



**The Totteridge Academy**

The best in everyone™

Part of United Learning

# The Totteridge Academy Sixth Form



## KS5 Options Booklet 2020-2021



Dear students, parents and carers,

Following three consecutive years of improvement in GCSE results, we are delighted to be able to reopen our Sixth Form in September 2020 with a core offer of A-levels for the founding cohort of Y12 pupils.

This booklet will give you information on the A-levels we will be offering, including course content, entry criteria and career pathways. We encourage you to start thinking carefully about your course choices and to seek guidance from staff where you are unsure about which courses to choose.

All courses are subject to student demand at enrolment and this curriculum has been designed using students' feedback. If you are interested in taking a subject that is not listed in this booklet, please email [sixthform@tta.org.uk](mailto:sixthform@tta.org.uk) to discuss your options.

Alongside their studies, TTA Sixth Formers will enjoy:

- Weekly sport and wellbeing activities run by GROW
- A range of extra-curricular trips and visits from inspiring speakers
- Expert guidance on university and apprenticeship applications

We are so excited to welcome our founding cohort and look forward to helping them make informed, ambitious choices about their future. We know our founding cohort will not only achieve excellent grades and go on to study at top universities but will also play an active role in the school community, inspiring younger pupils to aim high in all they do.

Best wishes,

**Chris Fairbairn**



## How many subjects should I choose?

- Nearly all Sixth Formers at The Totteridge Academy will take three A-levels; it is rarely advantageous to take any more than this.
- Some students will elect to take an EPQ alongside their three subjects; this will begin at the end of Year 12 and will be subject to an application process.
- Some students will elect to take further maths as part of a four A level combination – this combination will always include maths A-level.

## How do I know which subjects to choose?

In line with guidance from UCAS we encourage you to –

1. Look at what subjects you are likely to enjoy and be good at. If you enjoy a subject or have an ability in it already, you are more likely to do well.
2. Think about which subjects you may need to apply for a particular university course or career. You can find further guidance on this here - <https://www.ucas.com/explore/subjects>
3. Consider 'keeping your options open' and doing a range of subjects if you're unsure which university course, apprenticeship or career you currently wish to pursue.

## When do I have to decide by?

Final course choices are made at enrolment. Enrolment will take place this summer at The Totteridge Academy.

## What if I change my mind?

There will be a short window at the start of autumn term whereby a student – in consultation with their form tutor and parents/ carer – can request a subject change.

## When will I sit exams?

Students will sit formative assessments in all subjects over the course of Year 12, as directed by their subject teachers. All A-levels are two-year courses with final exams taken at the end of Year 13. Some subjects may include coursework tasks which contribute to a student's final grade.



## Teaching

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<b>Economics</b>	Mr T Knott	<a href="mailto:tom.knott@tta.org.uk">tom.knott@tta.org.uk</a>
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<b>Maths</b>	Ms B Kubba Mr S Kempner Ms E Ndoni	<a href="mailto:ban.kubba@tta.org.uk">ban.kubba@tta.org.uk</a> <a href="mailto:sammy.kempner@tta.org.uk">sammy.kempner@tta.org.uk</a> <a href="mailto:esmeralda.ndoni@tta.org.uk">esmeralda.ndoni@tta.org.uk</a>
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## Pastoral

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## The qualification we offer is:

**AQA A-Level Biology**

## In Y12 you will study:

- Biological molecules
- Cells
- Organisms exchange substances with their environment
- Genetic information, variation and relationships between organisms

## Choose Biology if you like:

Choose Biology if you like delving into the natural world and the processes that dictate how all living creatures survive, compete and reproduce. Biology is a challenging course and will push your conceptual thinking in deciphering complicated processes like the Krebs Cycle but also deeply mathematical in its use of sophisticated mathematical and statistical techniques to better understand how organisms can interact with their environment.

## An A-level in Biology can lead to:

Biology leads to a great many courses and careers. Many students with Biology A-Level will go on to study medicine, biomedical sciences or vocations like nursing or dietetics. Many students will continue to study science beyond University, becoming practising field scientists in diverse areas like microbiology, genetic engineering and ecosystems management.

## An example exam question is:

*Starting with mRNA in the cytoplasm, describe how translation leads to the box production of a polypeptide.*

*Do not include descriptions of transcription and splicing in your answer.*

## Homework:

Homework will be based on extensive amounts of practice, including worksheets, knowledge quizzes and past paper questions.

