**Competition Brief**

**Competition Title**

Manufacturing Team Challenge

**Competition Overview**

Manufacturing Team Challenge consists of a team of highly skilled technicians who must design and build their own solution to a specified brief. Comprehensive project documentation must also be produced as part of this competition. Each team member will need to demonstrate creativity, multi-disciplinary skills and team spirit, as well as the ability to use a variety of tools and equipment, communication, numeracy, critical thinking, mathematics, computer science and analytical skills.

In this competition, competitors will have to demonstrate a variety of skills including design at draft and computerised levels, and the application of manufacturing skills such as manual and computer-aided machining, welding, installing and assembling, automation and electronics.

Live competition heats will be held at various venues across Wales.

**Entry Criteria**

The competition is intended for those training for a career in Engineering/Manufacturing, and studying towards a level 1-4 qualification or an apprenticeship. Please ensure your entrants have the skills and competences to complete the task.

**Entry capacity restrictions by organisation**

Maximum of up to **3 teams consisting of 3 competitors per location**. **Reserves** may also be registered to account for potential absences or withdrawals.

This is the maximum number of entries permitted by an organisation for this competition. This is determined by ‘location’ and ‘organisation’. ‘Organisation’ refers to the competitors’ training provider/employer. ‘Location’ refers to a site where the competitor studies / is employed.

This competition may be subject to a selection process if competitor registration numbers exceed the host venue capacity. Where capacity is identified in a competition the reserve competitors may be invited to compete.

The decision will be made following a consultation between Skills Competition Wales and the competition lead after registration closes. All parties will be notified of any changes.

For further guidance on these capacities, [click here](https://inspiringskills.gov.wales/competitions/competition-registration-guide).

**Brief**

Each team will be supplied with two electric, worm drive, low RPM motors. One will be sent prior to the competition and an identical one supplied at the competition. Your challenge is to use the electric motor supplied to make one versatile drag racer and heavy weight drag vehicle in one compact package. You will be required to;

* Use the supplied motor only to power one vehicle capable of high speed and dragging heavy weights
* Manufacture a fast drag car to compete over a 5 metre course and stop within 1 meter without manual intervention.
* Make the same drag car with minor modifications able to drag a sled with 2KG weight over a 5 metre straight line, starting and stopping without manual intervention.
* The drag car must complete the challenges without breakage or break down.
* Design the drag car to change modes with speed.

Design the drag car to change modes with speed.Each Team may claim back up to £70 for additional materials for the conversion, but do bear in mind, in this challenge, weight is your enemy. To claim the £70, please send receipts to this value to robert.jones1@cambria.ac.uk

Please see separate brief for more information. Previous competition briefs are available to view and download via the Skills Competition Wales website, please [click here](https://inspiringskills.gov.wales/competitions/manufacturing-team-challenge/archives) to access.

**Infrastructure List**

Please see separate brief for these details

**Competition Rules**

For full terms and conditions of entry and competition rules [visit](https://inspiringskills.gov.wales/terms/registrations-terms-and-conditions).

**Competition specific rules**

See MTC information pack and rules below:

* All competitors will receive a health and safety briefing at the start of the competition and these rules must be adhered to throughout the competition.
* Competitors will start and finish work as instructed by the judges.
* Any competitor who wishes to leave the area during the competition must seek the permission of the judges.
* Competitors will not be allowed contact with tutors/coaches during the live competition. Non-compliance with this may result in deduction of points.
* If there is a power stoppage or accident, the competitors must act according to the instructions of the judges.
* Competitors who break or damage equipment during the competition will not receive any additional time.
* Where a competitor is observed working in an unsafe manner they will be stopped and not permitted to continue unless willing to follow the judges' directions.
* Specific competition content and activities on the day to be outlined.

**Generic competition rules**

* Mobile phones are to be switched off during competition activity.
* Listening to music via headphones is not permitted during competition activity.
* Any questions during competition activity should be addressed to the competition judging panel.
* Competitors should not communicate with other competitors during competition activity.
* It is the responsibility of each competitor to arrive on time for each competition session. No additional time will be allowed if you arrive late.
* Technical failure of your equipment should be reported immediately to the judging panel. Additional time will be allocated if the fault is beyond the control of the competitor.

