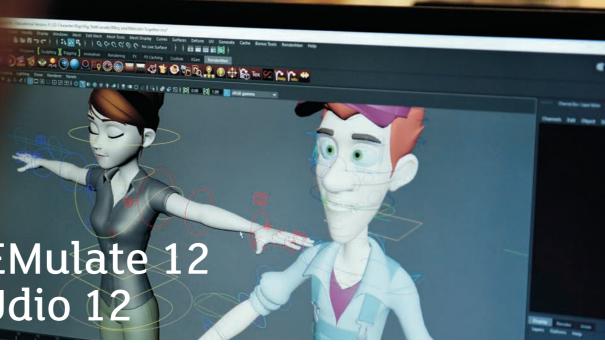# STEMulate 12 sTUdio

Teesside University

Careers guidance and advice for Year 12 students

Delivered through curriculum enhancing and career-inspiring interactive activities in STEM, computing, media, communications and digital art subjects.

GUIDE
FOR SCHOOLS AND COLLEGES

Welcome to Teesside University

Teesside is one of the country's best kept secrets and is known for its exciting mix of industry, culture and striking scenery.

Our main campus is in the heart of Middlesbrough, a friendly town with all the shops, restaurants, cinemas, pubs, clubs, sports and museums you would expect – and an art gallery and bridge that are a little more surprising.

Our distinctive courses have been designed with one aim in mind: to develop the next generation of problem solvers, innovators and leaders that employers and society need.

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Year 12 students engage in interactive and immersive practical activities in a university laboratory, studio or workshop setting, and receive careers information and guidance from University and external speakers.

Benefits for students

Students draw on previous knowledge, applying theory to gain a better understanding of its relevance to solving problems. Worksheets highlight real-world examples, allowing students to contextualise their learning. Each session provides an overview of relevant degree courses and typical careers that these can lead to.

Benefits for schools and colleges

The Department for Education provides statutory guidance[1] on providing careers advice to students. This guidance expands on the aim set out in the Government's Careers Strategy[2] 'to make sure that all young people in secondary school get a programme of advice and guidance that is stable, structured and delivered by individuals with the right skills and experience'.

The careers strategy sets out that every school and academy providing secondary education should use the Gatsby Charitable Foundation's benchmarks[3] to develop and improve their careers provision by providing independent careers guidance and advice.

Our STEMulate12 and sTUdio12 programmes have been specifically designed to help schools and colleges achieve against the Gatsby benchmarks and to meet their statutory obligation.

Schools and colleges are encouraged to bring multiple classes on the same day to make the best use of our financial contributions. Events for students interested in art and design, health, nursing and science courses are also taking place on these dates. Please get in touch for more information on these sessions.

Typical timetable

Time	Activity
9.45am	Registration
10.20am - 10.40am	Welcome and introduction
10.40am - 11.00am	Employment opportunities and apprenticeships
11.10am - 12.30pm	Academic session one (Introduction to relevant theory, practical activities and information on courses and careers)
12.30pm - 1.20pm	Lunch (provided by Teesside University)
1.20pm - 1.40pm	Student/graduate experience
1.50pm - 3.10pm	Academic session two (Introduction to relevant theory, practical activities and information on courses and career)
3.20pm - 3.30pm	Plenary
3.30pm	Depart

1 Department for Education (2018), Careers guidance and access for education and training providers: statutory guidance for governing bodies, school leaders and school staff.

2 Department for Education (2017), Careers strategy: making the most of everyone's skills and talents.

3 Holman, J (2014) Good career guidance. London: Gatsby Charitable Foundation.

Sessions

Students attend two sessions. They select their first preference and we choose a second suitable workshop based on these preferences.