## Entry Criteria –

**Grade 7 in Biology GCSE**



**The qualification we offer is:  
AQA A-Level Chemistry**

**In Y12 you will study:**

- Physical chemistry (atomic structure energetics, kinetics)
- Inorganic chemistry (groups in the periodic table)
- Organic chemistry (alkanes, alkenes, alcohols, halogenoalkanes etc.)
- Quantitative chemistry (moles and amount of substance, ideal gas law)

**Choose Chemistry if you like:**

Choose Chemistry if you like pushing your understanding of the basic processes that occur all around us everyday. Chemistry is an incredibly challenging course, but it is also a hugely rewarding one, covering a vast number of topics in its range of content. Substance will vary from the abstractions of Le Chatelier's principles to the concrete realities involved in industrial drug manufacture and atmospheric processes involving ozone and CFCs.

**An A-level in Chemistry can lead to:**

In addition to being an important prerequisite for medicine, chemistry is a highly sought after A-Level and can lead to a great many options at university and further study. Within chemistry, students often go on to study straight chemistry, chemical engineering or biochemistry. From there, careers in research or industry are an easy step.

**An example exam question is:**

*Some toothpastes contain sodium fluoride. The concentration of sodium fluoride can be expressed in parts per million (ppm). 1 ppm represents a concentration of 1 mg in every 1 kg of toothpaste.*

*A 1.00 g sample of toothpaste was found to contain  $2.88 \times 10^{-5}$  mol of sodium fluoride.*

*Calculate the concentration of sodium fluoride, in ppm, for the sample of toothpaste.*

**Homework:**

Homework will be based on extensive amounts of practice, including worksheets, knowledge quizzes and past paper questions.

**Entry Criteria –**

**Grade 7 in Chemistry GCSE**



**The qualification we offer is:**  
**Edexcel A Level Economics**

**In Y12 you will study:**

**Theme 1: Introduction to markets and market failure.** Microeconomic concepts, looking at the nature of economics, how markets work and fail and how governments intervene

**Theme 2: The UK economy – performance and policies.** Macroeconomic concepts, understanding measures of economic performance, aggregate supply and demand, national income, economic growth and macroeconomic objectives and policy

**And in Year 13:**

**Theme 3: Business behaviour and the labour market**

**Theme 4: A global perspective**

**Choose Economics if you like:**

Asking questions and understanding how the world works.

Economists will develop their analytical, numeracy, evaluative and reasoning skills focusing on current issues in the modern world.

Lessons will involve investigating contemporary issues from an Economic perspective and will suit students who enjoy discussion and developing their written and analytical skills, specifically using evidence and data to form compelling analyses and deliver reasoned arguments.

**An A-level in Economics can lead to:**

Anything you want it to. Investment banking, financial management, consultancy, economic analysis, research, journalism, the list goes on. Economists build a wide range of transferable skills which are highly prized by both universities and employers.

**Example exam questions:**

**1.** *In July 2016 Apple's share of the UK market for smartphones was 38%. Evaluate whether such a high market share for one company is in the consumer interest. Use appropriate diagrammatic analysis in your answer.*

**2.** *Assess the view that 'a degree of inequality is desirable to maintain an appropriate incentive structure in the economy'*

**Homework:**

- Practice exam questions on topics studied in class
- Weekly reading and analysis of current economic issues and events

**Entry Criteria –**

**Grade 6 in both GCSE English and Maths**



**The qualification we offer is:**  
**Edexcel A level English Literature**

**In Y12 you will study:**

- **Drama:** Tragedy - Othello & A Streetcar Named Desire
- **Prose:** Women & Society - A Thousand Splendid Suns & Wuthering Heights
- **Poetry:** Modernism
- **Non-examination Assessment:** Comparative essay on two texts of your choice

**Choose English Literature if you like:**

An A-level in English Literature will challenge you to read widely, think and write critically and to understand texts as products of their time. Choose this subject if you're keen to develop original, independent interpretations through research and to engage in lively intellectual debates with peers.

**An A-level in English Literature can lead to:**

An A-level in English Literature will open doors to a range of industries including journalism, media, law, publishing, marketing, advertising, politics, consultancy, and the charity sector. However, the focus on independent thought and self-directed learning helps to prepare you for undergraduate study in any discipline.

