

CARDIFF  
UNIVERSITY

PRIFYSGOL  
CAERDYDD

这个夏天不可错过的卡迪夫大学！

## “替代能源与氧化” 暑期夏令营课程 课程时间: 2017年7月15日至7月29日

开发新能源以满足未来的能源需求是工程业界面对的最大挑战。

“替代能源与氧化” 夏令营课程以“如何开发替代能源和能源系统”为主题，向学员教授这一领域相关的理论与背景知识。我们的夏令营课程让您有机会了解多种能转化成电能与热能的不同类型的替代能源。

通过这一课程，学员能够锻炼自身各方面的能力，包括在团队环境中有效地工作以及使用综合方法解决问题。

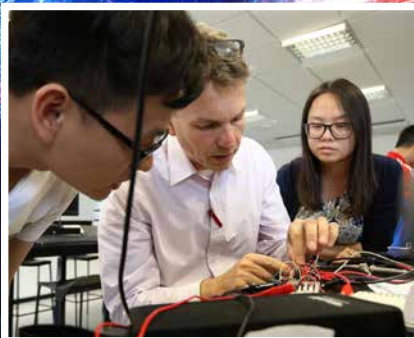
### 价格: 1495英镑\*

\*价格包括学费，住宿费，每周十份餐费（星期一到星期五的早餐和午餐），希思罗机场接机送机服务（2017年7月1日和15日接机，7月29日送机）和卡迪夫大学组织的游览活动（如巨石阵参观和当地企业的访问等）。

如果你对我们的课程感兴趣，请发邮件给我们：

[pse-iss@cardiff.ac.uk](mailto:pse-iss@cardiff.ac.uk)

所有在2017年4月15日之前申请夏令营项目的学生将有机会获得1000英镑的夏令营奖学金（一共四个名额）。



## 2017 “替代能源与氧化” 夏令营课程安排

Monday 17th July 7月17日 周一	09.00 – 13.00 14.00 – 15.00 15.00 – 16.00 16.00 – 17.00 17.00 – 19.00	Enrolment and tour around campus 注册和校园参观 Lunch time 午餐 Free time 自由活动 Welcome to Cardiff induction 欢迎会 Treasure hunt through Cardiff 卡迪夫探索
Tuesday 18th July 7月18日 周二	09.00 – 14.00 14.00 – 15.00 15.00 – 17.00 17.00 – 21.00	Induction (Induction to the School of Engineering, health and safety, tour through the School of Engineering) 工程学院以及健康安全介绍，工程学院参观 Lunch time 午餐 Introduction to Combustion 氧化介绍课程 Free Time 自由活动
Wednesday 19th July 7月19日 周三	09.00 – 12.00 12.00 – 14.00 14.00 – 15.00 15.00 – 17.00 17.00 – 19.00 19.00 – 21.00	Alternative Energy Systems 替代能源系统课程 Introduction to Combustion Science 氧化科学介绍 Lunch time 午餐 Industrial seminar 企业研讨会 Self study – poster preparation 自修课-海报准备 Social activity 社交活动
Thursday 20th July 7月20日 周四	09.00 – 10.30 10.30 – 12.00 12.00 – 13.00 13.00 – 18.00 18.00 – 21.00	Laboratories (Combustion Laboratory) 实验（氧化实验室） Laboratories (Thermofluids Laboratory) 实验（热流体实验室） Lunch time 午餐 Industrial visit (Waste Power Plant/COGENT) 企业参观（废电厂/COGENT能源基地） Free time 自由活动
Friday 21st July 7月21日 周五	09.00 – 21.00	Visit to Oxford 游览牛津
Monday 24th July 7月24日 周一	09.00 – 12.00 12.00 – 14.00 14.00 – 15.00 15.00 – 19.00 19.00 – 21.00	Alternative Energy Systems 替代能源系统课程 Introduction to Combustion 氧化介绍课程 Lunch time 午餐 Self study – poster preparation 自修课-海报准备 Free time 自由活动
Tuesday 25th July 7月25日 周二	09.00 – 14.00 14.00 – 15.00 15.00 – 17.00 17.00 – 21.00	Industrial Visit (Biomass Centre/Culham Lab) 企业参观（生物质能中心/库拉姆实验室） Lunch time 午餐 Return to Cardiff 回到卡迪夫 Free time 自由活动
Wednesday 26th July 7月26日 周三	09.00 – 12.00 12.00 – 14.00 14.00 – 15.00 15.00 – 17.00 17.00 – 19.00 19.00 – 21.00	Alternative Energy Systems 替代能源系统课程 Introduction to Combustion 氧化介绍课程 Lunch time 午餐 Self Study – poster preparation/printing 自修课-海报准备 Free time 自由活动 Social activity 社交活动
Thursday 27th July 7月27日 周四	09.00 – 12.00 12.00 – 14.00 14.00 – 15.00 15.00 – 18.00 18.00 – 21.00	Gas Turbine Combustion Technology 燃气轮机燃烧技术课程 Free time 自由活动 Lunch time 午餐 Poster competition 海报展示竞赛 Farewell dinner (Aberdare Hall) 结业晚宴（Aberdare 大厅）
Friday 28th July 7月29日 周五	09.00 – 21.00	Visit to London (Royal Air Force Museum) 伦敦游览（皇家空军博物馆）