**Marking and Assessment**

Marking and judging of this competition will be done by a team of experts from Industry, Further Education or Training Provider, using a marking criteria and allocated marks to ensure consistency.

Breakdown of marking and assessment:

| **Section** | **Criteria** | | | **Marks** | |
| --- | --- | --- | --- | --- | --- |
| A | Main project performances  (Inc. Section B of portfolio) | | | 60  20 | |
| B | Main project costs:  Materials | | | 10 | |
| C | Portfolio (Section A only) | | | 10 | |
|  | **Total** | | | **100** | |

**Feedback and Recognition**

Individual and Group verbal feedback will be provided at the end of the competition. No results or awards will be awarded on the day, as marking will be quality assured.

All competitors will be issued with a Participation Certificate on the competition day. First, second, third and highly commended awards will be announced during the celebration event. The highly commended award recognises all competitors who have achieved above average. The celebration event will be held on Wednesday 18th March 2026, further details will be communicated to competitors and their points of contact by email.

Marksheets will be available upon request via [info@skillscompetitionwales.ac.uk](mailto:info@skillscompetitionwales.ac.uk) to competitors after the celebration event.

**Competition Lead**

**Lead Contact**

Daytun Unitt

[Daytun.unitt@cambria.ac.uk](mailto:Daytun.unitt@cambria.ac.uk)

07393495412

**General Enquiries**

Robert Jones

robert.jones1@cambria.ac.uk

**Our partners**

This competition is delivered in partnership with



**Briff y Gystadleuaeth**

**Teitl y Gystadleuaeth**

Her Tîm Gweithgynhyrchu

**Trosolwg o’r Gystadleuaeth**

Yn yr Her Tîm Gweithgynhyrchu bydd tîm o dechnegwyr medrus yn gorfod dylunio ac adeiladu eu hateb eu hunain i friff penodol. Bydd hefyd angen cynhyrchu dogfennaeth gynhwysfawr am y prosiect fel rhan o'r gystadleuaeth hon. Bydd angen i bob aelod o'r tîm ddangos creadigrwydd, sgiliau amlddisgyblaethol, ysbryd cyd-dynnu, sgiliau cyfathrebu a rhifedd, y gallu i feddwl yn feirniadol, sgiliau mathemateg, cyfrifiadureg, a dadansoddi, yn ogystal â'r gallu i ddefnyddio amrywiaeth o offer.

Yn y gystadleuaeth hon, bydd rhaid i gystadleuwyr arddangos amrywiaeth o sgiliau gan gynnwys dylunio ar lefelau drafft a chyfrifiadurol, a’r defnydd o sgiliau gweithgynhyrchu megis peiriannu â llaw a thrwy gymorth cyfrifiadur, weldio, gosod a chydosod, awtomeiddio ac electroneg.

Cynhelir rowndiau rhagbrofol byw mewn sawl lleoliad ledled Cymru.

**Meini Prawf Cystadlu**

Mae’r gystadleuaeth hon ar gyfer y rheini sy’n hyfforddi am yrfa mewn Peirianneg/Gweithgynhyrchu ac sy’n astudio tuag at gymhwyster lefel 1-4 cymhyster. Sicrhewch fod gan eich ymgeiswyr y sgiliau a’r cymwyseddau i gyflawni’r dasg.

**Cyfyngiadau ar nifer y ceisiadau fesul sefydliad**

Gellir cofrestru uchafswm o hyd at **3 thîm yn cynnwys 3 chystadleuydd fesul lleoliad** ynghyd. Gellir cofrestru **cronfeydd wrth gefn** hefyd i gyfrifon absenoldeb neu dynnu'n ôl os bydd angen

Dyma’r uchafswm o geisiadau a ganiateir gan unrhyw sefydliad am y gystadleuaeth hon.