**An example exam question is:**

*Explore how Shakespeare treats the theme of identity in Othello. You must relate your discussion to relevant contextual factors and ideas from your critical reading(35 marks)*

**Homework:**

- Weekly reading of set texts and completion of reading logs prior to lessons
- Weekly planning, writing and redrafting of essays on set texts

**Entry Criteria –**

**Grade 6 in English Literature GCSE**



**The qualification we offer is:  
AQA Extended Project Qualification**

**In Y12 you will study:**

A dissertation (usually 5,000 words) or a project (an event like a charity fundraiser, piece of art or sculpture, a performance, a piece of music) accompanied by a 1,000 word report on a topic decided by you.

**Choose EPQ if you like:**

The EPQ allows you to develop a personal interest in a topic you care about. The skills you'll develop as a result of doing the EPQ (project planning, decision making, record keeping, evaluation, presenting) are invaluable in most jobs and degree courses.

**An EPQ can lead to:**

An EPQ can help when applying for university as it demonstrates your commitment to a subject and allows you to develop the independent research skills needed for undergraduate study. If you're invited to interview, an EPQ will provide you with a topic to speak about at length, with passion and conviction.

**Example EPQ questions:**

- *How effective was the NHS' response to the 2020 Corona virus in the U.K?*
- *How can weekly boxing improve female students' attendance and academic attainment in Key Stage 3?*
- *Is the London Living Wage good for the economy?*

**Homework:**

- Planning and research log
- Preparation for meetings with your supervisor to discuss progress
- Presentations to EPQ group on your progress

**Entry Criteria –**

**Dependent on student's area of interest**



## The qualification we offer is:

**Edexcel A Level History**

## In Y12 you will study:

### ***Paper 1: Russia 1917-91, from Lenin to Yeltsin***

From revolution to the collapse of the Soviet Union, you will study Russia's twentieth century and investigate the political, economic and social features of communist rule.

### ***Paper 2: The German Democratic Republic, 1949-90***

From its creation to its demise, you will study what life was like 'behind the Berlin Wall', on the frontline of the Cold War, in a country where contrasts between East and West were at their starkest.

## Choose History if you like:

An A Level in History will equip you to challenge generalised narratives. It will provide you with endless opportunities to handle contemporary evidence critically, using this to corroborate or challenge historians' interpretations of the past and to ask questions about the way that different events have been interpreted. Choose History if you enjoy reading widely, thinking critically and creating your own original arguments.

## An A-level in History can lead to:

An A Level in History can lead to a range of different careers including law, politics, journalism, teaching, consultancy, accountancy and the media. However, the focus on independent research and extended writing helps History to be considered as a highly academic A Level which equips you with skills that are both useful for further study of any discipline at undergraduate level and which are desired by many employers.

## Example exam question(s):

*How far did the role of the secret police change in the Soviet Union through the period 1953-85? [20]*

*To what extent was Honecker successful in his attempts to improve the international prestige of the GDR? [20]*

## Homework:

- Weekly extended reading (often of historians' work) and questions
- Weekly essay

## Entry Criteria

**Grade 6 in GCSE History**



**The qualification we offer is:  
Edexcel A level Mathematics**

**In Y12 you will study:** Pure Mathematics, Mechanics and Statistics

- Proof
- Algebra and functions
- Coordinate geometry
- Trigonometry
- Exponentials and logarithms
- Differentiation
- Integration
- Statistical sampling
- Data presentation
- Probability
- Kinematics
- Forces and Newton's laws

**Choose Mathematics if you like:**

A level Mathematics will teach you how to approach complex problems and work through them with logic, creativity and persistence. You will learn how to analyse and interpret data and how to model real-life situations using Mathematics. Choose this subject if you want to stretch your intellect and develop reasoning skills transferable to a multitude of fields.

**An A-level in Mathematics can lead to:**

Mathematics is one of the most frequently requested A level subjects by universities and opens doors to a huge range of professions. Careers in finance, medicine, engineering, business and economics are all open to people with a background in Mathematics, not to mention it being at the core of all new technological developments.

