Engineering at Glyndŵr

Faculty of Arts, Science & Technology

Sven Mysliwietz
Arne Schmakeit

Glyndŵr University

- Full university status in 2008, formally known as the North East Wales Institute of Higher Education (NEWI)
- Named after the medieval welsh prince ***Owain Glyndŵr***, who established universities throughout Wales in the early 15th century.

Statistics

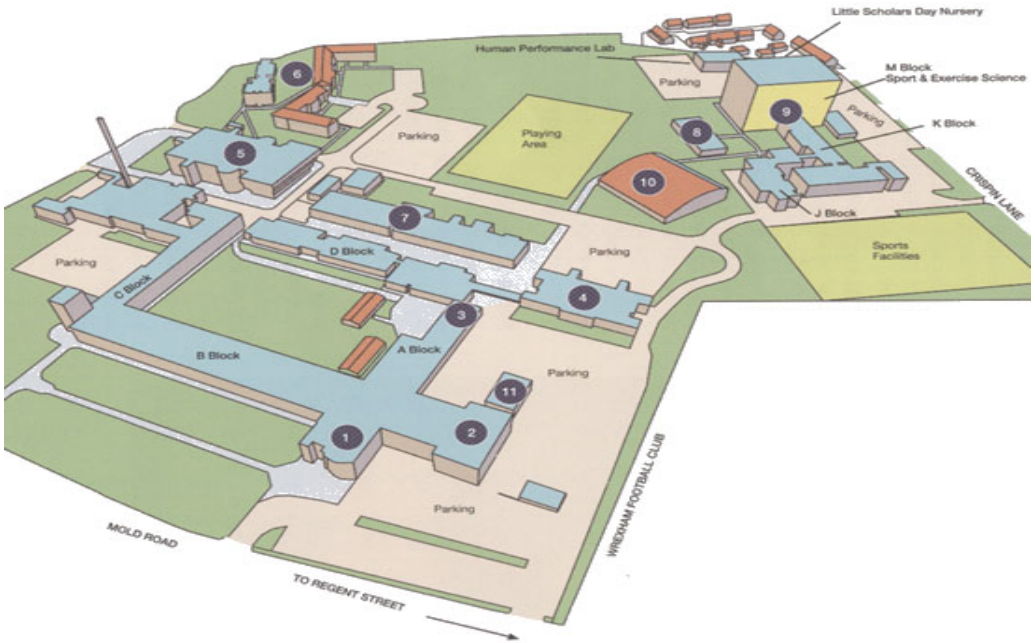
- 9000 – Students *(5000 Full Time / 4000 Part Time)*
- 450 – Academic Staff
- 500 – Operational Staff

Glyndŵr University

Statistics

- **Teaching Campus Sites**
  - Wrexham Campus
  - Northop Campus
  - London Campus
- **Research Sites**
  - OpTIC Glyndwr – *St Asaph*
  - Composite Materials Research Centre – *Broughton*

Glyndŵr University – Wrexham Campus



- Engineering & Computing Labs
- TV & Radio Studios
- The Wall Recording Studio
- Scene of Crime Suite
- Human Performance Labs
- Art School
- Complementary Medicine Clinic
- Centre for the Child
- Centre for Creative Industries
- Drama Studios
- Libraries
- Student Support Services
- Accommodation

Glyndŵr University – Wrexham Campus

Wrexham Village

- 323 en-suite bedrooms
- 24-hour security/staff
- Secured car parking
- Fully furnished communal living area

Glyndŵr University – Wrexham Campus

Excellent Sport Facilities

- International hockey pitch
- Sports hall
  - Basket ball
  - Badminton
  - Table tennis
- Fitness centre
  - Gym
- Astroturf pitches
- Dance Studios

Off Campus

- *DW Sports*
- *Total Fitness*
- *Pure Gym (24 hr)*

Glyndŵr University – Research Facilities

Advanced Composite Training & Development Centre

- Training on manufacturing processes and skills needed to produce composite parts.
- Collaborative R&D, Research Council funded collaborations, European Union Funding and contract research

OpTIC Glyndwr

- Leading centre for the research and development of cutting edge opto-electronics
- Precision polishing
- Photovoltaics applied research

Glyndŵr University – International Profile

We have full time students on our courses from:

