

NEWS RELEASE TO SCHOOLS AND COLLEGES, *August 2017*

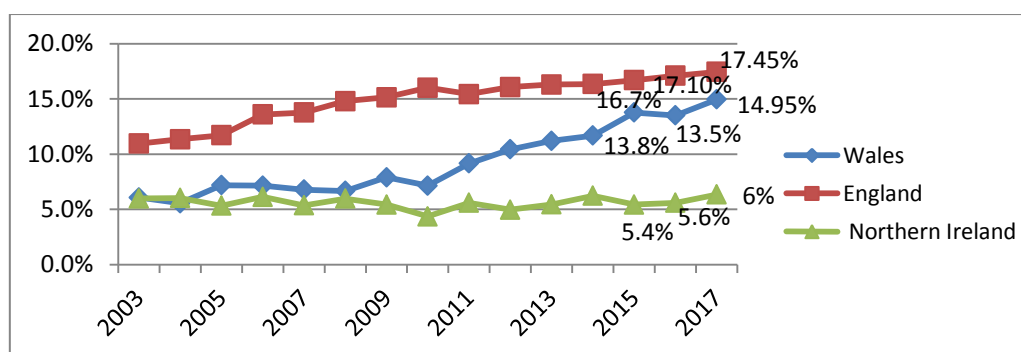
A record high number of Welsh students studying Further Mathematics

Mathematics and Further Mathematics A-level results are a cause for celebration in Wales this year and many more Welsh students will use their Further Mathematics qualifications to pursue their chosen study or career path. The results have built upon last year's entry:

- A-level Mathematics numbers are up from 3719 to 3931, a 5.7% increase.
- A-level Further Mathematics numbers are up from 502 to 588, a 17% increase.
- AS Mathematics numbers are down from 5501 to 5409, a 1.7% decrease.
- AS Further Mathematics numbers are up from 458 to 498, a 6.7% increase.

Mathematics remains the most popular AS and A-level in Wales followed by History and Biology. The proportion of Mathematics students who sat Further Mathematics A-level reached 14.95%, which is the highest result ever in Further Mathematics in Wales. In 2017 Further Mathematics became the fourth fastest growing subject in the UK. Since the Further Mathematics Support Programme (FMSP) was launched by the Welsh Government in 2010, the numbers of students more than doubled in Wales.

Graph 1. Percentages of A-level Mathematics students taking A-level Further Mathematics in England, Northern Ireland and Wales since 2003 (<http://www.jcq.org.uk/examination-results/a-levels>)



Students in Wales continue exceeding the rest of the UK in achieving A*/A grades in both Mathematics and Further Mathematics (see table 1 below). Wales also achieved a higher than England proportion of female students studying AS or A-level Further Mathematics (29% against 27%). Compared with 2016:

- Boys' participation is up from 327 to 347, an increase of 6%. Girls' participation in AS Further Mathematics is up from 131 to 142, an increase of 8%.
- Boys' participation is up from 331 to 420, an increase of 29%. Girls' participation in A-level Further Mathematics is slightly down from 171 to 168, a decrease of 2%. Note, however, that it represents an increase of 18% when compared with 2015.
- At the same time, Welsh girls have outperformed Welsh boys in the number of A* in Further Mathematics (47.6% against 37.1%).

Table 1. Comparison of percentages of A-level Mathematics students achieving A* and A* - A grades in both A-level Further Mathematics and Mathematics between Wales and the UK as a whole in 2015 (<http://www.jcq.org.uk/examination-results/a-levels>).

Grade Achieved	Further Mathematics		Mathematics	
	Wales	UK	Wales	UK
A*	40.1 %	30.0 %	19.0%	17.9%
A* - A	63.1 %	58.1 %	43.3%	42.3%

Further Mathematics qualifications allow students to enrich their Mathematics experience and build a more solid foundation for pursuing careers in Science, Technology, Economics, Actuarial Science and Finance. The qualifications are not seen any more as only serving Mathematics degrees and Further Mathematics students enjoy a variety of destinations. Morgan Cronin from Hawthorn High School, who achieved A* in both Mathematics and Further Mathematics and will be majoring in Physics and Philosophy in Yale from next week, commented, *“I have thoroughly enjoyed studying Further Maths through FMSP. It was an amazing opportunity to explore my academic interests and experience a new learning environment, both of which I believe have made me more prepared for university. I would recommend it to anyone who has a keen passion for maths.”* John Stanley of Ysgol St Richard Gwyn, who also studied with FMSP, believes that it was Further Mathematics that helped him to secure a placement in the university of his choice. Others, like Harry Haral from Ysgol Y Creuddyn are planning to start a prestigious apprenticeship with Airbus. While only a small proportion of all Further Mathematics students study the subject through FMSP, the programme supports provision in schools and colleges through access to teaching and learning resources, enrichment programmes and teacher professional learning courses. FMSP tuition courses use the blended learning model, already effectively utilised by HEI’s, and, by now, proven to work well at post-16 level.