STEMulate 12

Subject area	Discipline	Academic session	Relevant Level 3 subject(s)
Computer science and cybersecurity	Computer science	A coding challenge using an Arduino micro-controller board to build interactive projects such as sound detection, smart lock, traffic light controller, alarm system	Computer science, mathematics
	Cybersecurity	A 'capture the flag' challenge teaches bash terminal and offensive hacking concepts with an edge of your seat storyline in a safe and secure environment. It looks at hacking servers, scanning ports and cracking passwords in this fully interactive platform	Computer science, mathematics
Computer games and animation	Computer games development	Using a professional games editor, this is an exploration into the visual scripting used by game designers to set up a target within a shooting game	Computer science, art and design, design and technology
	Animation and visual effects	Using professional film industry software, this is an exploration into the key principles of animation production.Learning how animation and visual effects are used in the film, television and games industries, and how to embark on a path to a career as an animation and visual effects specialist.	Computer science, art and design, design and technology
Engineering	Aerospace and mechanical	Materials, aircraft structural integrity, and performance and flight characteristics	Mathematics, physics
	Chemical	Chemical engineering: heat exchange systems used in the chemical processing industry	Mathematics, physics
	Civil	Civil engineering: laboratory measurement of ground strength using a small shear box	Mathematics, physics
	Electrical and electronic	Electrical and electronics engineering: electricity generation using solar photovoltaic systems	Mathematics, physics
Mathematical sciences	Mathematics	An exploration of how mathematics can be used to solve real-world problems	Mathematics, data science
Science	Digital forensics	Computer and digital forensics	Mathematics, computer science
	Crime scene science	Crime scene examination	Applied science
	Forensic science	Forensic and crime scene investigation: specialist forensic recovery techniques	Chemistry, applied science
	Biomedical	Biomedical science: microscopy and histology	Biology
	Bioscience	Biosciences: DNA gel electrophoresis	Biology
	Food science	Food science and nutrition: creating a healthy smoothie	Biology, chemistry
	Geography	Geographies of climate change: living with nature as an unruly neighbour	Chemistry, biology, physics, geography
	Health	Health sciences	Biology

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Subject area		Academic session	Relevant Level 3 subject(s)
Digital art	Concept art	Design, develop and sketch out a concept pitch or scene to a professional film or games brief	Art and design, design and technology, media studies, film studies
	Comics	Work as a team to develop a concept, write a story and deliver as a comic strip to a commercial illustration brief	Art and design, design and technology, media studies, film studies
Media and communications	Film and television production	Using professional studio equipment, organise, produce and run a news segment for TV against a strict time limit, as expected in industry	Media studies, film studies
	Media and journalism	Using state-of-the-art facilities organise, write and film a professional journalistic television studio segment	Media studies, film studies
	Music technology	Using the latest digital hardware and software, produce a jingle for a TV or radio show to a professional brief	Media studies, film studies

How to book

Available dates

Wednesday 25 March 2020

Wednesday 1 April 2020

Wednesday 22 April 2020

Thursday 23 April 2020

Wednesday 29 April 2020

Wednesday 17 June 2020

Wednesday 24 June 2020

Thursday 25 June 2020

Tuesday 30 June 2020

Wednesday 1 July 2020

Book now

Email **sds12@tees.ac.uk** and a member of our team will get back to you to discuss your booking.

Session

On each day we can accommodate over 100 students (each of our academic sessions normally have a capacity of 15-20 students). Schools/colleges are encouraged to bring all their Year 12 students.

Teachers are also welcome to attend and participate in the practical sessions. These are opportunities to forge closer links with University academic staff and to help smooth your students' transition from school/college to university.

Cost

Sessions are free to attend. We can also offer your school or college a travel contribution depending on your location and how many students you bring.

Zone	Postcode prefix	Minimum group number	Contribution for each student	Maximum contribution
1	TS, DL1, DL3	20	£3	£100
2	DH, DL2, DL4-7, DL8-DL17, NE8-NE11, NE16, NE21, NE31, NE34, NE37-NE38, NE16-NE17, NE21, NE31-NE40, SR, YO7-YO22	10	£3	£200
3	NE1-NE7, NE12-13, NE15, NE18-NE20, NE22-NE30, NE41-NE49, NE61-NE71, CA, HG, LA, BD, BL FY, PR, BB, HX, LS, WF, HD, M, S, SK, HU, DN, L, WN, WA, TD, FY	10	£5	£300
4	Not listed above	5	£10	£500

Contributions are limited and are offered on a first-come, first-served basis. You may not claim more than the actual cost of travel.