- France
- Belgium
- Spain
- Greece
- Finland
- Germany
- Portugal
- Sweden
- India
- Bangladesh
- China
- Nigeria
- Malaysia

Engineering at Glyndŵr University

BEng (Hons)

Undergraduate Programmes:

- Aeronautical & Mechanical Engineering
- Automotive Engineering
- Renewable and Sustainable Engineering
- Electrical & Electronic Engineering

BEng

Industrial Engineering Programmes:

- Electrical Engineering
- Automation Systems
- Mechatronics
- Mechanical or Pant Maintenance
- Engineering Management

MSc

Engineering Programmes:

- MSc Engineering:
- MSc Engineering (Mechanical Manufacturing)
- MSc Engineering (Renewable)
- MSc Engineering (Electrical & Electronic)
- MSc Unmanned Aircraft Systems Technology

Why Study at Glyndŵr University?

Industrial Links

BAE SYSTEMS

AIRBUS

Kellogg's

TATA STEEL

MBDA MISSILE SYSTEMS

Accreditation

IET The Institution of Engineering and Technology

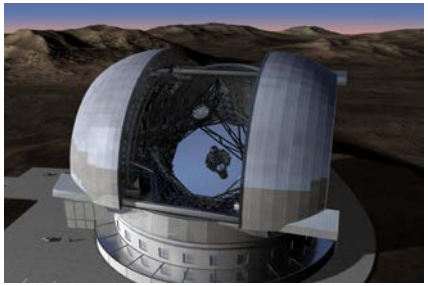
Institution of MECHANICAL ENGINEERS
Improving the world through engineering

ROYAL AERONAUTICAL SOCIETY

energy INSTITUTE

Innovation

Ultra Precision Services in polishing mirror segments for the £900million European-Extremely Large Telescope (E-ELT) project.



Academic Teaching

The academic staff have valuable industrial experience

Staff members are engaging in research within their field

Staff are always available to help, such as maths support

The engineering department employ a ***Open Door Policy***

Why Study at Glyndŵr University?

The university has recently invested in new engineering facilities:

- Performance Car Laboratories
- Flight simulator
- Instrumentation laboratory
- Rapid prototyping facilities

Wrexham Glyndwr University received a sliver award for the quality of its teaching (June2017)

TEF Silver

Why Study at Glyndŵr University?

The university has the latest industrial software:

ANSYS(CFD)

CATIA V5

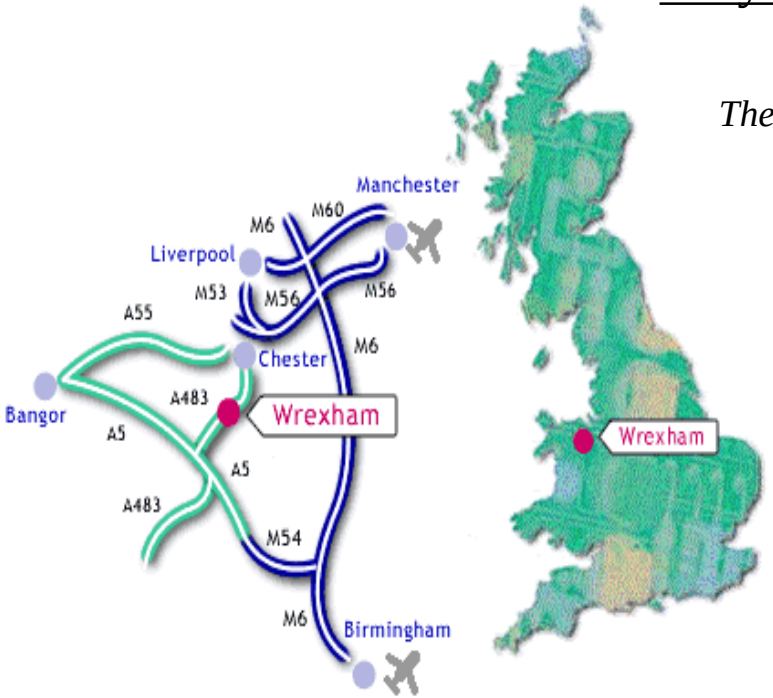
ABAQUS

MATLAB

SIMULINK

MULTISIM

Why Study in Wrexham?