From August 2016, supported with further funding from the Welsh Government, the programme operates in all counties in Wales. Kirsty Williams, the Welsh Cabinet Secretary for Education, outlined the Welsh Government’s commitment to FMSP Wales at the opening of the National Network of Excellence in Mathematics (NNEM) in Wales in July 2017. Project leader Dr Sofya Lyakhova said: *“Networking with teachers across Wales and beyond has been at the heart of all of the FMSP activities and I am thrilled that the programme will continue as part of NNEM. While the A-level Mathematics and Further Mathematic specifications are changing from next year, working together remains our preferred strategy for allowing more students to enjoy the subject they like and are good at.”*

All state-funded secondary schools and colleges in Wales are invited to register with the Programme at <http://www.furthermaths.org.uk/?section=teachers&page=register> and express their interest in tuition assistance by contacting Sofya Lyakhova on 01792 602793.

Further Mathematics Support Programme Wales

Suite 105, Digital Technium, Swansea University, Singleton Park, Swansea. SA2 8PP

Area Coordinator Tel: 01792 602793, Administrator Tel: 01792 606609

E-mail: adminwales@furthermaths.org.uk



www.furthermaths.org.uk/wales

Notes for Editors

1. The FMSP Wales is managed by The Wales Institute of Mathematical and Computational Sciences (WIMCS) and is in partnership with Mathematics in Education and Industry (MEI, www.mei.org.uk). It is funded by the Welsh Government.
2. More information regarding the Further Maths support programme Wales can be found at: <http://furthermaths.org.uk/wales> . For case studies from students, parents and schools please visit <http://www.furthermaths.org.uk/wales-case-studies>
3. The National Network for Excellence in Mathematics (NNEM) was launched in 2017. NNEM provides a platform for partners from a range of backgrounds and settings in Mathematics education in Wales to work collaboratively with the aim of raising levels of achievement in mathematics for all pupils across all educational settings. For more information please visit <https://hwb.gov.wales/nnem>
4. The Wales Institute of Mathematical and Computational Sciences (WIMCS) is a collaborative partnership of the universities of Aberystwyth, Bangor, Cardiff, South Wales and Swansea. It has been set up by the Welsh Government through the Higher Education Funding Council for Wales. WIMCS aims to enhance the standing of Mathematics and Computation in Wales, to foster links with industry, commerce and business, to generate substantial research funding and to provide a forum for education and public awareness of the Mathematical Sciences (www.wimcs.ac.uk).
5. For more information please contact the FMSP Wales Administrator on 01792 606609 or by email adminwales@furthermaths.org.uk

The FMSP Wales
Is managed by
Rheolir FMSP
Cymru gan



www.wimcs.ac.uk

in partnership with
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DATGANIAD NEWYDDION I YSGOLION A CHOLEGAU, Awst 2017

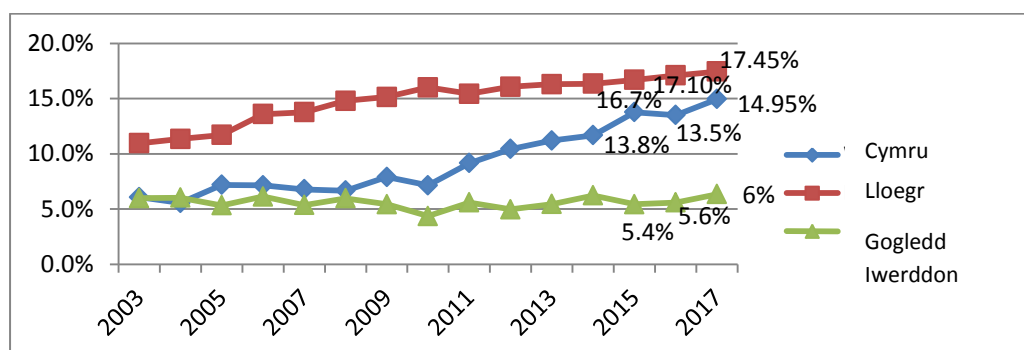
Nifer uchaf erioed o fyfyrwyr Cymraeg yn astudio Mathemateg Bellach

Mae canlyniadau lefel-A Mathemateg a Mathemateg Bellach yn achos dathlu yng Nghymru eleni ac fe fydd llawer iawn mwy o fyfyrwyr Cymraeg yn defnyddio eu cymwysterau i ddilyn eu hastudiaethau dewisol neu yrfa. Gwelwyd cynnydd yn nifer yr ymgeiswyr eleni:

- Niferoedd lefel-A Mathemateg i fyny o 3719 i 3931, cynnydd o 5.7%.
- Niferoedd lefel-A Mathemateg Bellach i fyny o 502 i 588, cynnydd o 17%.
- Mae niferoedd Mathemateg UG i lawr o 5501 i 5409, gostyngiad o 1.7%
- Niferoedd UG Mathemateg Bellach i fyny o 458 i 498, cynnydd o 6.7%.