This itinerary is subject to change 此行程可能更改



## Sustainable Civil Engineering Summer School

15 - 29 July 2017 – £1495

The Cardiff University School of Engineering is one of the UK's leading engineering schools. We combine a friendly and supportive learning environment with a commitment to excellence in both teaching and research. In the most recent Research Excellence Framework (REF), our research was ranked 1st in the UK for Civil Engineering and 7th for General Engineering (which included mechanical, electrical and electronic engineering). The impact of our research, across all areas, was ranked as the best in the UK.

We are proud of our international reputation for high standards, which is in keeping with Cardiff University's Russell Group status. In the 2016/17 QS World Rankings, we were ranked among the top 150 global universities.

We benefit from a location in the heart of the city of Cardiff, the capital of Wales. The School is located in the Queen's Buildings complex, close to all of the University's other facilities and just a short walk from the city centre. As well as being a bustling capital with a vibrant social scene, Cardiff has excellent transport links via road, rail and our international airport.

Our Summer School in Civil Engineering provides a taste of the highly respected architectural, environmental and civil engineering degree programmes offered by Cardiff University. The programme addresses contemporary issues in designing and working with structures and the built and natural environments, in both national and international contexts.

Teaching will be delivered on the course through a mixture of keynote lectures,

practical activities and site visits. Students will have the opportunity to work with world-leading staff from the School of Engineering, as well as figures from industry. Scheduled free time will allow participants to explore Cardiff and its vibrant culture, providing an experience of life in the UK.

The content of the course will help students develop a sophisticated understanding of the role of engineers in designing, constructing and maintaining the physical environment, including buildings and structures, water supply, flood alleviation, and geotechnical and environmental issues.



## **Sustainable Civil Engineering Summer School preliminary schedule**

**(subject to change)**

<b>Saturday 15 July</b>	<b>Arrival in Cardiff</b>
<b>Sunday 16 July</b>	<b>Cardiff Tour</b>
<b>Monday 17 July</b>	<b>Welcome and induction</b>
<b>Tuesday 18 July</b>	<b>Academic programme</b>
<b>Wednesday 19 July</b>	<b>Academic programme</b>
<b>Thursday 20 July</b>	<b>Academic programme</b>
<b>Friday 21 July</b>	<b>Academic programme</b>
<b>Saturday 22 July</b>	<b>Social excursion</b>
<b>Sunday 23 July</b>	<b>Cultural visit</b>
<b>Monday 24 July</b>	<b>Academic programme</b>
<b>Tuesday 25 July</b>	<b>Academic programme</b>
<b>Wednesday 26 July</b>	<b>Academic programme</b>
<b>Thursday 27 July</b>	<b>Academic programme</b>
<b>Friday 28 July</b>	<b>Closing activities</b>
<b>Saturday 29 July</b>	<b>Departure from Cardiff</b>

## The Diversity of Catalysis Summer School

15 - 29 July 2017 – £1495

**Cardiff University School of Chemistry takes a global outlook to tackling the important scientific challenges of the future. We have a positive, friendly and modern ethos that helps us to maintain our reputation for high-quality teaching and research. In the most recent Research Excellence Framework (REF) we were ranked 9th in the UK for the quality of our research.**

We are proud to be part of the Russell Group of elite UK universities. This status encourages us to strive for high standards in everything we do. Most recently, Cardiff University was ranked among the top 150 universities in the world according to the QS World University Rankings.