Location

The University has the best of both city and country life with cities Chester, Manchester and Liverpool on Glyndwr's doorstep

Why Study in Wrexham?

Art & Culture

The university boasts a number of popular venues including the William Aston Hall, Oriel Sycharth Gallery, Oriel Wrecsam Gallery and Techniquest Glyndwr

Why Study in Wrexham?

Shopping & Nightlife

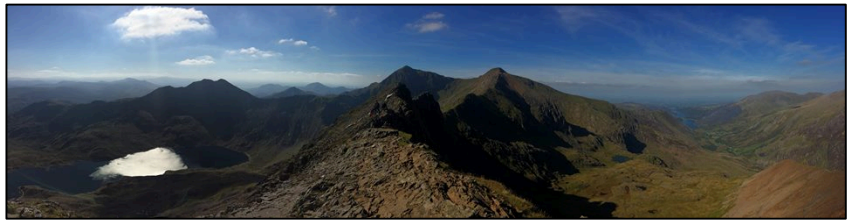
Three floors and more than 28,000sq ft of retail space will meet you at Eagles Meadow.

Student life is nothing without top bars, pubs and nightclubs and Wrexham is no different.

Why Study in Wrexham?

Adventure

North Wales is the Adventure Capital of the UK



ZIP WORLD · GO BELOW · SURF SNOWDONIA · Adventure TREE TOP ADVENTURE SNOWDONIA

Engineering at Glyndŵr - Faculty of Arts, Science & Technology

What Glyndŵr University Can Offer You?

August 2019

Engineering Summer Schools

- Aeronautical & Mechanical Engineering
- Electrical & Electronic Engineering
- Automotive Engineering
- Renewable and Sustainable Engineering
- Mechatronics

September 2019

BEng (Hons)

- Aeronautical & Mechanical Engineering
- Electrical & Electronic Engineering
- Automotive Engineering
- Renewable and Sustainable Engineering
- Mechatronics (BEng Industrial)
- Engineering Management (BEng Industrial

September 2020

MSc in Engineering

- MSc Engineering:
- MSc Engineering (Mechanical Manufacturing)
- MSc Engineering (Renewable)
- MSc Engineering (Electrical & Electronic)
- MSc Unmanned Aircraft Systems Technology

IT'S YOUR TIME

Engineering at Glyndŵr - Faculty of Arts, Science & Technology

What Glyndŵr University Can Offer You?

August 2019

Engineering Summer Schools

- Aeronautical & Mechanical Engineering
- Electrical & Electronic Engineering
- Automotive Engineering
- Renewable and Sustainable Engineering
- Mechatronics

September 2019

BEng (Hons)

- Aeronautical & Mechanical Engineering
- Electrical & Electronic Engineering
- Automotive Engineering
- Renewable and Sustainable Engineering
- Mechatronics (BEng Industrial)
- Engineering Management (BEng Industrial

July-August 2020

MSc Fast Track Engineering

- MSc Engineering:
- MSc Engineering (Mechanical Manufacturing)
- MSc Engineering (Electrical & Electronic)

IT'S YOUR TIME

What Glyndŵr University Can Offer You?

August 2019

Computing Summer Schools

- CISCO Networking Academy
- Computer Game Development

September 2019

BSc (Hons)

- Computing
- Computer Science
- Computer Network and Security
- Cyber Security
- Computer Game Development

