

ECMS

Elite Centre for Manufacturing Skills

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ECMS House Keeping



- £11m grant from local growth fund (LEP) ending May 2025
- Upskilling UK's high value manufacturing sector with any industry or sector, nationally.
- Address skills gap in the manufacturing sector
- ECMS staff are employed by FSE, largely by HEIF.



Key existing facilities

- EOS M270
- EOS M290
- Stereolithography
- Melt-pool Monitoring
- Powder characterization
- State of the art in composites – autoclave
- Five axis high speed machining
- State of the art wind tunnel, subsonic and supersonic
- Microscopy
- SEM, EDS, XRD
- X-Ray nano-CT
- Material testing
- 3D Scan
- Thermal analysis



New UK Additive Manufacturing Centre of Excellence and spin out launched

23/04/2024

Advanced processes and materials, such as beam shaping and copper, will aid knowledge exchange and enable new design and manufacturing innovations across sectors.

The University of Wolverhampton and 3D printing global leaders **EOS**, and **AMCM**, have joined forces to launch a new UK Centre of Excellence for Additive Manufacturing (AM).

The partnership will provide access to cutting-edge technology from EOS and AMCM and specialise in the development of advanced materials and processes for demanding applications within industries such as space, automotive, aerospace, electronics, and quantum computing.

Partially funded by the UK's Regional Innovation Fund (RIF), The centre will be based in the Elite Centre for Manufacturing Skills (ECMS) at the University of Wolverhampton's Springfield Campus.

The centre will be a hub for knowledge exchange and research commercialisation activities, catering for local, regional, and global customers in a wide range of sectors.

Addressing industry hunger for AM innovation

The University of Wolverhampton's Additive Manufacturing Research Group and its spin off company, **Additive Analytics**, will lead material and process development activities. Industries ranging from automotive and electronics to quantum computing and aerospace are already expressing interest, highlighting the broad applicability of copper AM for thermal management and electrification, due to its exceptional thermal and electrical properties.





GEMM Phase 1: Implementation (Springfield ECMS)

EOS Copper Lighthouse

EOS are the global leading metal additive manufacturing machine OEM.

They have identified a demand and skills gap in the UK and Northern Europe for copper 3D printing activities.

They have identified UoW as a strategic partner to set up a lighthouse company to serve their customer base.



Lighthouse activities

- Commercial - circa £100,000 p/a (year 5)
- IP licensing - circa £50,000 p/a (year 3)
- Material sales - circa £150,000 p/a (year 5)
- Consultancy - circa £50,000 p/a (year 3)

- **Total - circa £350,000 p/a (year 5)**

GEMM Phase 1: CPD



COURSE DESCRIPTION

This course provides free Subliminal Basic training to existing operational companies across design CAD design skills through engaging content and hands-on activities to empower participants to create high quality designs. It is suitable for designers and those looking to enhance their skills in Subliminal.

COURSE OUTLINE & LEARNING OBJECTIVES

INTRODUCTION TO SOLIDWORKS AND CAD HISTORY

- Provide an overview of SolidWorks software and its significance in the world of CAD
- Explore the historical evolution of CAD technology

UNDERSTANDING SOLIDWORKS FEATURES AND CAD HISTORY

- Familiarise participants with the key features of SolidWorks modelling
- Differentiate between sketch and applied features within SolidWorks
- Identify principal components of the SolidWorks user interface

INTRODUCTION TO 3D MODELLING

- Enable participants to create new parts in SolidWorks
- Import an existing part file and add features within the software
- Establish an understanding of sketch features and the use of feature trees
- Guide participants in creating assemblies from solid 3D models

BASIC PART MODELLING TECHNIQUES

- Introduce participants on selecting the best profiles for sketching
- Familiarise participants with setting tools for sketches and features, including extrude operations
- Introduce an understanding of 3D drawings from 3D parts
- Facilitate understanding of dimension adjustments and the associativity between 3D models and drawings

CERTIFICATION

Upon successful completion of the Subliminal Basic training course, participants will be awarded a certificate of completion, recognising their skills in enhancing their proficiency in SolidWorks software and advancing their career in engineering design and modelling.

COURSE REQUIREMENTS

Basic knowledge of Windows operating system

DURATION

32 hours

TRAINING COST

Free

CONTACT

TRAINING BOOKING ENQUIRIES

Victoria Budge
ECMS Administrator
Elib Centre for Manufacturing Skills
Email: victoria.budge@wlv.ac.uk
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Web: www.thecms.co.uk

COURSE RELATED ENQUIRIES

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CAD TRAINING: SOLIDWORKS FUNDAMENTAL TRAINING COURSE

Master the art of 3D design with SolidWorks

COURSE DESCRIPTION

Unlock the power of engineering simulation with our free career development course in finite element analysis (FEA) software. Participants will gain an in-depth understanding of the software, its capabilities and how it can be used to solve engineering problems. The course offers a comprehensive introduction to finite element analysis (FEA) software.

COURSE OVERVIEW

- Manage simple mechanical stress analysis efficiently
- Explore key practical analysis concepts
- Set up and solve simple engineering problems
- Interpret and analyse simulation results accurately
- Apply simple mechanical real-world projects and challenges

CERTIFICATION

Upon successful completion of the finite element analysis course, participants will be awarded a certificate of completion, acknowledging their dedication to advancing their expertise in FEA and advancing their career in engineering.

COURSE REQUIREMENTS

Basic knowledge of Windows operating system

DURATION

32 hours

TRAINING COST

Free

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ADDITIVE MANUFACTURING AWARENESS

Basic free continuing professional development (CPD) course

COURSE DESCRIPTION

Begin a transformative journey into the world of additive manufacturing (AM) with our comprehensive basic course. Designed for beginners and enthusiasts, this free 32-hour career development program aims to provide a solid foundation in AM technologies, processes, and applications.

COURSE OVERVIEW

- Introduce the fundamentals of additive manufacturing
- Explore various additive manufacturing technologies and processes
- Understand the applications and benefits of additive manufacturing in different industries
- Familiarise participants with basic design principles for additive manufacturing
- Provide hands-on experience with basic additive manufacturing tools and software

CERTIFICATION

Upon successful completion of the course, participants will receive a certificate of completion, recognising their knowledge and skills in additive manufacturing.

COURSE REQUIREMENTS

None

DURATION

32 hours

TRAINING COST

Free

CONTACT

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FOUNDRY AWARENESS COURSE

https://issuu.com/universityofwolverhampton/docs/ecms_cpd_course_flyers



Thanks