**An example exam question is:**

**a) Prove that**

$$1 - \cos 2\theta \equiv \tan \theta \sin 2\theta, \quad \theta \neq \frac{(2n+1)\pi}{2}, \quad n \in \mathbb{Z} \quad (3)$$

**b) Hence solve for  $-\frac{\pi}{2} < x < \frac{\pi}{2}$  the equation**

$$(\sec^2 x - 5)(1 - \cos 2x) = 3 \tan^2 x \sin 2x$$

**Give any non-exact answer to 3 decimal places where appropriate. (6)**

**Homework:**

- Practice questions on topics studied in class
- Weekly testing of material
- Exam question practice

**Entry Criteria –**

**Grade 7 in GCSE Mathematics**



## The qualification we offer is:

**Pearson Edexcel A level Further Mathematics**

**In Y12 you will study:** Further Pure Mathematics, and further Mechanics/Statistics or Decision Mathematics

- *Complex numbers*
- *Proof*
- *Matrices*
- *Further Calculus*
- *Hyperbolic functions*
- *Differential Equations*
- *Binomial and Poisson Distributions*
- *Hypothesis Testing*
- *Elastic collisions in two dimensions*
- *Circular motion*
- *Algorithms, linear programming & more*

## Choose Further Mathematics if you like:

An A level in Further Mathematics will push your mathematics ability further than ever before. There are many mathematics disciplines and this A-level will give you the opportunity to study further pure mathematics, mechanics and statistics, whilst also allowing you to be exposed to decision mathematics and logic, which is essential to understanding how decisions are made and how computers think.

## An A-level in Further Mathematics can lead to:

An A-level in Further Mathematics is designed for pupils wishing to focus on further study at the leading universities for the following disciplines: Mathematics, Physics, Engineering, Computer Science and Economics. This can lead to countless careers such as medical engineering, banking, computer programming and actuary.

## An example exam question is:

7.

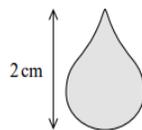


Figure 2

Figure 2 shows the image of a gold pendant which has height 2 cm. The pendant is modelled by a solid of revolution of a curve  $C$  about the  $y$ -axis. The curve  $C$  has parametric equations

$$x = \cos \theta + \frac{1}{2} \sin 2\theta, \quad y = -(1 + \sin \theta) \quad 0 \leq \theta \leq 2\pi$$

(a) Show that a Cartesian equation of the curve  $C$  is

$$x^2 = -(y^4 + 2y^3)$$

(b) Hence, using the model, find, in  $\text{cm}^3$ , the volume of the pendant.

## Homework will be:

- Practice questions on topics studied in class
- Weekly testing of material
- Exam question practice

## Entry Criteria –

**Grade 8 in GCSE Mathematics**



## The qualification we offer is: Edexcel A Level Politics

### In Y12 you will study:

#### 1. UK Politics

Democracy and participation; political parties; electoral systems; voting behaviour and the media.

#### 2. UK Government

The constitution; Parliament; Prime Minister and executive; relationship between the branches.

#### 3. Political Ideologies

Liberalism; Conservatism; Socialism; Feminism

### Choose Politics if you like:

An A Level in Politics demands that you ask questions about the world around you: *Why did the UK vote to leave the EU? What are the limits on the powers of President Trump? How has feminism changed, and influenced politics, over time?* By studying Politics, you will be equipped to tackle these questions directly. It is a subject which is driven by debate and which will develop you into an analytical thinker. Choose A Level Politics if you want to study current affairs as an expert and learn to express your ideas fluently in writing.

### An A-level in Politics can lead to:

A Level Politics equips you with the analytical skills sought by many academic disciplines and professions including journalism, local and national politics, law, consultancy, NGOs and the charity sector.

### Example exam questions:

*Evaluate the view that the image of the party leader is the most significant factor in determining the result of a general election. [30]*

*To what extent do feminists agree over the role of the state? [24]*

### Homework:

- Weekly extended reading and questions
- Weekly essay

### Entry Criteria

**Grade 6 in GCSE English Literature or History**



**The qualification we offer is:  
AQA A-Level Physical Education**

**In Y12 you will study:**

- **Section A:** Applied anatomy and physiology
- **Section B:** Skill acquisition
- **Section C:** Sport and society

**Choose Physical Education if you like:**

An A-level in Physical Education will enable you to engage with the most in depth elements of sport. The practical aspect is suited to students who are driven towards an elite level of performance, while the theory challenges students who enjoy scientific level analysis, interpretation of data and producing detailed evaluations.

**An A-level in Physical Education can lead to:**

An A-level in Physical Education offers students the opportunity to make strides in a wide variety of employment areas as well as higher education. While this list is by no means definitive, career paths could include roles in sports science, health and fitness, physiotherapy and rehabilitation, nutrition or coaching.