September 2020

MSc in Computing

- MSc Computer Networks
- MSc Computer Science
- MSc Computer Game Development

bcs Accredited Degree

Glyndŵr University Summer School

Summer School 2019 – *[Dates to be confirmed]*

Engineering

Aeronautical & Mechanical Engineering

Electrical & Electronic Engineering

Automotive Engineering

Renewable and Sustainable Engineering

Mechatronics

Computing

Computer Games Development

CISCO Networking Academy

Glyndŵr University Engineering Summer School – Overview

<table>
<tr><td>Aeronautical & Mechanical Engineering</td><td>Electrical & Electronic Engineering</td><td>Mechatronics Engineering</td><td>Automotive Engineering</td><td>Renewable and Sustainable Engineering</td></tr>
<tr><td colspan="5">ENG501 Business and Management
10 UK Credits (Assignment)</td></tr>
<tr><td colspan="5">ENG575 Analytical Techniques
10 UK Credits
(Exam)</td></tr>
<tr><td colspan="3">ENG712 Control
10 UK Credits (Exam)</td><td>ENG598 Engine Technology
10 UK Credits (Exam)</td><td rowspan="2">ENG50D Low Carbon Systems
20 UK Credits (Exam)</td></tr>
<tr><td>ENG504 Dynamics
10 UK Credits (Exam)</td><td>ENG520 Electrical Power Systems
10 UK Credits (Exam)</td><td>ENG50c Mechatronics Systems
10 UK Credits (Exam)</td><td>ENG504 Dynamics
10 UK Credits (Exam)</td></tr>
<tr><td colspan="5">LAN 414 English for Professional Purposes Upper Intermediate Level
20 UK Credits (Exam)</td></tr>
</table>

Glyndŵr University Engineering Summer School – Timetable *(Example)*

	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
Monday	ENG575 Analytical Techniques	ENG501 Business Management				ENG501 Business Management		ENG575 Analytical Techniques	
Tuesday	ENG575 Analytical Techniques	ENG575 Analytical Techniques			ENG501 Business Management			LAN414 English	
Wednesday	ENG575 Analytical Techniques	ENG501 Business Management	LAN414 English			ENG501 Business Management		ENG575 Analytical Techniques	
Thursday	ENG575 Analytical Techniques	ENG501 Business Management	ENG575 Analytical Techniques			ENG501 Business Management		LAN414 English	
Friday	ENG575 Analytical Techniques	ENG501 Business Management	LAN414 English			ENG501 Business Management		ENG575 Analytical Techniques	

Glyndŵr University Engineering/Computing Summer School – Finances

2019 Summer School Costs

Total Cost: 1000£ (~1100€)

- All Technical Tuition
- All English Language Tuition
- 4 Weeks Accommodation *(on campus)*
- Airport Transfers *(where possible)*

2019 Summer School Application

1. Follow the link to “Summer School” from:

   https://www.glyndwr.ac.uk/en/europeanstudents/summerschool/

2. Register and select your programme
3. Pay your £50 (€65) deposit
4. Your place is now reserved

Note: *Applications are limited so apply early*

Glyndŵr University Engineering BEng (Hons)

September 2019

Aeronautical & Mechanical Engineering

Electrical & Electronic Engineering

Automotive Engineering

Renewable and Sustainable Engineering

Mechatronics (BEng Industrial)

Engineering Management (BEng Industrial)

The Institution of Engineering and Technology

Institution of Mechanical Engineers — Improving the world through engineering

Royal Aeronautical Society

energy Institute

Glyndŵr University Computing BSc (Hons)

September 2019

Computing

Computer Science

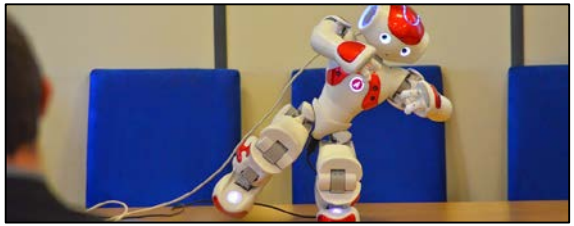
Computer Network and Security

Creative Computing

Cyber Security

Computer Game Development

bcs Accredited Degree



Glyndŵr University Engineering BEng (Hons) – Overview

Aeronautical & Mechanical Engineering	Automotive Engineering	Electrical & Electronic Engineering	Renewable and Sustainable Engineering	Mechatronics Engineering	Engineering Management
ENG684 Project (Dissertation)					
ENG685 Engineering Modelling & Simulation					
ENG687 Aerodynamics		ENG60C Electronics, Design & Testing	ENG688 Design For X	ENG669 Industry 4.0	ENG626 Project and Manufacturing Operations Management
ENG690 Structural Vibration	ENG692 Automotive Dynamics and Powertrain Analysis	ENG696 Further Control Engineering	ENG694 Advanced Renewable Technology	ENG662 Mechatronics Application	BUS605 Managing Workforce, Engagement and Commitment
(O) ENG698 Aircraft Stability Control & Design	(O) ENG690 Structural Vibration	(O) ENG645 Power Electronics and Electric Drives	(O) ENG663 Industrial Communication Systems	ENG667 Maintenance & Safety Systems	
(O) ENG616 Advanced Thermo-fluid & Turbomachinery					
(O) ENG691 Composite Materials					

