



## Myerscough College STEM ASSURED VALIDATION REPORT: November 2021

This report is based on the evidence expressed in the college's STEM Assured validation submission and the presentations made by its senior managers during the Validation Meeting via Zoom on 24 November 2021 .

The Validation Panel included: Professor Sa'ad Medhat, Michelle Medhat and Chair of the Innovation Council - Dr Rosie Bryson, Chief Scientist, BASF and Member of the Innovation Council, Professor Brendan Noble, Head of Life Sciences, University of Westminster and Chair of the Frozen Ark project. The following are the highlights from the submission and the evidence provided during the Validation Visit.

### HIGHLIGHTS AND CONTEXT

Myerscough College has a land-based and sports focus, with a massive concentration of Science, Engineering and Technology. The college has an overarching STEM Strategy that support cross-curricula development, and drives up student progression and employability. Myerscough is a partner College of University of Central Lancashire (UCLan) through its University Centre. The college has 5,000 students spread across six campuses in the North West of England, with the main campus being located in Preston. The college has three fully working farms using the latest food, agriculture and farming digital technologies. These farms cover Dairy, Beef, Sheep, and Arable farming. One of the three farms (Lodge Farm) has been awarded a Farming Excellence award from the Agriculture and Horticulture Development Board – AHDB. The college has an Equine and Animal Studies Centre, and a Food, Farming Innovation and Technology Centre – housed within the grounds of Lodge Farm. Their strategic focus is underpinned by rigorous analysis and research of the market sectors in which they operate. Myerscough's provision spectrum ranges from 14-16 programmes, academic qualifications, technical and professional qualifications (including Apprenticeships) between QCF levels 1 to 5, University degrees, Postgraduate and Masters qualifications, and a small number of doctorates. A fifth of all provision delivered is at HE level.

The College and University Centre undertakes a number of collaborative activities within their regions, including being part of a network of 6,000 farmers; its links with 80 small food producers through the college-managed 'Made in Lancashire' initiative, and it has built relationships with 1,300 employers through its training, education and employability interactions. Myerscough's engagements and provision development is informed and shaped by their rigorous interactions with business and industry, as well as sector associations and professional bodies.



The College and University Centre has a focus on research, and this is underpinned through their three research Centres in: Welfare of Managed Animals, Sports Performance and Sustainable Agriculture and Arboriculture.

The latest OFSTED inspection report dated 27/03/2017 judged the college as 'Good' in its provision, and currently (2020) their turnover is £32M with a view to achieving £35M by academic year end 2021-22.

## COMMENDATIONS:

1. The college's strategic plan places considerable focus on three main strands: *Learning, People and Sustainability*. Through a clear understanding of their PESTLE and market sector trends and their detailed STEM Strategy, Myerscough have driven their STEM provision and their organisational operations to meet employer requirements and exceed market needs.
2. The college is leading on a £9.2M Strategic Transformation pilot programme with 13 other colleges in the region.
3. Myerscough strategic focus on Sustainability has been manifested in many ways. A number of their operations, activities and content provision has sustainability and climate change included within them. The College signed up to Green College Commitment, just prior to COP26 in Oct 2021, and in an open letter, their Principal stated that 'it is critical to ensure the requisite educational green content is delivered to drive up knowledge of climate change and carbon reduction'. The College, under the Skills Accelerator Programme is propelling forward the AG Net Zero Challenge, Carbon Management and Soil Management initiative, DEFRA's Farm Resilience Programme and other Reducing Carbon in Farming activities and workshops. The research and development focus on Carbon Reduction is also being powered by the work conducted within the Food, Farming Innovation and Technology Centre and the Sustainable Agriculture and Arboriculture Centre. In addition, the college works with NFU to support farmers and producers to achieve the net zero objective through their 3 pillar development focus.
4. The college's STEM curriculum developments and direction is informed and shaped by the active engagement of their Technical Advisory Board, which is comprised of leading companies and industry bodies, reflecting their STEM subject areas. Further work with the Lancashire Skills Framework is all helping to support the strategic direction of STEM in the college.



