

# Swydd Ddisgrifiad

# Prifysgol Wreccsam Wrexham University



<b>Cyfadran/Adran</b>	Canolfan Dechnoleg OpTIC, Llanelwy
<b>Adran</b>	Glyndwr Innovations Ltd
<b>Teitl y Swydd</b>	Peiriannydd Dylunio
<b>Yn atebol i</b>	Uwch Beiriannydd
<b>Yn gyfrifol am</b>	Peirianeg a Dylunio
<b>Gradd</b>	S&AP1

## Prif Atebolrwydd

Yn atebol i'r Prif Beiriannydd, bydd deiliad y swydd yn gweithio o fewn Glyndwr Innovations Ltd (is-gwmni y mae Prifysgol Wreccsam yn llwyr berchen arno).

Prif gyfrifoldebau'r Peiriannydd Dylunio fydd gweithio gyda'r cwsmer masnachol i greu dealltwriaeth o'u gofynion; i greu dyluniadau terfynol a chysyniadau ar gyfer systemau optegol cymhleth ar sail y gofynion hyn, gan gynnwys cynulliadau opto-fecanyddol a strwythurol; i gynhyrchu dogfennaeth o gyfarfodydd adolygu i gefnogi'r dyluniad terfynol; i gynhyrchu'r pecyn data gweithgynhyrchu (darluniau, BOM, cyfarwyddiadau cynnull etc.).

## Tasgau Allweddol

- Bydd yr ymgeisydd llwyddiannus yn gweithio ar becynnau gwaith y cytunwyd arnynt gyda'r Prif Beiriannydd, heb fawr ddim goruchwyliaeth.
- Datblygu a chynnal cysylltiadau gyda chwsmeriaid allweddol (mewnol ac allanol) i egluro, cadarnhau a cyflawni gofynion technegol a chwmpas gwaith y cytunwyd arnynt.
- Mynychu cyfarfodydd tîm a gynhelir i sefydlu rhaglenni gwaith, gofynion cwsmeriaid a manylebau technegol yn rheolaidd, a chynnig syniadau a chysyniadau dylunio i gael eu hystyried yn y cyfarfodydd hyn.
- Cymryd rhan weithredol ym mhrosesau cynllunio prosiectau GIL, gan gynnwys asesu galluoedd a blaenoriaethau gwaith.
- Darparu datrysiadau dylunio strwythurol ac opto-fecanyddol i ofynion cwsmeriaid.

- Darparu gwiriadau dylunio opto-fecanyddol a strwythurol gan ddefnyddio dadansoddiadau elfennau penodol a thechnegau efelychu deinamig i arddangos perfformiad dylunio ac addasrwydd at y diben.
- Cymryd rhan mewn gweithgareddau datrys problemau, gan ddarparu arbenigedd medrus yn ôl yr angen.
- Darparu a chyfathrebu adroddiadau adolygu dylunio yn unol â gweithdrefnau mewnol a gofynion cwsmeriaid, fel y cytunwyd arnynt gyda'r Prif Beiriannydd.
- Cyfrannu at adolygiadau dylunio cwsmeriaid a mewnol.
- Cynhyrchu a gwirio darluniau cynulliad/manwl yn unol â'r Safonau Peirianeg perthnasol (yn arbennig, BS 8888 ac ISO 10110).
- Adolygiad darlun terfynol a chymeradwyo darluniau prosiectau GIL, yn derbyn manylebau cwsmeriaid terfynol.
- Cynhyrchu canllawiau ysgrifenedig, gweithdrefnau neu ganllawiau gwaith i'w defnyddio gan GIL.
- Cynorthwyo gyda manyleb a chaffael offer cyfalaf ar gyfer GIL neu ddefnydd cwsmeriaid.
- Defnyddio offer mesureg ar gyfer archwilio a gwirio rhannau gwneuthuredig.
- Cefnogi'r genhedlaeth nesaf o Beirianwyr Dylunio (graddedigion, israddedigion, prentisiaid, myfyrwyr lleoliad gwaith, etc.) drwy hyfforddiant yn y swydd a datblygiad proffesiynol parhaus.
- Cadw cofnodion cywir o waith a gwblhawyd ar gyfer pob prosiect unigol.
- Darparu datrysiadau o'r radd flaenaf, trwy ddatblygiad proffesiynol parhaus a gweithgareddau ymchwil (deunyddiau, technegau gweithgynhyrchu, etc.)

## Nodweddion Arbennig

Teithio i safleoedd cwsmeriaid fel rhan o GIL (teithio yn y DU a thramor o bosib).