Glyndŵr University Engineering BEng (Hons) – T1 Timetable *(Example)*

BEng Aeronautical & Mechanical Engineering

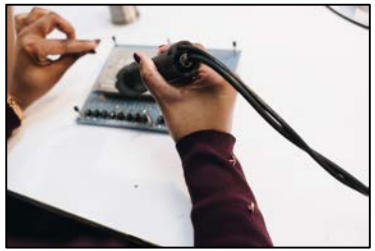
	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
Monday		**ENG685** Engineering Modelling & Simulation			**ENG687** Aerodynamics				
Tuesday	**ENG690** Structural Vibration						**ENG685** Engineering Modelling & Simulation		
Wednesday	**ENG684** Dissertation								
Thursday									
Friday									

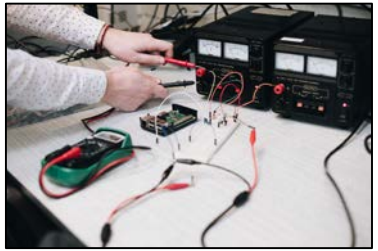
Glyndŵr University Engineering BEng (Hons) – T2 Timetable *(Example)*

BEng Aeronautical & Mechanical Engineering

	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
Monday					**(O) ENG698** Aircraft Stability Control & Design				
Tuesday	**(O) ENG616** Advanced Thermo-fluid & Turbomachinery				**(O) ENG691** Composite Materials				
Wednesday	**ENG684** Dissertation								
Thursday									
Friday									

Glyndŵr University Engineering BEng (Hons) – Finances





Tuition Fees for Bachelor Degree

September 19/20 Tuition Fees

Engineering / Computing Courses:

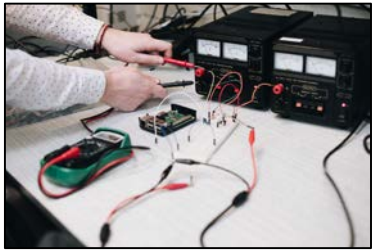
Actual fee: £ 8100

£ 1000 Cashback (Apply until 01.07.19)

£ 300 Cantine Card

Total £ 6800 = ~7500 €

Glyndŵr University Engineering BEng (Hons) – Finances



2019/20 Engineering Bachelor Degree Application

1. Applications are open now for 2019/20
2. Apply via UCAS or directly
3. The “Direct Application Form” can be downloaded from:

   www.glyndwr.ac.uk/en/Europeanstudents/Howtoapply
4. Email back to: admissions@glyndwr.ac.uk

Glyndŵr University Engineering MSc Fast Track

July-August 2020

MSc Engineering:

MSc Engineering (Mechanical Manufacturing)

MSc Engineering (Electrical & Electronic)

The Institution of Engineering and Technology

Institution of MECHANICAL ENGINEERS
Improving the world through engineering

ROYAL AERONAUTICAL SOCIETY

energy INSTITUTE

Glyndŵr University Engineering MSc Fast Track

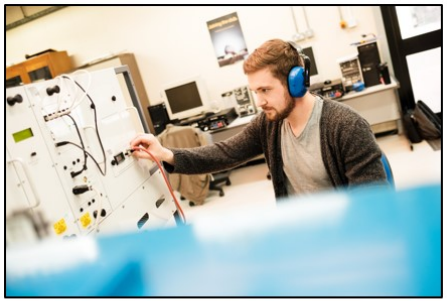
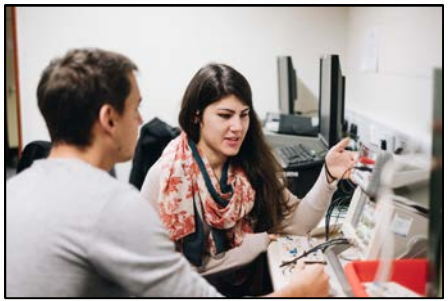
MSc Engineering (Specialism)			MSc Unmanned Aircraft System Technology
Mechanical Manufacturing	Renewable & Sustainable Energy	Electrical & Electronic	
ENG740 Engineering Research Methods & PG Studies			
ENG765 Engineering Design & Innovation			
ENG741 Engineering Systems Modelling & Simulation			ENG759 UAS Technology & Applications
(O) ENG742 Advanced & Composite Materials	(O) ENG773 Advanced Control Engineering and Systems Analysis		ENG763 UAV Construction
ENG766 Structural Integrity & Optimisation	ENG775 Power Electronics, Drive and Energy Systems		ENG762 UAS Operations & The Law
ENG769 Industry 4.0 Manufacture and Production	ENG7736 Analysis of Renewable and Sustainable Systems	ENG774 Circuit Design and Electronic Testing	ENG764 UAS Sensor Technology
ENGM66 Dissertation			