5. Myerscough’s work in Supporting Technical Skills in Education in Lancashire, through their STELa ESF-funded project, is underpinning their T Level developments in Land-Based and Engineering subjects.
6. In line with one of their strategic strands – *People*, the college is making good strides into Equality, Diversity and Inclusion, with their HE Equine delivery which has Level 6 modules adapted for Riding for the Disabled, with further modules being adapted in the future.
7. The college’s strong partnership with the UCLan offers excellent progression and research routes, but this collaboration, also gives opportunities for tech and knowledge transfer. Furthermore, with the latest development of a state-of-the-art Veterinary School, that offers foundation, undergrad and postgrad qualifications, students have access to the latest vet techniques, technologies and medicines.
8. Excellent regional, local and national STEM examples of outreach work and collaborative engagements. Such examples include STEM First, SmartSTEMs, STEM Learning Science partnership, STEM Ambassadors (college lecturers working with feeder schools), Arbor Day and Greenspace.
9. Conservation excellence in Animal Welfare and Care, in particular the achievement of a population of wildcats bred in captivity with true Wildcat (not hybridised) DNA.
10. The college’s progressive work to develop their STEM curriculum in line with employer needs within Rail and Greens & Grounds studies, collaborating directly with Northern Rail, BIGGA (British and International Greenkeepers Association), GMA (Grounds Maintenance Association) and Association of Professional Landscapers (APL) to create innovative Apprenticeship provision.
11. The college clearly exposes students to many different technologies, experiences and innovations during their time at the college. Standout innovations include Industry Mentors in Equine Studies, Motorsport and the Carbon Neutrality initiative, Agriculture and Farming with the development of the Food and Farming Innovation and Technology Centre (having cutting edge and digital tech driving carbon zero farming and food production) and Jumpstart AR bridging the geographical gap using wireless headsets geotagged to a location – to name a few.
12. Feedback from students and staff was favourable, with many students claiming that they felt staff were ‘supportive, helpful, memorable, enthusiastic, inspiring and up-to-date’. The staff were well versed in business and industry changes and new requirements. A pulse poll with the students was taken, generating an average of 9 out of 10, in terms of student satisfaction with the college.



13. Feedback from STEM staff noted good CPD support existed for them within the college, including technical development, and opportunities to academically develop, with a number of staff undertaking postgrad, masters and doctorates. The staff also identified that Myerscough encourages them to become professional members of their disciplines' societies and professional bodies.
14. External stakeholders identified that they 'enjoyed working with Myerscough' and they found them to be *'innovative, knowledgeable and motivated to deliver the best they could'*. There was a clear passion for their subject areas, and this generated constant positive interactions with stakeholders. The stakeholders mentioned that the students were given multiple opportunities to engage, and the students themselves cited these engagements as *'rewarding.'* A sample of employers took a pulse poll and gave an average of 9 out of 10 representing their level of satisfaction with the college.
15. In response to Covid, the college developed very advanced Virtual Learning Environments, Hybrid Learning Models (HyFlex) and Digital Learning capabilities (including a VR milking parlour), together with interactive talks from industry experts in Animal Studies, Agriculture and Engineering provision. Lecturers were trained up to use the latest in-field technologies and digital resources, ensuring that they provided the best technical, practical learning experience to the student.
16. Their innovative curriculum design and development work with National Skills Academy for Rail (NSAR) has achieved the college a Gold Status, and their active involvement with DfE's Lancashire Colleges Development Project (FE PDG Pilot) has supported in improving STEM content skills and pedagogic skills in teaching staff delivering at levels 4 and 5 in the region.
17. The college has an intense focus on teaching and learning development, technical updating and scholarly activity, and has an integrated and far reaching range of CPD-based opportunities including technical experimentation, pedagogic techniques, digital learning, development of Communities of Practice and externally funded projects.
18. The college offers a BSc Farriery – providing a license to practise, and this is globally unique.
19. Myerscough has achieved many awards and accolades, including the AA2021 Award in 2021, under the Agriculture, Environmental and Animal Care Apprenticeship Provider of the Year.