Our School is ideally placed in Cardiff University's beautiful Main Building, right at the heart of the University campus. We are very close to all of the University's other facilities and also to the city centre of Cardiff, Wales' capital and largest city. Cardiff has an extremely active social and cultural scene, meaning there is always plenty to see and do. The city also benefits from great transport links, thanks to Cardiff Airport, Cardiff Central train station and the M4 motorway.

As the home of the Cardiff Catalysis Institute, Cardiff University School of Chemistry is a world leader in the teaching and research of catalysis. Our faculty includes renowned academics specialising in all areas of catalysis. This Summer School will give you an insight into the cutting-edge of research on this all-important chemical process.

Our research is focused on finding solutions to current real-world problems, as well as improving catalytic processes already in use. This approach forms the basis of the Diversity of Catalysis Summer School, which provides a through grounding in both theory and practical skills.

In keeping with our varied research, the course content explores the varied presence and application in chemistry of the differing types

of catalyst and catalytic applications. Ranging through organic, inorganic, spectroscopic and theoretical chemistry, you will gain a thorough understanding of the integral role catalysts play in chemistry. Teaching will include hands-on sessions covering organic synthesis, molecular modelling, homogeneous and heterogeneous catalysis, spectroscopy, dynamics and characterisation.



## The Diversity of Catalysis Summer School preliminary schedule (subject to change)

Saturday 15 July	Arrival in Cardiff
Sunday 16 July	Free time
Monday 17 July	Welcome and orientation day
Tuesday 18 July	Inorganic/Organic Synthesis Laboratory  Lectures
Wednesday 19 July	Inorganic/Organic Synthesis Laboratory  Lectures  Industrial visit
Thursday 20 July	Biological Chemistry Laboratory  Lectures
Friday 21 July	Scenic tour of Welsh beaches
Saturday 22 July	Field trips and free time
Sunday 23 July	Field trips and free time
Monday 24 July	Tour of Cardiff Catalysis Institute  Lectures
Tuesday 25 July	Computer Modelling Laboratory  Lectures
Wednesday 26 July	Catalysis Laboratory  Lectures  Industrial visit
Thursday 27 July	Spectroscopy Laboratory Lectures
Friday 28 July	Course conclusion
Saturday 29 July	Departure from Cardiff



## Alternative Energy Systems Summer School

1 - 29 July 2017 – £2495

The Cardiff University School of Engineering is one of the UK's leading engineering schools. We combine a friendly and supportive learning environment with a commitment to excellence in both teaching and research. In the most recent Research Excellence Framework (REF), our research was ranked 1st in the UK for Civil Engineering and 7th for General Engineering (which included mechanical, electrical and electronic engineering). The impact of our research, across all areas, was ranked as the best in the UK.

We are proud of our international reputation for high standards, which is in keeping with Cardiff University's Russell Group status. In the 2016/17 QS World Rankings, we were ranked among the top 150 global universities.