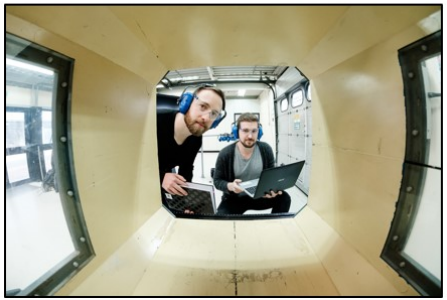
Glyndŵr University Engineering MSc Fast Track – Programme Delivery

MSc in Engineering (Mechanical Manufacturing)

June	July	August	Sep - Nov	September - May
Access to Teaching Material via Moodle Prior to Taught Elements	**ENG740** Engineering Research Methods & Post Graduate Studies	**ENG742** Advanced Composite Materials	Self-Learning and Assessments + ENGM66 Dissertation	**ENGM66** Dissertation
	ENG765 Engineering Design & Innovation	**ENG766** Structural Integrity & Optimisation		
	ENG741 Engineering Systems Modelling & Simulation	**ENG769** Industry 4.0 Manufacture and Production		

Student Achievements

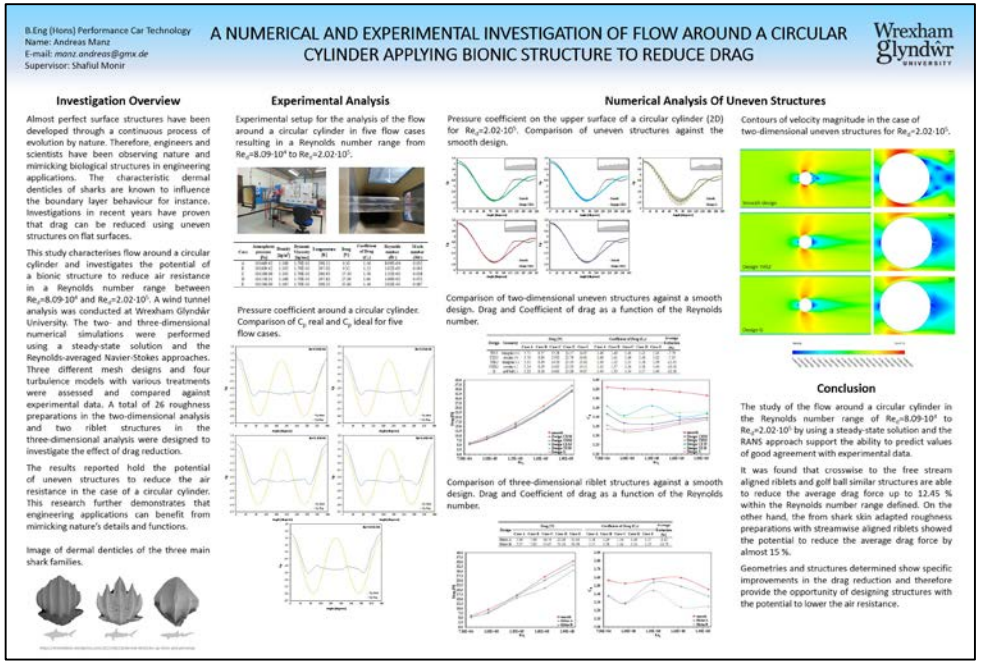
Over 1000+ students graduated from Glyndwr University

Student Achievements

Andreas Manz
Technikerschule Augsburg (TA Augsburg)

