ENGINEERING IN MINECRAFT

FACULTY
SCIENCE

CHARGE
$0

HOURS
100

School developed

Learn, build and create with your friends!

The 'Engineering in Minecraft' elective gives you the opportunity to develop skills in STEAM (science, technology, engineering, arts, and mathematics) by engaging in Minecraft Education learning activities, challenges and projects. You will learn about planning, evaluation, design, problem solving, spatial mathematical awareness, coding, navigation, engineering, automation and game making. You will also develop important soft skills in collaboration, communication, openness to feedback and adaptability through participation in team based construction projects.

Topics covered include: An introduction to Minecraft and the use of build tools; Group projects in automation, coding and robotics and gate logic; The use of powerful add-ons to create large structures quickly; Taking control of pistons, minecarts, and hoppers to sort items and automate tasks; The use of 'the Agent' robot and block coding (similar to Scratch); The use of redstone configurations to create logic gates, clocks and memory cells to unlock the power to create: mini-games, binary adders/subtractors, combination locks, automatic bridges and more.

You will be graded on the products you produce and your demonstration of the 4Cs as you participate in learning activities, challenges and projects. There are no formal assessment events such as assignments or tests.

STAGE 6 SUBJECT SELECTION

Information Processing Technologies
Engineering Science

HIGHER EDUCATION

Software Engineering
Electrical Engineering
Structural Engineering
Architecture

CAREER OPPORTUNITIES

Engineering (software, electrical, structural, civil)
Architecture
Automation
Systems Analyst

ENGINEERING IN MINECRAFT – FAQs

Minecraft is just a game right?
What could you possibly learn from using Minecraft?
For many years, teachers and education researchers have seen the learning benefits of Minecraft. Skills that Minecraft can offer students working together on projects may include: communication, collaboration, planning, evaluating, designing, problem solving, spatial mathematical awareness, navigation, engineering, coding, and automation.

Do I need a BYOD (my own device) to do this elective?
No. You can use a school computer. The school does highly encourage students to purchase their own device for all learning. If you are bringing your device, it needs to be a Windows 10 device (usually a laptop) with the usual BYOD requirements. In addition, it should have a medium level processor, 8GM of RAM and dedicated graphics card.

Can I use Minecraft Education Edition at home?
Yes. So long as you have a Windows 10 device and use your school log-on.

I have previously done Construction in Minecraft and/or Design in Minecraft. Am I allowed to choose Engineering in Minecraft?
Yes. This is a similar course to the Year 7 and Year 8 course, but has an engineering focus. Whatever your skills or experience, this course will take you from where you are and carry you further.

No tests? No assignments? How am I graded?
Lessons, tasks, challenges, projects, working with your group, solving problems, creating videos and other evidence of your learning, displays at expos, other students playing games that your group has created... all of these and more are opportunities for you teacher to grade you (A to E) for: collaboration, communication, critical thinking and creativity.

Seriously... does real learning occur in Minecraft or is this just an excuse to play games?
Both! Real, high-order, 21st century learning skills with a STEAM focus provide students with fantastic learning opportunities that have relevance to the jobs of the future. This is done with their friends in a game environment that they have fun playing. It keeps them motivated, engaged and enriches their learning.