## Dyletswyddau Cyffredinol

Byddwch yn sicrhau bod systemau a gweithdrefnau rheoli priodol ar waith er mwyn bodloni'ch dyletswyddau a'ch cyfrifoldebau iechyd a diogelwch a geir ym mholisi iechyd a diogelwch y Brifysgol. Yn benodol, byddwch yn sicrhau bod asesiadau risg priodol yn cael eu cynnal mewn perthynas â pheryglon sylweddol ac yr ymgwymerir ag arolygon diogelwch o leiaf unwaith y flwyddyn ym mhob gweithle dan eich rheolaeth chi.

Cyfrifoldeb y gweithwyr yw ymgorffori Polisi Cyfle Cyfartal y Brifysgol o fewn eu maes cyfrifoldeb eu hunain ac yn eu hymddygiad cyffredinol.

Mae gan yr holl staff gyfrifoldeb am hyrwyddo gofal cwsmer o ansawdd yn eu meysydd cyfrifoldeb eu hunain.

Rhaid i staff fod yn ymwybodol o ymrwymiad y Brifysgol i Gynaliadwyedd.

Rhaid i bob aelod o staff hyrwyddo ymddygiad iach ac iechyd meddwl a llesiant cadarnhaol.

Disgwylir i ddeiliaid swydd gydymffurfio â'r broses Adolygu Datblygiad Proffesiynol, gan gymryd rhan wrth osod amcanion er mwyn cynorthwyo gyda'r gwaith o fonitro perfformiad a datblygiad yr unigolyn.

Byddwch yn asesu anghenion hyfforddiant a datblygiad pob aelod o staff dan eich rheolaeth i sicrhau eu bod yn cael eu cefnogi'n ddigonol mewn perthynas â'u cyfrifoldebau yn y gwaith.

Dyletswyddau perthnasol eraill sy'n gymesur â gradd y swydd, a all gael eu neilltuo gan y Rheolwr, mewn cytundeb â deiliad y swydd. Ni ddylid gwrthod cytundeb o'r fath yn afresymol.

Mae'r cyfrifoldebau allweddol sydd wedi'u cynnwys yn y swydd ddisgrifiad hwn yn rhai nodweddiadol; nid ydynt yn gynhwysfawr. Gellir addasu dyletswyddau a chyfrifoldebau mewn trafodaeth â deiliad y swydd.

Disgwylir i'r holl ddeiliaid swydd yn y Gyfarwyddiaeth allu cynnig cymorth ar draws pob maes, y tu hwnt i'w tîm uniongyrchol, ar gais y Cyfarwyddwr ac yn gymesur â'u sgiliau, eu gwybodaeth a'u profiad.

## **Adolygu**

Mae hwn yn ddisgrifiad o'r swydd adeg ei chyhoeddi. Arfer y Brifysgol o bryd i'w gilydd yw adolygu a diweddarau swydd ddisgrifiadau er mwyn sicrhau eu bod yn adlewyrchu natur gyfredol y swydd a gofynion y Brifysgol yn gywir ac i ymgorffori newidiadau rhesymol pan fo angen, mewn ymgynghoriad â deiliad y swydd.

## Teitl y Swydd: Peiriannydd Dylunio

Er mwyn cael eich rhoi ar y rhestr fer, mae'n rhaid i chi ddangos eich bod yn diwallu pob un o'r meini prawf hanfodol a hynny o'r meini prawf dymunol ag sy'n bosibl. Pan fydd gennym nifer fawr o geisiadau sy'n diwallu'r holl feini prawf hanfodol, byddwn wedyn yn llunio'r rhestr fer gan ddefnyddio'r meini prawf dymunol.

### Meini Prawf Dethol

Prifodoleddau	Eitem	Meini Prawf Perthnasol	Dull Adnabod	Pwysigrwydd
1	Sgiliau a Galluoedd	1.1 Lefel dda o sgiliau TG (Microsoft Office, Project, CAD etc.).	Ff, C	H
		1.2 Dylunio peirianeg o fewn amgylchedd peirianeg optegol arbenigol.	Ff, C	H
		1.3 Dadansoddiad elfennau penodol strwythurau.	Ff, C	H
		1.4 Sgiliau cyfathrebu rhagorol yn ysgrifenedig ac ar lafar yn cynnwys sgiliau cyflwyno ac ysgrifennu adroddiadau manwl a chryno.	Ff, C	H
		1.5 Dadansoddiad elfennau penodol llif gwres.	Ff, C	D
		1.6 Amcangyfrif cost.	Ff, C	H
		1.7 Llif gwaith a chynllunio prosiect.	Ff, C	H
2	Gwybodaeth Gyffredinol ac Arbenigol	2.1 Drafftio profiad gan ddefnyddio safonau diwydiant BS 8888 (gan gynnwys GD&T), ISO 10110, etc.	Ff, C	H
		2.2 Dilysu dyluniadau / gwirio strwythurau gan ddefnyddio FEA.	Ff, C	H
		2.3 Technegau efelychu deinamig gan ddefnyddio FEA.	Ff, C	D

