborative and inquisitive.

There is good evidence that high achievers, especially girls, often develop an anxious attitude towards their own performance that makes them go to pieces in the face of unexpected difficulty and avoid new kinds of challenges in case they 'look stupid'. They know how to get good marks in school terms but lack resilience and adventurousness in a wider sense; they know how to succeed but they have not learned how to fail or how to struggle. In 2009-10 1,500 students used the services of the Cambridge University counselling service. The Head of Service blames spoon-feeding at school. At Oxford University the clinical director of the university counselling service blames modularised and packaged courses and teaching to exams for increasing levels of debilitating stress and anxiety amongst students. At Isaac Newton Academy we do not just want students to gain places at top universities, but to thrive and succeed in this academic environment.

BLP and the development of the BRIDGES dispositions and characteristics is vital to not just gaining top qualifications but to succeeding in life beyond school. BLP supports Carol Dweck's Growth Mindset.

To be truly effective, BLP needs to be embraced by the whole school community: teaching and operational staff, governors and parents.

People who embrace BLP tend to share a number of traits. They are:

- reflective and honest about their own practice
- enthusiastic but discerning consumers of new ideas
- open-minded and willing to give things a go
- patient
- resilient
- inclined to be open with students about what they are trying to do and to involve them in feeding back on and co-constructing the way that teaching and learning happen
- collaborative and generous with each other about their thoughts and ideas.

They use learning language to support students' development and exemplify the traits of an effective learner in their dealings with students. BLP teachers design learning activities that deliberately stretch and exercise the full range of learning-oriented habits of mind and develop key character traits. They provide opportunities for students to design and direct their own learning. They use the physical environment to reinforce positive messages about exploration and experimentation.

## **b. The INA BRIDGES Framework**

The following framework has been designed to summarise the main character traits and learning dispositions that we support members of the Isaac Newton Academy community to develop and role model. We believe that these are fundamental to being an effective learner and to success and fulfilment in life. They underpin the curriculum at the academy and the policies and ethos of the organisation.

<b>CHARACTERISTIC</b>	<b>SHOWN THROUGH</b>
<b>BRAVERY</b>	courage, leadership, experimentation, risk-taking, optimism
<b>RESOURCEFULNESS</b>	remembering, making connections, transferring recycling, scavenging, questioning, reasoning, imitating, flexibility, adaptability
<b>INTEGRITY</b>	fairness, humanity, justice, citizenship, honesty, humility
<b>DISCOVERY</b>	curiosity, open-mindedness, enthusiasm, energy, noticing, creativity, imagining
<b>GRIT</b>	patience, resilience, determination, managing distractions, perseverance, concentration
<b>EMOTIONAL INTELLIGENCE</b>	listening, empathy, collaboration, sociability, reflectiveness, understanding, openness
<b>SELF-DISCIPLINE</b>	organisation, hard-work, absorption, practising, prioritising, planning, prudence, revising, self-regulation, independence, motivation.

## **B: Knowledge Acquisition**

It is clearly essential that through the taught curriculum students gain a broad foundation of factual knowledge in order for them to perform to their potential in examinations and gain top qualifications. Furthermore, research suggests that students leaving school with a solid knowledge bank are more confident, informed and articulate individuals, performing well at interview and getting more from life. In 'The Schools We Need And Why We Don't Have Them', E. D. Hirsch argues convincingly that there is a certain core knowledge required of all individuals in order for them to participate fully in society and experience success in life. He refers to Horace Mann who argued that democracy required school to provide all children equally with the knowledge and skills that would keep them economically independent and free. He suggests that just as it takes money to make money, it takes knowledge to make knowledge, referring to the Biblical paradox set out by Matthew (13:12): "For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath." It is vitally important that the curriculum imparts a core bank of knowledge to students at the academy, so that they add to and build on this intellectual capital as they progress into higher education and life beyond schooling. There is a moral imperative to ensure that socio-economic disadvantage does not result in a deficit of intellectual capital. Hirsch argues that "an early inequality in the distribution of intellectual capital may be the single most important source of avoidable injustice in a free society."

As stated earlier, the relationship between skills development and knowledge acquisition is one of co-dependence. A child's intellectual interest is fuelled by enabling knowledge. Wide knowledge nourishes an active curiosity to learn still more and more.

"Equity requires that schools give all children the knowledge and skills they need to become politically functional, economically successful, and autonomous citizens." E. D. Hirsch.

## The Isaac Newton Academy KS3 Curriculum

The academy follows a two-week timetable comprising of 58 lessons. Lessons are of either 55 or 60 minute duration.