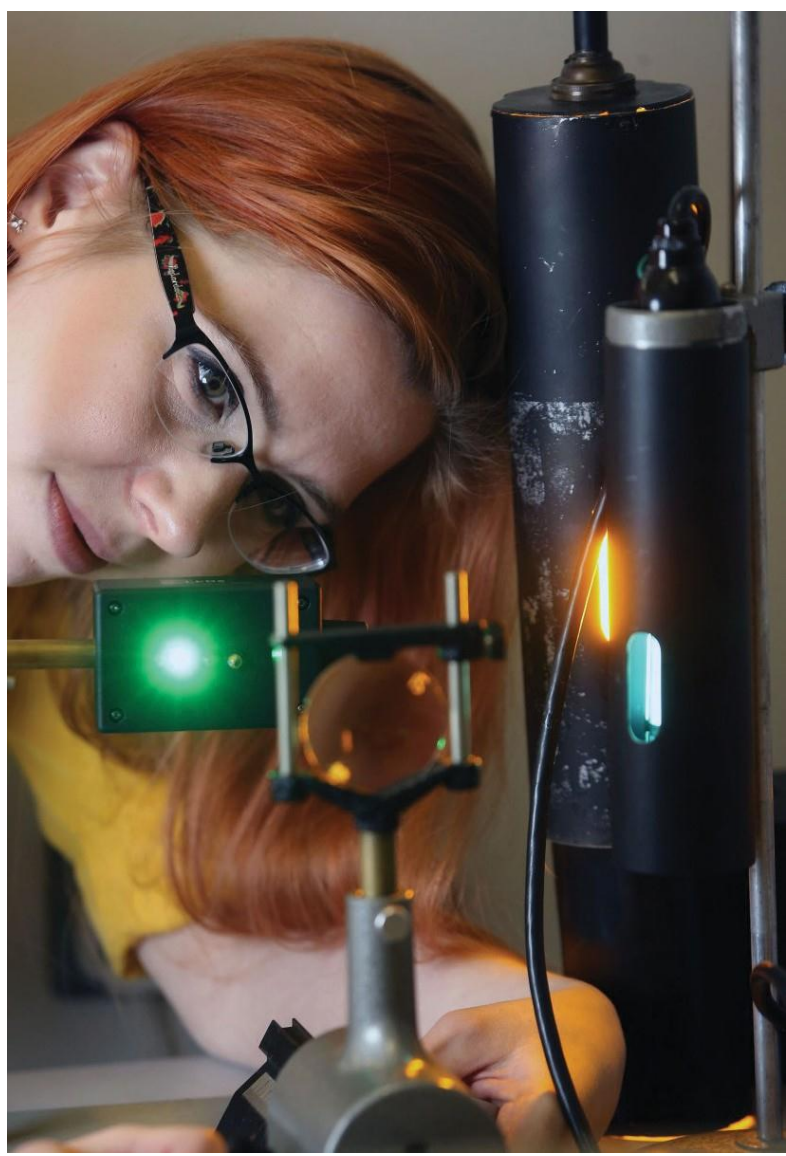
We benefit from a location in the heart of the city of Cardiff, the capital of Wales. The School is located in the Queen's Buildings complex, close to all of the University's other facilities and just a short walk from the city centre. As well as being a bustling capital with a vibrant social scene, Cardiff has excellent transport links via road, rail and our international airport.

Developing sources of energy to meet the demands of the future is one of the foremost challenges facing engineering. Our Alternative Energy Systems Summer School gives students a comprehensive overview of the key themes and theories around developing alternative energy sources and systems.

This Summer School gives students the opportunity to develop their understanding of a number of different types of alternative energy sources whose outputs are suitable for conversion into electrical and thermal power energy.

Students will be able to practise a range of skills as part of this Summer School, including working effectively in a small group environment and solving problems using an integrated,

multidisciplinary approach. Analysing the UK power system, prospects for achieving CO2 emissions targets and decarbonised electrical power systems is also integral to the programme.



