

# UTC FUTURES HEALTH AND DIGITAL FESTIVAL

North  
East  
Futures  
UTC



**Saturday 7<sup>th</sup> February**  
**10.00-13.00**

This is the brochure for the  
inaugural North East Futures UTC  
Health and Digital Festival.



# MEDICAL MASTERCLASS

Step into the shoes of a doctor in this fast-paced 2.5-hour Medical Masterclass.

This session must be pre-booked and is suitable for students in years 10 and 11.

Designed for aspiring medics, this session moves beyond textbooks to give you a hands-on look at the reality of clinical life through four key pillars.

Navigate the "grey areas" of medicine in our Ethics forum, where you'll debate real-life dilemmas using the four pillars of medical law. You'll then tackle the UCAT, learning the "mental shortcuts" needed to ace the abstract reasoning and situational judgment tests used for university entry.

You'll get hands-on with clinical tools, learning to suture wounds and monitor vital signs. Finally, put your skills to the test in Patient Diagnostics, using digital data and symptom logs to crack complex cases.

# THE HEALTH ZONE

1

## Basic Life skills workshops with Northumbria University

Book into one for the workshops run by Northumbria University to develop basic life skills. There are 2 sessions 10:00-10:45 and 11:00-11:45. These sessions can be booked on the day, maximum 12 people per session.

2

## Medical Spectroscopy with Newcastle University

You are a scientist at a music festival and you have to identify a mystery substance. Using the latest technology, and the expertise of chemist Dr Peter Hoare can you work out the substance?

3

## Making Blood Models

Dive into The Blood Lab and build a biological masterpiece! Use Cheerios, marshmallows, and sprinkles to reconstruct the vital components of your blood in a liquid environment. It's a hands-on way to visualize how oxygen, immunity, and clotting work together to keep your body running at its peak!

# THE HEALTH ZONE

1

## Extracting DNA from fruit

Step into the Bio-Lab and unlock the secrets of life! Become a geneticist as you mash, filter, and separate real DNA from fruit using everyday chemistry. Watch as ghostly white strands of genetic code appear before your eyes. It's hands-on biotechnology that brings the invisible world of genomics to life!

2

## Hands on health

Step into the Health Zone to test your body's limits! Measure your blood pressure like a pro, challenge your nervous system with our high-speed reaction timers, and track your heart rate as it spikes during our exercise trials. Discover the science of "you" through live data and interactive tech!

3

## Medical Mysteries

Become a Medical Detective in this high-stakes diagnostic challenge! Study five mysterious patient files, examine real-world medical data, and use your logic to match the symptoms to the science. From digital scans to biological clues, can you identify the ailments before time runs out? Solve the mystery and save lives!

# THE DIGITAL ZONE

1

## Cyber Heist with Atom Bank

Put your detective skills to the test in the Atom Bank Cyberheist! In this fast-paced challenge, you'll act as a security analyst to foil a digital robbery. Decode encrypted clues and identify phishing red flags to protect customer data, learning how the UK's first app-based bank stays one step ahead.

2

## AI debate wall

Make your voice heard at the AI Debate Wall! Is Artificial Intelligence a creative partner or a digital threat? Pin your perspectives on our interactive forum, weighing the pros of innovation against the cons of ethics and privacy. Join the conversation, challenge your peers, and help shape the future of AI.

3

## Logic Packs

Explore the Human Computer Zone using Interactive Logic Packs! These hands-on kits allow you to build physical circuits that mirror a computer's brain. By connecting switches and sensors to represent AND, OR, and NOT gates, you'll visualize how electronic signals transform into smart decisions and master the core of computing.



# THE DIGITAL ZONE

1

## Binary Beading

Discover the secret language of computers through jewelry! In this hands-on workshop, you'll use the ASCII alphabet to translate your name or a message into 1s and 0s. Choose contrasting beads to represent bits and bytes, then string together a custom bracelet or keychain that encodes data in style.

2

## Human Computer Zone

Step into the Human Computer Zone, where you become the processor! Experience computing without screens as you simulate a CPU in Human Logic Gates, using physical movement to solve logic puzzles. Then, compete in the Sorting Algorithm Race, physically acting as data to discover how computers organize information with lightning-fast efficiency.

3

## Pixel Post it note wall

It is important to demonstrate to future employers or prospective universities that you have developed knowledge beyond the curriculum. These knowledge courses are the perfect chance to do this by choosing a course that interests you.

# FUTURES FESTIVAL COMPETITIONS

## **Medical Devices competition.**

Revolutionize healthcare with your creativity! Design a tech-driven medical device to solve a real-world health challenge. Submit a detailed, labelled drawing showcasing how your innovation works and the technology behind it. From wearables to robotics, show us how your vision can save lives.

Think big, design bold!



## **Model Competition**

Unleash your creativity in our Health & Digital Model Challenge! Whether it's a cake shaped like a brain, a recycled-cardboard robot, or a knitted DNA strand, we want to see your vision. Build a 3D masterpiece inspired by wellness or technology using any materials you find at home.