## INNOVATION COUNCIL'S RECOMMENDATIONS & SUGGESTIONS:

1. There appears to be a strong case for extending the college plans on the international front, to seek and generate growth for the college in both numbers and in revenue in its STEM specialist provision, thus enabling the college to strengthen its international reputation and create the investment headroom needed to further develop and strengthen its differentiation drive.
2. Given the welcomed and recognised drive by the college for broadening its STEM base provision, it is equally important not to overlook the need to have a clear set of 'USPs' (Unique Selling Propositions), that defines what the college should be renowned for, reflecting its deep-rooted heritage and history, thus positioning itself as the preferred destination of choice for students and partners in those specialist areas.
3. The Panel recognises that there are a good many examples that are already in place in the area of digital, however, as digital becomes more pervasive across all economic sectors, the College would benefit from spanning-out digital extensions across all types of its provision, thus increasing the consistency of digital literacy and dexterity levels, and future proofing students' skills and competencies.
4. There seems to be an opportunity for the college to assume a regional advocate/ trusted critical friend role that supports and marshals some of the businesses (*recognising that some businesses have already established joint research and development activities with the college*) in the region towards their next state, to reflect economic developments and accelerated technological advancements.
5. To leverage the College's unique curriculum programmes containing sustainability, climate action and carbon management content, through the College's very advanced Virtual Learning Environments and Digital Learning Technologies, to enable market development and deliver these programmes at national, and more vigorously, at an international level.
6. To intensify efforts to explore and deploy methods that target further improvements in Equality, Diversity across the college's programmes.



7. To identify and experiment with new ways to use challenge-based learning to develop student abilities in creative problem-solving and lateral thinking.
8. To explore and develop a catalogue of sector-targeted specialist industry-focused CPD provision at levels 4 and 5 regionally and nationally.
9. To create more spin out business ventures with students and external stakeholders, to give them practice in developing entrepreneurial skills and business acumen, and exposure to running a commercial concern.
10. To investigate and explore further the Internet of Things (IoT and Sensors), Analytics and Artificial Intelligence, incorporating them into course content provision, as well as using them as part of the enhancement process cycle to improve course performance (see also recommendation 3).
11. To develop an active Alumni programme that helps to galvanise past students to stay more involved with the College, thereby providing guest lecturing, student/staff mentoring, and giving access to other opportunities for specialist business and industry linkages.

**Myerscough College has demonstrated the capability to stimulate and deliver innovative STEM provision to enable student development, increase employability and support business growth and further higher education opportunities in the region.**

Guided by the Benchmarking Criteria set out by the Innovation Council<sup>1</sup>, the STEM Assured Accreditation Panel agreed that the self-assessment, underpinned by the virtual site visit and supporting evidence, demonstrated that Myerscough College has met the STEM Assured standards. Therefore, the Innovation Council has recommended the conferment of the STEM Assured Standard on **Myerscough College** from **24 November 2021** for a period of **three years**.

<sup>1</sup> Members include C-Suite level executives from: 3M; ABC; Abellio; AMEC; Arla; Army; Astra Zeneca; BAE Systems, Balfour Beatty, BASF; Bosch; BBC; Britvic; BT Group; BUPA; Buro Happold; Cobham; Cobra UK; Costain; Crossrail; DASA; Dell; DHL; Dunhill; DuPont; EDF; EMC2; Evolvi; Extrinsica Global; GE; GlaxoSmithKline; Horizon; HP; HS2; jHub; Lego, MARS; MBDA; Medvivo; Microsoft; Ministry of Defence; MITIE; National Grid; Network Rail; Panasonic; Plessey Semiconductors; Royal Air Force; Raytheon; Rolls Royce; Royal Mail Group; Royal Navy; Siemens; Skanska; Tate & Lyle; Telefonica Europe; Thales, Transport for London; UKPIA; Unilever; University of Suffolk



Standard	Self-assessed Grade	Grade Awarded by Council
<p><b>1.1 Strategy and Planning</b> Strategic and business planning reflects STEM priorities:</p> <ul style="list-style-type: none"> <li>• STEM activities are reflected in organisational objectives such as income generation targets, knowledge and technology transfer and quality enhancement</li> <li>• Organisational strategy, business and action plans indicate commitment to high quality STEM provision</li> </ul>	FC	FC
<p><b>1.2 Strategy and Planning</b> STEM sector developments and skills priorities inform planning for integrated, cross-curricular and industry relevant STEM provision:</p> <ul style="list-style-type: none"> <li>• Robust mechanisms for gathering, reviewing and acting upon sector information, FE and HE provider, employer and student input and feedback are in place</li> <li>• Information generated through sector engagement is shared across the College and used to determine STEM priorities and support curriculum planning</li> </ul>	FC	FC
<p><b>2.1 Collaboration and Consultation</b> Stakeholder engagement mechanisms are in place and used to ensure that STEM provision is tailored to meet current and emerging skills needs:</p> <ul style="list-style-type: none"> <li>• Horizon scanning, trend monitoring, LMI analysis, university engagement and employer collaboration activities include STEM and STEM related sectors</li> <li>• Clear and effective mechanisms are used to identify and engage relevant national and local stakeholder groups in identifying current and emerging skills needs</li> <li>• There is sustained dialogue with STEM sector representative bodies (e.g. Sector Skills Councils, employer bodies) and other agencies (e.g. National Skills Academies) to support student career advice and guidance</li> </ul>	FC	BP