Mae hyn yn cael ei bennu fesul ‘lleoliad’ a ‘sefydliad’.  Mae ‘Sefydliad’ yn cyfeirio at ddarparwr hyfforddiant/cyflogwr y cystadleuydd. Mae ‘Lleoliad’ yn cyfeirio at le mae’r cystadleuydd yn astudio / cael ei gyflogi.

Gall y gystadleuaeth hon fod yn destun proses ddethol os yw'r niferoedd cofrestru cystadleuwyr yn fwy na chapasiti'r lleoliad cynnal. Lle nodir bod capasiti ar gyfer y gystadleuaeth, gellir gwahodd cystadleuwyr wrth gefn i gystadlu.

Bydd y penderfyniad yn cael ei wneud yn dilyn ymgynghoriad rhwng Cystadleuaeth Sgiliau Cymru ac arweinydd y gystadleuaeth ar ôl i'r cofrestru gau. Bydd pob parti yn cael gwybod am unrhyw newidiadau.

Am fwy o arweiniad ar y niferoedd hyn, [cliciwch yma](https://inspiringskills.gov.wales/competitions/competition-registration-guide).

**Briff**

Bydd pob tîm yn cael dau fodur trydan, gyriad cripian, Cylchdroadau Pob Munud (CPM) isel. Bydd un yn cael ei anfon cyn y gystadleuaeth ac un union yr un fath yn cael ei ddarparu yn y gystadleuaeth. Eich her yw defnyddio'r modur trydan a gyflenwir i wneud un rasiwr llusgo amlbwrpas a cherbyd llusgo pwysau trwm mewn un pecyn cryno.Rhaid dylunio’r system i’r gofynion canlynol:

* Use the supplied motor only to power one vehicle capable of high speed and dragging heavy weights
* Manufacture a fast drag car to compete over a 5 metre course and stop within 1 meter without manual intervention.
* Make the same drag car with minor modifications able to drag a sled with 2KG weight over a 5 metre straight line, starting and stopping without manual intervention.
* The drag car must complete the challenges without breakage or break down.
* Design the drag car to change modes with speed.

Gall pob Tîm hawlio hyd at £70 yn ôl am ddeunyddiau ychwanegol ar gyfer y trawsnewid, ond cofiwch, yn yr her hon, pwysau yw eich gelyn. I hawlio'r £70, anfonwch dderbynebau at robert.jones1@cambria.ac.uk

Edrychwch ar y Briff i gael mwy o wybodaeth. Mae briffiau cystadleuaeth flaenorol ar gael i'w gweld a'u llwytho o’r wefan Cystadleuaeth Sgiliau Cymru, [cliciwch yma](https://inspiringskills.gov.wales/competitions/manufacturing-team-challenge/archives) i gael mynediad iddynt.

**Rhestr Seilwaith**

Gweler y Briff penodol, sydd ar wahân, am y manylion hyn.

**Rheolau’r Gystadleuaeth**

Am restr gyflawn o delerau ac amodau cystadlu a rheolau’r gystadleuaeth [ewch i](https://inspiringskills.gov.wales/terms/registrations-terms-and-conditions?lang=cy).

**Rheolau penodol y gystadleuaeth**

Gweler pecyn gwybodaeth yr Her Tîm Gweithgynhyrchu (MTC) ynghyd â’r rheolau isod:

* Bydd pob cystadleuydd yn derbyn sesiwn friffio iechyd a diogelwch ar ddechrau’r gystadleuaeth a rhaid cadw at y rheolau hyn drwy gydol y gystadleuaeth.
* Bydd cystadleuwyr yn dechrau a gorffen gwaith yn ôl cyfarwyddyd y beirniaid.
* Rhaid i unrhyw gystadleuydd sy’n dymuno gadael yr ardal yn ystod y gystadleuaeth gael caniatâd y beirniaid.
* Ni fydd gan gystadleuwyr hawl i gysylltu â thiwtoriaid/hyfforddwyr yn ystod y cystadlu byw. Fe all methu â chydymffurfio â hyn arwain at dynnu marciau.
* Os oes toriad yn y pŵer neu ddamwain, rhaid i’r cystadleuwyr weithredu’n unol â chyfarwyddiadau’r beirniaid.
* Ni fydd cystadleuwyr sy’n torri neu ddifrodi offer yn ystod y gystadleuaeth yn cael unrhyw amser ychwanegol.
* Os gwelir bod cystadleuydd yn gweithio mewn modd anniogel, byddant yn cael eu hatal rhag gweithio a ni chaniateir iddynt barhau oni bai eu bod yn barod i ddilyn cyfarwyddiadau'r beirniaid.
* Mae cynnwys penodol y gystadleuaeth a’r gweithgareddau ar y diwrnod i’w hamlinellu.