3	Addysg a Hyfforddiant	3.1	Myfyriwr graddedig â gradd neu lefel uwch mewn disgyblaeth peirianeg fecanyddol.	Ff,C,T	H
		3.2	Bydd yr ymgeisydd llwyddiannus yn Siartredig.	Ff,C,T	D
4	Profiad Perthnasol	4.1	Profiad dylunio peirianeg o fewn amgylchedd peirianeg optegol arbenigol.	Ff, C	H
		4.2	Cynhyrchu ariannol a phrisio deunyddiau.	Ff, C	H
		4.3	Profiad o ddilysu / gwirio dylunio drwy FEA a thechnegau efelychu deinamig.	Ff, C	H
		4.4	Profiad dylunio yn defnyddio safon diwydiant (Inventor, Solidworks,etc.) Pecyn CAD	Ff, C	H
		4.5	Profiad o weithio mewn tîm Peirianeg aml-ddisgyblaeth.	Ff, C	H
		4.6	Profiad ymarferol peirianeg neu fecanyddol o fewn amgylchedd masnachol (peirianeg opto-fecanyddol yn ddelfrydol).	Ff, C	H
5	Gofynion Arbennig	5.1	Y gallu i deithio (y tu allan i'r DU o bosib) i fynychu cyfarfodydd adolygu ar safleoedd y cwsmeriaid.	Ff, C	H
		5.2	Parhau â datblygiad proffesiynol a fydd yn gwella galluoedd y tîm.	Ff, C	H
		5.3	Y gallu i gyfathrebu drwy gyfrwng y Gymraeg.	Ff, C	D
<b>Dyddiad Adolygu</b>			Mai 2024		

<b>Allwedd</b>	<b>Dull Adnabod</b>	<b>Ff</b>	Ffurflen Gais
		<b>C</b>	Cyfweliad
		<b>P</b>	Prawf
		<b>T</b>	Copi o Dystysgrifau
		<b>Rh</b>	Rhoi Cyflwyniad
		<b>G</b>	Asesiad Grŵp
	<b>Pwysigrwydd</b>	<b>H</b>	Hanfodol
		<b>D</b>	Dymunol

# Job Description

# Prifysgol Wreccsam Wrexham University



<b>Faculty/Department</b>	OpTIC Technology Centre, St Asaph
<b>Section</b>	Glyndwr Innovations Ltd
<b>Job Title</b>	Design Engineer
<b>Reports to</b>	Principal Engineer
<b>Responsible for</b>	Engineering & Design
<b>Grade</b>	S&AP1

## Principal Accountabilities

Reporting to the Principal Engineer, the post holder will work within Glyndwr Innovations Ltd (a wholly-owned subsidiary of Wrexham University).

The key responsibilities of the Design Engineer will be to work with the commercial customer to create an understanding of their requirements; to create concept and final designs for complex optical systems based on these requirements, including opto-mechanical and structural assemblies; to generate review meeting documentation to support the final design; to produce the manufacturing data pack (drawings, BOM, assembly instructions, etc.).

## Key Tasks

- The successful candidate will work largely unsupervised on work packages agreed with the Principal Engineer.
- Develop and maintain relationships with key customers (internal and external) to clarify, confirm and deliver agreed technical requirements and work scope.
- Regularly attend team meetings held to establish work programmes, customer requirements and technical specifications and to input design ideas and concepts for consideration into these meetings.
- Actively participate in GIL project planning, including the assessment of work priorities and capacity.
- Provide structural and opto-mechanical design solutions to customer requirements.

- Provide structural and opto-mechanical design verification using finite elements analysis and dynamic simulation techniques to demonstrate design performance and fitness for purpose.
- Participate in design problem solving activities, providing specialist expertise as and when required.
- Provide and communicate design review reports in accordance with internal procedures and customer requirements as agreed with the Principal Engineer.
- Contribute to both internal and customer design reviews.
- Production of and checking of assembly / detailed design drawings in line with relevant Engineering Standards (in particular, BS 8888 & ISO 10110).
- Final drawing review and sign-off of GIL project drawings against final customer specifications.
- Production of written guidelines, procedures or work instructions for GIL use.
- Assist with the specification and procurement of capital equipment for GIL or customer use.
- Use of metrology equipment for inspection and verification of fabricated parts.
- Supporting the next generation of Design Engineers (graduates, undergraduates, apprentices, work placement students, etc.) through on-the-job training and continual professional development.
- Keep accurate time sheet records of work completed for each individual project.
- Delivery of leading-edge solutions through continual professional development and research activities (materials, manufacturing techniques, etc.)