## Alternative Energy Systems Summer School preliminary schedule (subject to change)

Monday 3 July	09:00 - 13:00	Enrolment and Tour around Campus
	14:00 - 15:00	Lunch time
	15:00 - 16:00	Free time
	16:00 - 17:00	Welcome to Cardiff Induction
	17:00 - 19:00	Treasure hunt through Cardiff
Tuesday 4 July	09:00 - 14:00	Induction (Induction to Engin, H&S, Tour through Engineering)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time
Wednesday 5 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 17:00	Industrial Seminar (ENT739)
	17:00 - 19:00	Free time
	19:00 - 21:00	Social activity
Thursday 6 July	09:00 - 12:00	Laboratories (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time
Friday 7 July	09:00 - 14:00	Industrial Visit (TAT COGENT, Newport)
	14:00 - 15:00	Lunch time
	15:00 - 21:00	Self Study - Project Preparation (ENT739)
Monday 10 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 19:00	Self Study - Project Preparation (ENT739)
	19:00 - 21:00	Free time
Tuesday 11 July	09:00 - 14:00	Industrial Visit (Biomass Centre, Wales)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time
Wednesday 12 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 17:00	Industrial Seminar (ENT739)
	17:00 - 19:00	Free time
	19:00 - 21:00	Social activity
Thursday 13 July	09:00 - 12:00	Laboratories (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time

Friday 14 July	09:00 - 21:00	Visit to Wales (Rosili Island and Swansea)
Monday 17 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 19:00	Self Study - Project Preparation (ENT739)
	19:00 - 21:00	Free time
Tuesday 18 July	09:00 - 14:00	Industrial Visit (Waste Management Cardiff, Wales)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time
Wednesday 19 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 17:00	Industrial Seminar (ENT739)
	17:00 - 19:00	Free time
	19:00 - 21:00	Social Activity
Thursday 20 July	09:00 - 12:00	Laboratories (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Introduction to Combustion (CPD)
	18:00 - 21:00	Free time
Friday 21 July	09:00 - 21:00	Visit to Oxford
Monday 24 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 19:00	Self Study - Project Preparation (ENT739)
	19:00 - 21:00	Free time
Tuesday 25 July	09:00 - 14:00	Industrial Visit (Lightening Laboratory, Wales)
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Industrial to Combustion (CPD)
	18:00 - 21:00	Free time
Wednesday 26 July	09:00 - 12:00	Alternative Energy Systems (ENT739)
	12:00 - 14:00	Self Study - Project Preparation (ENT739)
	14:00 - 15:00	Lunch time
	15:00 - 17:00	Project deliverable (ENT739)
	17:00 - 19:00	Free time
	19:00 - 21:00	Social Activity
Thursday 27 July	09:00 - 12:00	Introduction to Combustion, Exam
	12:00 - 14:00	Free time
	14:00 - 15:00	Lunch time
	15:00 - 18:00	Poster Competition
	18:00 - 21:00	Farewell Dinner (Aberdare Hall)
Friday 28 July	09:00 - 21:00	Visit to London (RAF or Science Museum)



## Electronic Engineering Summer School

15 - 29 July 2017 – £1495

The Cardiff University School of Engineering is one of the UK's leading engineering schools. We combine a friendly and supportive learning environment with a commitment to excellence in both teaching and research. In the most recent Research Excellence Framework (REF), our research was ranked 1st in the UK for Civil Engineering and 7th for General Engineering (which included mechanical, electrical and electronic engineering). The impact of our research, across all areas, was ranked as the best in the UK.