Mae Mathemateg yn parhau i fod y pwnc UG a lefel-A mwyaf poblogaidd yng Nghymru wedi ei ddilyn gan Hanes a Bywydeg. Cyrhaeddodd y gyfran o fyfyrwyr Mathemateg oedd yn sefyll lefel-A Mathemateg Bellach 14.95%, sef y ganran uchaf erioed ym Mathemateg Bellach yng Nghymru. Yn 2017 Mathemateg Bellach oedd y pedwerydd pwnc yn ôl cynnydd yn y DU. Ers sefydlu'r Rhaglen Gymorth Mathemateg Bellach (FMSP) gan Lywodraeth Cymru yn 2010, mae niferoedd y myfyrwyr wedi mwy na ddybli yng Nghymru.

Graff 1. Canrannau o fyfyrwyr lefel-A Mathemateg sy'n gwneud lefel-A Mathemateg Bellach yn Lloegr, Gogledd Iwerddon a Chymru ers 2003 (<http://www.icq.org.uk/examination-results/a-levels>)



Mae myfyrwyr yng Nghymru yn parhau i ragori ar weddill y DU wrth ennill graddau A*/A ym Mathemateg a Mathemateg Bellach (gweler Tabl 1 isod). Hefyd roedd cyfran uwch o ferched yng Nghymru na Lloegr yn astudio UG neu Lefel-A Mathemateg Bellach (29% yn erbyn 27%). O gymharu â 2016:

- Cyfranogiad bechgyn i fyny o 327 i 347, cynnydd o 6%. Cyfranogiad merched yn UG Mathemateg Bellach i fyny o 131 i 142, cynnydd o 8%.
- Cyfranogiad bechgyn i fyny o 331 i 420, cynnydd o 29%. Cyfranogiad merched yn lefel-A Mathemateg Bellach lawr ychydig o 171 i 168, gostyngiad o 2%. Sylwer serch hynny ei fod yn cynrychioli cynnydd o 18% o'i gymharu â 2015.
- Ar yr un pryd, mae merched Cymru wedi rhagori ar y bechgyn yn y nifer gafodd A* ym Mathemateg Bellach (47.6% yn erbyn 37.1%).

Tabl 1. Cymhariaeth o ganrannau myfyrwyr lefel-A Mathemateg sy'n ennill graddau A* ac A* - A ym Mathemateg Bellach a hefyd ym Mathemateg rhwng Cymru a'r DU gyfan yn 2015 (<http://www.jcq.org.uk/examination-results/a-levels>).

Gradd a Gafwyd	Mathemateg Bellach		Mathemateg	
	Cymru	DU	Cymru	DU
A*	40.1 %	30.0 %	19.0%	17.9%
A* - A	63.1 %	58.1 %	43.3%	42.3%

Mae cymwysterau Mathemateg Bellach yn galluogi myfyrwyr i gyfoethogi eu profiad Mathemategol ac adeiladu sylfaen gadarnach i ddilyn gyrfa'u yng Ngwyddoniaeth, Technoleg, Economeg, Gwyddor Actiwaraid a Chyllid. Bellach caiff y cymwysterau eu gweld fel mwy na chymorth i radd ym Mathemateg ac mae myfyrwyr Mathemateg Bellach yn mynd i gyfeiriadau amrywiol. Dywedodd Morgan Cronin o Hawthorn High School, a gafodd A* ym Mathemateg a Mathemateg Bellach a fydd yn astudio Ffiseg ac Athroniaeth yn Yale o'r wythnos nesaf, "Rwyf wedi mwynhau'n fawr astudio Mathemateg Bellach drwy'r FMSP. Roedd e'n gyfle gwych i ddilyn fy niddordebau academaidd a phrofi amgylchedd dysgu newydd, profiadau fe gredaf sydd wedi fy ngwneud yn fwy parod ar gyfer y brifysgol. Byddwn yn ei argymhell i unrhyw un sydd ag awch am fathemateg." Mae John Stanley o Ysgol St Richard Gwyn, oedd hefyd wedi astudio gyda'r FMSP, yn credu mai Mathemateg Bellach oedd wedi ei gynorthwyo i sicrhau lle yn ei brifysgol ddewisol. Mae eraill, fel Harry Haral o Ysgol Y Creuddyn yn cynllunio i gychwyn ar brentisiaeth fawreddog gyda Airbus. Tra bod cyfran fechan yn unig o'r holl fyfyrwyr Mathemateg Bellach yn astudio'r pwnc drwy FMSP, mae'r rhaglen yn cefnogi'r ddarpariaeth mewn ysgolion a cholegau drwy fynediad i adnoddau dysgu ac addysgu, rhaglenni cyfoethogi a chyrtsiau dysgu proffesiynol athrawon. Mae cyrsiau hyfforddiant FMSP yn defnyddio'r model dysgu cymysg, sydd eisoes yn cael ei ddefnyddio'n effeithiol gan Sefydliadau Addysg Uwch, ac sydd erbyn hyn wedi ei brofi'n gweithio'n dda ar lefel ôl-16.