Degree courses available at Teesside University

Mandatory Level 3 subject or portfolio requirements for admission to year 1 (minimum grade criteria may apply). Most courses also provide entry at foundation year level for students not eligible for year 1 entry.

Subject area	Courses	Entry requirements: Mandatory subjects or portfolio (Blank = any subject studied at L3 would be acceptable)
CIVIL ENGINEERING, CONSTRUCTION & THE BUILT ENVIRONMENT	Civil engineering	Mathematics
	Construction management	
COMPUTER ANIMATION & VISUAL EFFECTS	2D animation and stop motion	Portfolio
	Computer animation	Portfolio
	Visual effects	Portfolio
COMPUTER GAMES	Computer games art	Portfolio
	Computer games design	
	Computer games programming	
	Indie games development	
	Technical game development	
COMPUTER SCIENCE, CYBERSECURITY & DATA TECHNOLOGIES	Artificial intelligence	
	Computer science	
	Computing	
	Computing (digital consultancy) (2 year accelerated)	
	Cybersecurity and networks	
	Data analytics and business intelligence	
	Information technology	
CRIME, FORENSIC & INVESTIGATIVE SCIENCES	Computer and digital forensics	Mathematics, ICT or computing
	Crime scene science	
	Forensic science	Biology or chemistry
DIGITAL ART & ILLUSTRATION	Comics and graphic novels	Any creative subject and/or portfolio
	Concept art	Any creative subject and/or portfolio
ENGINEERING	Aerospace engineering	Mathematics
	Chemical engineering	Mathematics
	Electrical and electronic engineering	Mathematics
	Instrumentation and control engineering	Mathematics
	Mechanical engineering	Mathematics
	Mechatronics and robotics (coming soon)	Mathematics
LIFE & PHYSICAL SCIENCES	Animal science and welfare	Biology
	Biochemistry	Biology or chemistry
	Biological sciences	Biology
	Biomedical science	Biology or chemistry
	Chemistry	Chemistry
	Environmental science	STEM-related
	Food and nutrition	STEM-related
	Food science and engineering	STEM-related
	Geography	STEM-related
	Geology	STEM-related
	Health sciences	Biology
	Human biology	Biology
	Pharmaceutical science	Chemistry
JOURNALISM, MEDIA & COMMUNICATIONS	Broadcast media production	
	Film and television production	
	Journalism	
	Media and communications	
	Music technology	STEM-related or music-related
	Public relations and digital communications	
	Sport journalism	
MATHEMATICS	Financial mathematics	Mathematics
	Mathematics	Mathematics
PHOTOGRAPHY & PERFORMING ARTS	Photography	
	Production and technical arts for the stage	
	Performing arts	Audition and interview

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Teachers

'The STEM events were invaluable to our students. They gave a real taste of university life, along with fun, informative workshops that are relevant to their current study. Our students particularly enjoyed the flight simulator, smoothie making and learning about renewable energy. A huge thank you to Teesside University for providing such a great experience.'
**Christine Gemmell-Ferguson,
Darlington College**

'The STEM event was a brilliant opportunity for our young people to learn about university and gain valuable insight into subject areas. The taster sessions provided interesting hands-on activities to engage the students, where they could learn more about the range of courses offered at Teesside University. Our students praised the friendly and welcoming staff who provided a first-class experience, as well as the excellent lecturers who delivered the sessions with passion and enthusiasm.'
Marianne Hill, Sunderland College

Students

'It was a very enjoyable day and I learnt a lot about mechanical and electrical engineering. The highlight was having a go in the flight simulator. I also appreciated the chance to speak to the staff. Today has confirmed that engineering is the route I want to follow.'
Sunderland College

'It has been, without exaggeration, the greatest and most interesting experience I've literally ever had in my entire life.'
Macmillan Academy

'Not what I expected, brilliant campus.'
English Martyrs School and Sixth Form College

'I really enjoyed computer and digital forensics – it was very hands-on and opened my eyes to a new field.'
Richmond School and Sixth Form College

'Very welcoming and informative.'
St. Bede's Catholic School and Sixth Form College (Lanchester)

'I felt I gained a lot of knowledge and understanding of both university life and some of the subjects I'm interested in. Five star experience.'
Ripon Grammar School

'All round excellence.'
The King's Academy

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