<b>Subject</b>	<b>Number of lessons per two-week cycle</b>
English	10
Maths	10
Science	8
Humanities (Geography, History, RS)	8
Languages	4
Music	4
PE	4
Art	2
BRIDGES	2
Drama	2
Reading	2
Technology	2

In Year 9 there is no Reading lesson: the period is allocated to Humanities to allow them to have 4 periods of History, 4 of Geography and 2 of RS each fortnight (taught by subject specialists). In addition, Computing is taught as part of an ADT carousel.

The 180 students are divided into 7 tutor groups in year 7. These are mixed in terms of prior attainment, feeder primary, gender, ethnicity, SEN, FSM etc. Students study the following subjects in their tutor groups: MFL (year 7), Art, Technology, (Computing in year 9), Drama, Music, BRIDGES, Big Band, Reading. PE is taught in different groups at different times of the year depending on the sport being studied and the number of tutor groups being taught PE at the same time. In Years 8 & 9 students are in MFL groups according to the language they study. Tutor groups are arranged into sets for Maths (according to prior attainment in Maths), Science (according to prior attainment in Science) English (according to prior attainment in English) and Humanities.

### The Structure and Principles of the KS3 Curriculum

- Students study Maths and English for a minimum of one hour each per day. *There should be depth before breadth – all students need to master English and Maths in order to excel in other curriculum areas.*
- Students who enter the academy with weak literacy and Maths skills have extra Maths and English support in a 1:1 or small group setting as required, after school or at the weekend. *The curriculum is designed to teach students from their starting point and to achieve rapid catch-up for those who enter behind their peers in levels of attainment.*

- *The specialisms of Maths and Music have a central place in the curriculum at Isaac Newton Academy. Maths and Music are disciplines in which the correlation between hard work and excellence are seen particularly clearly.*

*Maths: Fluent numerical skills give students access to a wealth of scientific and creative subjects. Mastery of mathematics develops students' intellectual and logical reasoning capabilities, spatial visualisation, analysis and abstract thought. "Mathematics, rightly viewed, possesses not only truth, but supreme beauty" (Bertrand Russell).*

*Music: Music plays a central role in supporting young people in developing a range of skills and dispositions as well as enriching their lives. We believe that every child can be a musician and that music has the facility to develop confidence, creativity, leadership, self-discipline and excellence. Our aim is for all students to have access to and participate in a breadth of music-making experiences that reflect the multicultural society in which we live. Through their engagement with high-quality curriculum and enrichment-related activities, we aim for students to become passionate and versatile musicians who will maintain an active relationship with music throughout their lives.*

- *All students in Years 7 & 8 have a one hour Reading lesson in the Library each week. A love of reading and the habit of reading is developed from entry into the academy and the Library is seen as the heart of the school.*
- *Students all study Science for 8 periods per fortnight, History, Geography and RE (as Humanities) for 8 hours per fortnight (10 in Year 9), and MFL for 4 hours per fortnight. A significant amount of time is allocated to the study of Science, the Humanities and a Modern Foreign Language (MFL) as these are key academic disciplines and top GCSE grades in these subjects are required by the best universities.*
- *Academic subjects are balanced and interspersed with practical and creative ones. The curriculum should provide a range of learning experiences and environments, academic and practical subjects and learning in and out of the classroom.*
- *ICT & Computing skills (Word, Excel, Powerpoint, Outlook etc.) are taught to all students via cross curricular coverage and 'drop down' sessions, as well as discrete lessons in Year 9. This is to ensure that all students reach a level of expertise in digital technology to support them in professionally presenting their learning in all curriculum areas.*
- *Building Learning Power is taught by each tutor to their tutor group in a weekly lesson and reinforced across the curriculum. Each fortnight students focus on one of the characteristics of the BRIDGES framework (covering all 7 sectors each term) and consider one or two particular features of that characteristic (e.g. leadership as part of Bravery). In both their BRIDGES lesson and their subject lessons they explore that/those feature(s) and develop the skills related to that/those characteristic(s). The skills needed to be an effective learner and characteristics required for success in life should be developed and practised explicitly and the language of learning used by all in the school community. Community service is also undertaken by all students as part of their character development.*

- Year 7 teachers are encouraged to spend some time observing and learning with and from outstanding primary colleagues. *The curriculum should build on the best practice at KS2 and be informed by student learning and attainment at KS2.*
- All staff, teaching and operational, are expected to deliver at least one enrichment session each week. Each student is expected to attend at least 1 enrichment/support session after school each week. Some students will be directed to attend one session each week (literacy or numeracy), but every student will have least one free choice. *An after - school enrichment and extension programme should provide the opportunity for students to experience new disciplines and activities, learn new skills and/or take part in more sport, music and creative activities than can be provided in the structured school day. These activities will also provide a safe and supported environment for socialising, having fun and getting to know staff in a different context.*
- All students are set, and expected to complete, independent learning tasks each weekday in preparation for their subsequent lessons. The school Library is open and supervised each school day until 6pm for students who wish to complete independent learning tasks on site rather than at home. *Learning to complete tasks independently, whether they be consolidation of earlier class learning or research/reading in preparation for future lessons, is an important skill and character trait for all students to develop in order to accelerate their rate of academic progression, to prepare them for advanced levels of educational study and to enable them to acquire life skills.*