O Awst 2016, gyda chefnogaeth ariannol bellach wrth Lywodraeth Cymru, mae'r rhaglen yn gweithredu ym mhob sir yng Nghymru. Amlinellodd Kirsty Williams, Ysgrifennydd Y Cabinet dros Addysg, ymrwymiad Llywodraeth Cymru i FMSP Cymru yn agoriad y Rhwydwaith Cenedlaethol er Rhagoriaeth mewn Mathemateg (NNEM) yng Nghymru yng Ngorffennaf 2017 Dywedodd arweinydd y prosiect Dr Sofya Lyakhova: "Mae rhwydweithio gydag athrawon ar draws Cymru wedi bod wrth galon holl weithgareddau'r FMSP ac mae'n wfreiddiol bod y rhaglen yn parhau fel rhan o NNEM. Tra bod manylebau Lefel-A Mathemateg a Mathemateg Bellach yn newid o'r flwyddyn nesaf, bydd cydweithio yn parhau fel ein strategaeth ddewisach er caniatâi i fwy o fyfyrwyr fwynhau pwnc maent yn ei hoffi ac yn llwyddo ynddo"

Gwahoddir bob ysgol uwchradd neu goleg gaiff eu hariannu gan y llywodraeth i gofrestru gyda'r Rhaglen yn <http://www.furthermaths.org.uk/?section=teachers&page=register> a

mynegi eu diddordeb mewn cymorth hyfforddiant drwy gysylltu gyda Sofya Lyakhova ar 01792 602793.

Nodiadau i Olygyddion

1. Rheolir FMSP Cymru gan Sefydliad Gwyddorau Mathemategol a Chyfrifiadurol Cymru (WIMCS), mewn partneriaeth â Mathemateg mewn Addysg a Diwydiant (MEI, www.mei.org.uk). Caiff ei hariannu gan Lywodraeth Cymru.
2. Mae rhagor o wybodaeth ynghylch Rhaglen Gymorth Mathemateg Bellach Cymru ar gael yn <http://www.furthermaths.org.uk/wales#cymraeg>. Am astudiaethau achos gan fyfyrwyr, rhieni ac ysgolion, ewch i <http://www.furthermaths.org.uk/wales-case-studies#cymraeg>
3. Lanswyd y Rhwydwaith Cenedlaethol ar gyfer Rhagoriaeth mewn Mathemateg (NNEM) yn 2017. Mae'r Rhwydwaith yn darparu llwyfan i bartneriaid o amrywiol gefndiroedd a sefyllfaoedd o fewn addysg Mathemateg yng Nghymru i gydweithio gyda'r nod o godi lefelau cyrhaeddiad ym mathemateg i bob disgybl ar draws yr holl sefyllfaoedd addysgiadol. Am fwy o wybodaeth mae croeso i chi ymweld â <https://hwb.gov.wales/nnem>
4. Partneriaeth gydweithredol yw Sefydliad Gwyddorau Mathemategol a Chyfrifiadurol Cymru (WIMCS) rhwng prifysgolion Aberystwyth, Bangor, Caerdydd, De Cymru ac Abertawe. Fe'i sefydlwyd gan Lywodraeth Cymru trwy Gyngor Cyllido Addysg Uwch Cymru. Nod WIMCS yw gwella statws mathemateg a chyfrifiadura yng Nghymru, meithrin cysylltiadau â diwydiant, masnach a busnes, cynhyrchu cyllid ymchwil sylweddol a darparu fforwm ar gyfer addysg ac ymwybyddiaeth gyhoeddus o'r Gwyddorau Mathemategol (www.wimcs.ac.uk).
5. I gael rhagor o wybodaeth, cysylltwch â Gweinyddwr FMSP Cymru drwy ffonio 01792 606609 neu e-bostio adminwales@furthermaths.org.uk