Standard	Self-assessed Grade	Grade Awarded by Council
<p><b>2.2 Collaboration and Consultation</b> Stakeholders contribute to planning progression and industry-relevant STEM provision:</p> <ul style="list-style-type: none"> <li>• STEM delivery meets legislative, environmental compliance and standards recognised by awarding bodies, occupational standards</li> <li>• Stakeholder input is used to inform planning for STEM provision</li> </ul>	FC	FC
<p><b>3.1 Innovation</b> STEM provision is informed by emerging trends and innovations in education, STEM based industries and business planning:</p> <ul style="list-style-type: none"> <li>• Creative thinking and innovative ideas are used in the access to, design, delivery and support of STEM provision and student progression</li> <li>• STEM provision exposes students to innovation models and techniques to support innovative practice as well as innovations within their industry and adjacent sectors</li> </ul>	FC	FC
<p><b>4.1 Design</b> Employers, universities, students and staff are involved in designing industry relevant STEM provision:</p> <ul style="list-style-type: none"> <li>• Employer and student input and feedback is used to inform design of STEM provision</li> <li>• Collaborative cross curricular provision is designed to enable students to engage with adjacent industries and other sectors</li> <li>• STEM provision design takes into account different student needs, appropriate modes of delivery, environments and technologies</li> </ul>	FC	FC





Standard	Self-assessed Grade	Grade Awarded by Council
<p><b>5.1 Delivery</b> STEM provision is resourced effectively:</p> <ul style="list-style-type: none"> <li>• Staff competency is reviewed regularly and staff designing or delivering STEM provision are actively supported to address development needs which could include:               <ul style="list-style-type: none"> <li>○ Changing university entry requirements, industry compliance and legislative requirements</li> <li>○ Evolving industrial practices</li> <li>○ Emerging technologies, and</li> <li>○ Effective vocational, work-related and work-based pedagogy</li> </ul> </li> <li>• Resources and learning materials used to support the delivery of STEM provision are appropriate and up-to-date with respect to university expectations, employer needs and STEM sector developments</li> </ul>	FC	FC
<p><b>5.2 Delivery</b> STEM provision meets external quality assurance standards, contemporary norms and standards in STEM sectors:</p> <ul style="list-style-type: none"> <li>• STEM provision is benchmarked against educational sector norms, industry standards and best practice for outcomes for students, quality and fitness for purpose</li> <li>• The standard of STEM provision is regularly reviewed in terms of meeting university progression, employer and student needs</li> </ul>	FC	FC
<p><b>6.1 Impact</b> There are effective processes for reviewing the performance of STEM provision to support continuous improvement:</p> <ul style="list-style-type: none"> <li>• Continuous improvement processes incorporate university, employer, student and other stakeholder feedback</li> <li>• The impact of STEM provision and related activities are measured and evaluated including value for money, return on investment and student achievement</li> <li>• Delivery, performance and quality outcomes for STEM provision is improving and that issues are identified and addressed</li> </ul>	FC	FC



Standard	Self-assessed Grade	Grade Awarded by Council
<p><b>6.2 Impact</b>            STEM provision is recognised as having an impact on organisational performance, university requirements, industry needs and provides value for money, return on investment and successful outcomes for students:</p> <ul style="list-style-type: none"> <li>• The College has received awards or recognition for excellence or innovative practice in the design and delivery of STEM provision</li> <li>• STEM provision has had a significant impact upon universities, employers, students and other stakeholders in terms of achievement, progression, employment and performance</li> <li>• Influence and recognition amongst national and local stakeholder groups is improving in terms of promoting and delivering excellence in industry relevant STEM provision</li> </ul>	<p><b>FC</b></p>	<p><b>FC</b></p>