## Special Features

Travel as part of GIL to customer premises (UK travel and possibly abroad).

## General Duties

You will ensure that appropriate management systems and procedures are in place to meet your health and safety duties and responsibilities contained within the University's health and safety policy. In particular you will ensure that appropriate risk assessments are carried out in respect of significant hazards and that safety inspections are undertaken on at least an annual cycle in each workplace under your control.

It is the responsibility of employees to apply the University's Equal Opportunities Policy in their own area of responsibility and in their general conduct.

All staff have a responsibility for promoting high levels of customer care within their own areas of responsibility.

Staff must be aware of the University's commitment to Sustainability.

All staff must promote healthy behaviour and positive mental health and wellbeing

Post holders are expected to co-operate with the Professional Development Review (PDR) process, engaging in the setting of objectives in order to assist in the monitoring of performance and the development of the individual.

You will assess the training and development needs of each member of staff under your control to ensure they are adequately supported in relation to their work responsibilities.



Such other relevant duties commensurate with the grade of the post as may be assigned by the Manager in agreement with the post holder. Such agreement should not be unreasonably withheld.

The key responsibilities contained in this job description are indicative not exhaustive. Duties and responsibilities may be altered in discussion with the post holder.

All post-holders within the Directorate are expected to be able to provide support across all areas, beyond their immediate team, as requested by the Director and commensurate with their skills, knowledge and experience.

## **Review**

This is a description of the job at the time of issue. It is the University's practice periodically to review and update job descriptions to ensure that they accurately reflect the current nature of the job and requirements of the University and to incorporate reasonable changes where required, in consultation with the job holder.

# Person Specification

**Job Title:** Design Engineer

In order to be shortlisted you must demonstrate that you meet all the essential criteria and as many of the desirable criteria as possible. Where we have a large number of applications that meet all of the essential criteria, we will then use the desirable criteria to produce the shortlist.

Selection Criteria					
Attributes		Item	Relevant Criteria	Identification Method	Rank
1	Skills & Abilities	1.1	Good working level of IT skills (Microsoft Office, Project, CAD etc.).	A,I	E
		1.2	Engineering design within a specialist optical engineering environment.	A,I	E
		1.3	Finite element analysis of structures.	A,I	E
		1.4	Excellent written and verbal communication skills, including concise and detailed report writing and presentation skills.	A,I	E
		1.5	Finite element analysis of heat flows.	A,I	D
		1.6	Cost estimation.	A,I	E
		1.7	Work flow and project planning.	A,I	E
2	General & Specialist Knowledge	2.1	Drafting experience using industry standards BS 8888 (including GD&T), ISO 10110, etc.	A,I	E
		2.2	Design validation / verification of structures using FEA.	A,I	E
		2.3	Dynamic simulation techniques using FEA.	A,I	D
3	Education & Training	3.1	Degree qualified graduate or higher in a mechanical engineering discipline.	A,I,C	E
		3.2	The successful applicant will be Chartered.	A,I,C	D
4	Relevant Experience	4.1	Engineering design experience within a specialist optical engineering environment.	A,I	E
		4.2	Production of financial and materials costing.	A,I	E

		4.3	Experience in design validation / verification using FEA and dynamic simulation techniques.	A,I	E
		4.4	Design experience using an industry standard (Inventor, Solidworks, etc.) CAD package	A,I	E
		4.5	Experience of working within a multi-disciplinary Engineering team.	A,I	E
		4.6	Significant practical engineering or mechanical experience within a commercial environment (preferably opto-mechanical engineering).	A,I	E
5	Special Requirements	5.1	The ability to travel (possibly outside the UK) to attend review meetings at the customer's premises.	A,I	E
		5.2	Continuing professional development that will improve the team's capabilities.	A,I	E
		5.3	The ability to communicate in the medium of Welsh.	A,I	D
<b>Date of Revision</b>		May 2024			

<b>Key</b>	<b>Identification Method</b>	<b>A</b>	Application Form
		<b>I</b>	Interview
		<b>T</b>	Test
		<b>C</b>	Copy of Certificates
		<b>P</b>	Presentation
		<b>G</b>	Group Assessment
	<b>Rank</b>	<b>E</b>	Essential
		<b>D</b>	Desirable