Graduated in 2017 BEng. Performance Car Technology 1st

Currently studying MSc Mechanical Manufacturing



Runner up in the 2017 North Wales Society of Engineering video presentation

Published a Paper in IEEE Conference

Publishing a peer reviewed Journal Paper

Application for PhD in Progress

Assistant Lecturer in Computational Fluid Mechanics and FEA

Student Achievements

John Winn
Franz-Oberthür-Techniker Schule

Graduated in 2017 BEng. Performance Car Technology 1st

MSc Fast Track Mechanical Manufacturing Graduate (2018)

Der M.Sc. fast track Studiengang war im Vergleich zum Regel M.Sc. Studiengang der effizienteste Weg, da man alle Vorlesungen in zwei Monaten, anstatt über zwölf Monate verteilt, absolvieren kann. Dies hat den Vorteil schon ab August zuhause sein zu können. Die Master Abschlussarbeit findet, von September bis Mai, in eigener Regie oder in Zusammenarbeit mit einer Firma in Deutschland statt. Kleiner Tipp, zum Ende des Bachelors schon nach potenziellen Firmen und deren Themen erkundigen, sofern man nicht ein eigenes Projekt umsetzen möchte.

Der fast track Master hat es dennoch in sich. Man ist Wort wörtlich ständig in der Uni, da man in der Regel acht Stunden am Tag Vorlesung hat und parallel dazu noch eine Vielzahl an Hausarbeiten schreiben und sich auf drei schriftliche Prüfungen vorbereiten muss. Keine Angst, es bliebt trotzdem genug Zeit an den Wochenenden zu grillen und Bier zu trinken ;)

Während der Abschlussarbeit kann man sich aufhalten wo man will, sofern man unabhängig von einer Firma ein Thema ausarbeitet. Für eventuelle fragen und Hilfestellung steht einem ein selbst gewählter Universitäts Supervisor per Skype zur Seite. Mein Supervisor ist der junge Mann der diese Präsentation hält, den ich wärmstens empfehlen kann.

Im Vergleich zum Bachelor, hat der Master den Vorteil, dass man seine Studiums Kollegen besser kennen lernt weil man auch viel mehr Zeit miteinander verbringt. Ich kann es jedem empfehlen, denn es bilden sich in dieser Zeit Freundschaften die weit über das Studium hinaus reichen. Aber genug von mir, ich will ja nicht gleich alles für euch Spoilern ;)

Student Achievements

PhD completion:

- Robert Schneider (2016) An Analysis of Aluminium Sheet Metal Alloys on their Formability Behaviour at Cryogenic Temperatures. PhD, University of Wales.

MPhil completion:

- Bernhard Bonney (2016) Design of Wake Vortex Alleviated Wings Subjected to Structural Deformation. MPhil, University of Wales.
- Matthias Menzl (2016) The Advancement of Punch Cutting Tools Using Ceramics. MPhil, University of Wales.

Research papers published by BEng and MSc German students in IEEE Xplore Digital Library as conference papers:

- Knupfer, M., et al. (2016). Cross impact analysis of vehicle-to-grid technologies in the context of 2030. In: Proc. 9th Int. Conference on Power Drives Systems ICPDS-2016, Perm, 3-7 October 2016, 5p.
- Pommerening, P., et al. (2016). Future grid 2050 in context of UK Gone Green scenario. In: Proc. 2016 IEEE NW Russia Young Researchers in Electrical and Electronic Engineering Conference, Saint Petersburg, Russia, 2-3 February 2016, pp. 780-784.
- Bucher, M., et al. (2015). Estimation of electrical energy demand by electric vehicles from households: A UK perspective. In: Proc. 2015 IEEE NW Russia Young Researchers in Electrical and Electronic Engineering Conference, Saint Petersburg, Russia, 2-3 February 2015, pp. 159-164,
- Klein, K. et al. (2015) Modelling of a turbojet gas turbine engine. In: Proc. 6th IEEE Int. Conference on Internet Technologies and Applications ITA-15, Wrexham, UK, 8-11 September 2015, pp. 200-206,

Glyndŵr University Engineering –To Find Out More

admissions@glyndwr.ac.uk

Sioned Evans, FAST School Manager

Sioned.Evans@glyndwr.ac.uk

www.glyndwr.ac.uk/en/Europeanstudents/

Finally, we anticipate that this could be you in 2020 !!