### **The Isaac Newton Academy KS4 Curriculum (Years 10 &11)**

The 2016-18 offer comprises:

- 9 GCSEs as the basic entitlement for students – 5 GCSEs from Core and 4 GCSEs from Options – to give a firm foundation for future pathways, a range of different subjects to be chosen as options, without overcrowding. A small number of students will follow 8 GCSEs to allow time for extra support and consolidation of their students. A very small number of students with high level of need will follow a modified curriculum that includes offsite provision.
- Option blocks built around student choices, allowing all students the opportunity to take the full EBacc and study both a language and either Geography or History. The EBacc is made up of English, maths, geography or history, the sciences, a language. Students are encouraged to take the full EBacc to provide a solid foundation for further A level and university study. All students are required to take at least one of Geography, History, French or Spanish as an Option subject.
- No entry requirements for subjects as part of our commitment to a comprehensive education.
- Information, advice and guidance providing students and parents with the information they need to make decisions about GCSEs, including individual interviews with each student and their parent/ carer.

## The model

Y10																
En					Ma					Sc		PE *	Option 1	Option 2	Option 3	Option 4
Y11																
En					Ma					Sc		PE *	Option 1	Option 2	Option 3	Option 4

\* = Cultural Studies and PSHE

Core – 17 lessons/ week		Options – 4 options, 3 lessons/ week	
<ul style="list-style-type: none"> <li>English (2 GCSEs – Lang &amp; Lit)</li> <li>Maths (1 GCSE)</li> <li>Science (2 GCSEs)</li> <li>Sport &amp; Fitness</li> <li>Cultural Studies &amp; PSHE</li> </ul>	5 in Y10/ 6 in Y11  5  5 in Y10/ 4 in Y11  1  1	<ul style="list-style-type: none"> <li>Triple Science</li> <li>French</li> <li>Spanish</li> <li>Geography</li> <li>History</li> <li>Computing</li> </ul>	<ul style="list-style-type: none"> <li>Art</li> <li>Drama</li> <li>Music</li> <li>PE</li> <li>RS</li> </ul>

## The Rationale

- PE is a popular subject and important for healthy lifestyles. We have a significant update for GCSE and anticipate continued high participation rates in PE enrichments. Core PE has been re-named to Sport & Fitness to distinguish it from GCSE PE. Maintaining an active lifestyle is even more important during KS4 with the pressures of exam. To reflect this, KS4 students will be encouraged to participate in a PE enrichment. Should there be problems in capacity for PE enrichment, we will prioritise KS4 students for PE enrichment.
- PSHE & core RS will be taught as a discrete lesson, building on the strong foundations built in KS3 with BRIDGES and PSHE, demonstrating our on-going commitment to developing the whole child and not just academic outcomes. Core RS/PSHE has been re-named Cultural Studies to distinguish it from GCSE RS. PSHE and core RS will comprise distinct PSHE modules and distinct core RS modules. Humanities specialists to teach the RE modules and pastoral staff to deliver the PSHE modules to ensure an engaging and appropriate curriculum.
- English is taught for 10 periods a fortnight in Y10 and 12 periods in Y11 to accommodate the reduced overlap in English Language and English Literature and the demands of the new GCSE.
- Maths is taught for 10 periods per fortnight to accommodate the increase in content and demand of the new GCSE. Within Maths, there is the potential for students to study an additional qualification, e.g. Further Maths.
- Science is taught for 10 periods per fortnight in Y10 and 4 periods in Y11 to support progression to the highest grades.

Reviewed June 2016

## **KS4 Options Process**

### Key features

- Options evening for Year 9 in December for parents and students to get information about the process and the subjects. Subjects to have stalls in one large space. 2 talks during the evening at another location to explain process. Students and parents collect their booklets and options forms, find out about the process and can ask questions at subject stalls.
- Individual interviews for all Year 9 students with parents to be held with a member of SLT or the PL in January & February to go through the completed options forms students & parents bring in. Options form: students choose 4 main choices and 2 reserves.
- Option blocks to be built around student choices. Students have a free choice of subjects, within the constraints of at least 1 Ebacc subject and being encouraged to choose the full Ebacc. Target: all students to be allocated at least 3 of their main choices. HODs will be given provisional numbers/ number of classes to enable planning.
- Viability of courses to be decided by EM/ RM/ HC.
- HODs notified of students allocated in Summer 2.
- Students and parents notified of allocations after timetable has been built in Summer 2.

See related policies – Teaching and Learning Policy, Independent Learning Policy, Extra-Curricular Provision Policy, Reading Policy.

**Reviewed June 2016**