**Example exam questions:**

*Analyse how cryotherapy aids recovery from exercise by causing the body to redistribute blood flow. (8 marks)*

*Analyse how campaigns such as 'This Girl Can' might overcome barriers to female participation in sport and change attitudes. (15 marks)*

**Homework:**

- Weekly reading of key material and planning for presentations
- Weekly knowledge recall tasks
- Weekly exam questions (inc. extended writing tasks)

**Entry Criteria –**

**Grade 6 in GCSE PE, alongside teacher review of practical performance**



**The qualification we offer is:**  
**AQA Physics A-Level**

**In Y12 you will study:**

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity

**Choose Physics if you like:**

Choose Physics if you like the ongoing human endeavour of coming to grips with the most fundamental laws that govern our universe. Physics will push your boundaries of what you thought was possible and introduce you to worlds that you could never have imagined. Through the synthesis of theoretical and mathematical abstraction with experimental evidence, you will gain an appreciation of the universe that will leave you feeling enlightened and excited to discover more.

**An A-level in Physics can lead to:**

Physics is a highly-regarded course which will open any door you choose. Most students go on to study physics further, choosing to specialise in fields like astrophysics, particle physics or quantum mechanics.

**An example exam question is:**

*Nuclei can decay by alpha decay and by beta decay.*

*In alpha decay only one particle is emitted but in beta decay there are two emitted particles.*

*Explain how baryon number is conserved in alpha and beta decay.*

**Homework:**

Homework will be based on extensive amounts of practice, including worksheets, knowledge quizzes and past paper questions

**Entry Criteria –**

**Grade 7 in Physics GCSE**



**The qualification we offer is:**

**AQA A Level Design and Technology: Product Design**

**In Y12 you will study:**

- **Technical Principles:** Materials, Testing, Industrial & commercial practice, Digital design, Rapid prototyping
- **Designing and Making Principles:** Iterative design, Design theory, Responsible design, Design for manufacture, Selecting appropriate tools, equipment and processes

**Choose Product Design if you like:**

Pick this subject if you like finding solutions to problems. If you are passionate about the design of objects from simple everyday products to grand architectural projects. Our subject will explore how designers meet the needs of clients and create solutions which take into account how a modern designer brings a product from a simple idea into the real world. You will study theory and build on your skills to better you, as a designer.

**An A-level in Product Design can lead to:**

An A-Level in Product Design leads to a vast amount of careers and courses in the world of design and engineering. Typically, students go on to careers in: Product Design, Industrial Design, Fashion Design, Engineering and Architecture. Whether you choose to follow a career in design or not, the nature of problem solving and dissecting how we work in the modern world will lend skills to a variety of university courses.

**An example exam question is:**

*Using specific examples, evaluate the social, moral and ethical impact of mobile technology on society over the last 30 years. [12 marks]*

**Homework:**

- Weekly design theory reading and creating supporting notes
- Weekly practice including past paper questions and design skill tasks.

**Entry Criteria**

**Grade 6 in Design and Technology GCSE**



**The qualification we offer is:**

**AQA A Level Sociology**

**In Y12 you will study:**

- **Education and methods in context:** You'll consider the role of education in society. For example as part of your studies you'll investigate gender and ethnicity differences in school achievement. You'll also learn how to apply your own sociology research methods to the study of education.
- **Research methods:** You'll learn how to conduct your own sociological research, from interviews to reviewing documents and official statistics.

**Choose Sociology if you like:**

A Level Sociology gives you the opportunity to question everything about society. As part of your studies, you'll develop your understanding of key issues relating to class, gender, ethnicity, inequality and power. Why are certain groups more likely to commit crime more than others? Why do girls outperform boys in education, yet men still earn more on average than females? These are the questions that sociologists aim to answer. You'll develop skills such as essay writing, analysis, evaluation, critical thinking, teamwork and independent research. These skills are good preparation for university courses and complement many other humanities and social science subjects.

**An A-level in Sociology can lead to:**

Sociology is a great choice of subject for people who want a career in social work, nursing or medicine. The subject is also useful in several other careers, like marketing, politics, advertising, PR, journalism, law or teaching.

**Example exam questions:**

*Outline three reasons for gender differences in educational achievement. [6 marks]*

*Applying material from Item B and your knowledge, evaluate sociological explanations of social class differences in educational achievement. [30 marks]*

**Homework:**

- Weekly reading of primary texts from key thinkers
- Completion of set tasks in homework booklets

**Entry Criteria –**

**Grade 6 at GCSE English and any other humanities subject**