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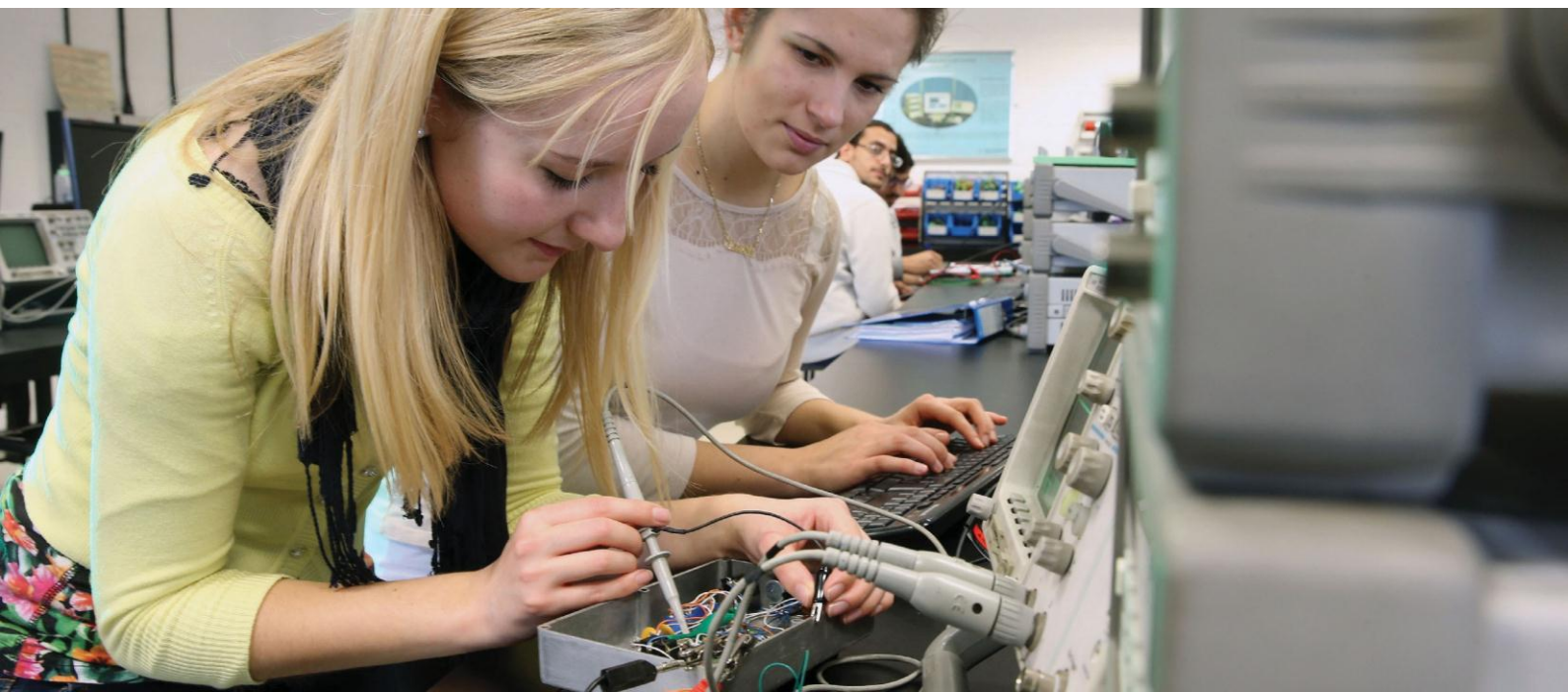
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Our Electronic Engineering Summer Camp brings together advanced undergraduates and recent

graduates from around the world to develop their knowledge of electronic engineering and to gain first-hand experience of laboratory work and industrial application.

Participants will be able to work with world-leading research and academic staff in the School's high-quality facilities, located in the multi-million-pound Queen's Buildings complex. You will also have the opportunity to take part in a workshop with National Instruments, the global leader in test, measurement and control solutions.

Throughout the two-week long camp, there will be other planned excursions and free time included in the schedule for participants to explore Cardiff, get a feel for life in the UK and socialise with each other.



## Electrical Engineering Summer School preliminary schedule

(subject to change)

Saturday 15 July	Arrival in Cardiff
Sunday 16 July	Free time
Monday 17 July	Welcome talk and social event
Tuesday 18 July	Lecture: What are mobile communications?  Build a freestanding mobile system transmitter tower  Laboratory session
Wednesday 19 July	Lecture: Interdisciplinary uses of microwave sensors and actuators  Lecture: Radio communication, modulation and detection  Laboratory sessions
Thursday 20 July	Lecture: Mobile base station power amplifiers  Laboratory sessions
Friday 21 July	Lecture: Information theory, encoding and networks  Laboratory sessions
Saturday 22 July	Field trips and free time
Sunday 23 July	Field trips and free time
Monday 24 July	Lecture: The development of active harmonic load-pull and the development of RFPAs  Laboratory sessions
Tuesday 25 July	Industrial site visit
Wednesday 26 July	Lecture: RF I-V waveform measurement and engineering  Tour of School research laboratories  Free time and social event
Thursday 27 July	Hands-on laboratory with National Instruments
Friday 28 July	Lecture: What is engineering?  Barbecue
Saturday 29 July	Departure from Cardiff