**Rheolau cyffredinol y gystadleuaeth**

* Dylid diffodd ffonau symudol yn ystod y gystadleuaeth.
* Ni chaniateir gwrando ar gerddoriaeth gyda chlustffonau yn ystod y gystadleuaeth.
* Dylid cyfeirio unrhyw gwestiynau yn ystod y gystadleuaeth at y panel beirniaid.
* Ni ddylai’r cystadleuwyr gyfathrebu gyda chystadleuwyr eraill yn ystod y gystadleuaeth.
* Cyfrifoldeb pob cystadleuydd fydd cyrraedd ar amser ar gyfer pob rhan o’r gystadleuaeth. Pe baech yn cyrraedd yn hwyr, ni roddir amser ychwanegol ichi.
* Pe bai rhyw wall technegol ar eich offer, dylid rhoi gwybod i’r panel beirniaid yn syth. Bydd amser ychwanegol yn cael ei roi os bydd y gwall y tu hwnt i reolaeth y cystadleuydd.

**Marcio ac Asesu**

Bydd tîm o arbenigwyr o Ddiwydiant, Addysg Bellach neu Ddarparwyr Hyfforddiant yn marcio a beirniadu’r gystadleuaeth hon, gan ddefnyddio meini prawf marcio a marciau a dyrennir er mwyn sicrhau cysondeb; bydd o leiaf 1 marciwr yn mynychu pob sesiwn ranbarthol.

Manylion cryno marcio ac asesu:

| **Adran** | **Meini Prawf** | **Marciau** |
| --- | --- | --- |
| A | Perfformiadau’r prif brosiect  (gan gynnwys Adran B o’r portffolio) | 60  20 |
| B | Costau’r prif brosiect:  Deunyddiau | 10 |
| C | Portffolio (Adran A yn unig) | 10 |
|  | **Cyfanswm** | **100** |

**Adborth a Chydnabyddiaeth**

Bydd adborth llafar, yn unigol ac mewn grŵp, yn cael ei roi ar ddiwedd y gystadleuaeth. Ni fydd unrhyw ganlyniadau na gwobrau’n cael eu dyfarnu ar y diwrnod oherwydd bydd angen sicrhau ansawdd y marcio.

Bydd pob cystadleuydd yn cael Tystysgrif Cyfranogi ar ddiwrnod y gystadleuaeth. Bydd gwobrau cyntaf, ail, trydydd a chanmoliaeth uchel yn cael eu cyhoeddi yn ystod y digwyddiad dathlu. Mae'r wobr canmoliaeth uchel yn cydnabod yr holl gystadleuwyr sydd wedi cyflawni sgôr uwch na'r cyfartaledd. Cynhelir y digwyddiad dathlu ar Dydd Mercher 18 Mawrth 2026, bydd manylion pellach yn cael eu rhoi i gystadleuwyr a'u pwyntiau cyswllt trwy e-bost.

Bydd taflenni marciau ar gael ar gais drwy info@skillscompetitionwales.ac.uk i gystadleuwyr ar ôl y digwyddiad dathlu.

**Arweinydd y Gystadleuaeth**

**Prif Gyswllt**

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**Ymholiadau cyffredinol**

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**Ein partneriaid**

Mae'r gystadleuaeth hon yn cael ei chyflwyno mewn partneriaeth â

