# Curriculum Intent, Implementation and Impact 2019-20

Subject (include exam board if examination subject): BTEC Applied Science Extended Certificate

Year group: 13

Periods per fortnight: 8

**INTENT:**

**Vision**

**Engagement, Discovery and Success**

**Mission Statement**

In the Buckingham School Science Department, we will teach lessons that are fun and **engaging**. Students will be encouraged to develop the curiosity they need to **discover** new concepts for themselves. Lessons will be taught with student **engagement** in mind and where possible we will use practical activities. Questioning will be encouraged, in particular why and how?

Student effort and will be rewarded and students will be aware of how their learning is progressing and are proud of their **success**. At the end of the course students will be well prepared for a career in science should they wish or should be able to use the scientific skills they have acquired in whatever they choose to do in the future.

**In year 13** Applied Science students will continue to work towards their BTEC award. The lessons will be taught using a range of different techniques, including practical and written tasks.

**The school virtues** will be encouraged throughout the teaching of the topics and embedded into schemes of learning.

**Ambition** – Science careers will be discussed as part of the 'big-picture' section of our teaching. Students will be taught how what they are doing applies to the outside world.

**Confidence** – Students will develop the confidence to carry out practical tasks and written work. Success will be rewarded within the department and will be encouraged to make mistakes.

**Respect** – Students will be taught to be respectful of each other and of their environment. Every student's opinions will be given equal weighting and students will be given the chance to have their views heard.

**Empathy** – Within science empathy is a very important skill. It is important to be able to put yourself into someone else's shoes in order to see how a particular scientific advancement might affect them. We often refer to other people's beliefs and ethics within the curriculum.

**Resilience** – Resilience is very important within science. Students will be encouraged to discover new ideas for themselves, make hypotheses and potentially make mistake. Mistakes are as important in science as being correct. Students will develop these skills by being encouraged to come up with their own ideas and then test them.

**Integrity** – Integrity in science will be taught by encouraging key scientific principles of objectivity, clarity and reproducibility. Scientific studies must be carried out without bias and this is a key skill we will address in our teaching of the practical aspect of the course.

**Curiosity** – We will develop curiosity through the discovery aspect of the lessons. Students will be encouraged as much as possible to discover new concepts for themselves through practical tasks. They should make their own conclusions about the world around them.

**We will meet the need of all learners** within the department but teaching fully differentiated lessons. Most able

## IMPLEMENTATION:

| Term | Topics studied | Extended learning opportunities | How parents could support students |
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| Autumn Term | Students will study Unit 3 of the course – Science Investigation Skills. This consists in the following sections:<br>Learning Aim A – Planning a scientific investigation<br><br>Learning Aim B – Data collection, processing and analysis and interpretation<br><br>Learning Aim C – Drawing conclusions and evaluation<br><br>Learning Aim D – Enzymes in action<br><br>Learning Aim E – Diffusion of molecules<br><br>Learning Aim F – Plants and their environment<br><br>Learning Aim G – Energy content of fuels<br><br>Learning Aim H – Electrical circuits<br><br>Assessments<br>Assessment practices with exam style questions for each section.<br>Mock Exam in November | Extended Learning: - Practice exam style questions - Produce flash cards/diagrams with the content of each section - Research and complete specific assignments - Read books and scientific magazines | Ensure students have the correct equipment for the course.<br>Motivate their children to revise regularly, preferably following a revision timetable.<br>Ask their children about what they are learning and discuss the subjects with them.<br>Incentivise their children to use websites for studying and read around the subject. |
| Spring Term | Students will complete the study of Unit 3 of the course – Science Investigation Skills, and revise for the External Assessment.<br><br>Students will study Unit 9 of the course – Human Regulation and Reproduction. This consists in the following sections:<br><br>Learning Aim A: Understand the interrelationship and nervous control of the cardiovascular and respiratory systems<br><br>Learning Aim B: Understand the homeostatic mechanisms used by the human body | Extended Learning: - Practice exam style questions - Produce flash cards/diagrams with the content of each section - Research and complete specific assignments - Read books and scientific magazines | Ensure students have the correct equipment for the course. Motivate their children to revise regularly, preferably following a revision timetable. Ask their children about what they are learning and discuss the subjects with them. Incentivise their children to |

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| | Learning Aim C: Understand the roles of hormones in the regulation and control of the reproductive system.<br><br>Assessments External Assessment in January (Unit 3). Unit 9 will be assessed using a series of internally assessed tasks within assignments set by the teacher. | | use websites for studying and read around the subject. |
| Summer Term | Students will complete the study of Unit 9 of the course – Human Regulation and Reproduction. This consists in the following sections:<br><br>Learning Aim A: Understand the interrelationship and nervous control of the cardiovascular and respiratory systems<br><br>Learning Aim B: Understand the homeostatic mechanisms used by the human body<br><br>Learning Aim C: Understand the roles of hormones in the regulation and control of the reproductive system.<br><br>Unit 9 will be assessed using a series of internally assessed tasks within assignments set by the teacher. | Extended Learning: - Produce flash cards/diagrams with the content of each section - Research and complete specific assignments - Read books and scientific magazines | Ensure students have the correct equipment for the course. Motivate their children to revise regularly, preferably following a revision timetable. Ask their children about what they are learning and discuss the subjects with them. Incentivise their children to use websites for studying and read around the subject. |

**IMPACT:**

By the end of year 13 students be well prepared for either a career in science or any other discipline. The students will have transferable skills that are applicable to many careers or areas of education. The students will also be displaying the school virtues within their science lessons, as well as being **engaged**, developed a love for **discovery** and have shown **success** in their curriculum.

The students will be assessed through their assignments as well as ongoing questioning within the class.