



# Yr adran Wyddoniaeth

# The Science department

**Blwyddyn 10 Gwyddoniaeth**

**Year 10 Science**

# **Ers Medi / From September 2016**

## **“The Science suite”**

<b>Math o gymhwyster</b> <b>Qualification type</b>	<b>Enw'r cwrs</b> <b>Name of course</b>	<b>Nifer y graddau</b> <b>Number of grades</b>
TGAU GCSE	Gwyddoniaeth Triphlyg Triple science	3
TGAU GCSE	Gwyddoniaeth dwyradd Science double award	2

- **Bellach nid yw cyrsiau galwadigethol fel BTEC ar gael i ni. / Vocational courses such as BTEC are no longer available to us.**
- **Yr un her / The same challenge**
- **Yr un paratoad addas ar gyfer Lefel A yn y gwyddorau / The same suitable preparation for A Level in the sciences**

**Gwyddoniaeth Dwyradd  
neu Triphlyg ?**

**Double or Triple award  
science ?**

# Beth yw'r gwahaniaeth rhwng Gwyddoniaeth dwyradd a thriphlyg?

What's the difference between Double award and triple?

Dwyradd // Double	Bioleg // Biology	Cemeg // Chemistry	Ffiseg // Physics
	<ol style="list-style-type: none"><li>1. Cells and movement across membranes</li><li>2. Respiration and the respiratory system in humans</li><li>3. Digestion and the digestive system in humans</li><li>4. Circulatory system in humans</li><li>5. Plants and photosynthesis</li><li>6. Ecosystems and human impact on the environment</li></ol>	<ol style="list-style-type: none"><li>1. The nature of substances and chemical reactions</li><li>2. Atomic structure and the Periodic Table</li><li>3. Water</li><li>4. The ever-changing Earth</li><li>5. Rate of chemical change</li></ol>	<ol style="list-style-type: none"><li>1. Electric circuits</li><li>2. Generating electricity</li><li>3. Making use of energy</li><li>4. Domestic electricity</li><li>5. Features of waves</li></ol>

# Beth yw'r gwahaniaeth rhwng Gwyddoniaeth dwyradd a thriphlyg?

What's the difference between Double award and triple?

Triphlyg // Triple	Bioleg // Biology	Cemeg // Chemistry	Ffiseg // Physics
	<ol style="list-style-type: none"><li>1. Cells and movement across membranes</li><li>2. Respiration and the respiratory system in humans</li><li>3. Digestion and the digestive system in humans</li><li>4. Circulatory system in humans</li><li>5. Plants and photosynthesis</li><li>6. Ecosystems, nutrient cycles and human impact on the environment</li></ol>	<ol style="list-style-type: none"><li>1. The nature of substances and chemical reactions</li><li>2. Atomic structure and the Periodic Table</li><li>3. Water</li><li>4. The ever-changing Earth</li><li>5. Rate of chemical change</li><li>6. Limestone</li></ol>	<ol style="list-style-type: none"><li>1. Electric circuits</li><li>2. Generating electricity</li><li>3. Making use of energy</li><li>4. Domestic electricity</li><li>5. Features of waves</li><li>6. The total internal reflection of waves</li><li>7. Seismic waves</li><li>8. Kinetic theory Electromagnetism</li></ol>

# Llwybr asesu Gwyddoniaeth Dwyradd

# Assessment pathway for Double award Science

Haf / Summer  
Bl 10 / Yr 10

**Uned 1 / Unit 1**  
Bioleg 1 / Biology 1  
(1 hr 15min)

**Uned 2 / Unit 2**  
Cemeg 1 / Chemistry 1  
(1 hr 15 min)

**Uned 3 / Unit 3**  
Ffiseg 1 / Physics 1  
(1 hr 15 min)

# Llwybr asesu Gwyddoniaeth Triphlyg

# Assessment pathway for Triple Science

Haf / Summer  
Bl 10 / Yr 10

## Uned 1 / Unit 1

Bioleg 1 / Biology 1  
(1 hr 45min)

## Uned 1 / Unit 1

Cemeg 1 / Chemistry 1  
(1 hr 45 min)

## Uned 1 / Unit 1

Ffiseg 1 / Physics 1  
(1 hr 45 min)

**Blwyddyn 11 Gwyddoniaeth**

**Year 11 Science**

**Pwysigrwydd  
Pwyntiau UMS  
NID graddau**

**Importance of  
UMS points  
NOT grades**

Eich canlyniadau a'r cam nesaf....  
Your results and the next step ...

# Gwyddoniaeth dwyradd Double award Science

Haf blwyddyn 10 / Summer year 10	
Asesiad / Assessment	UMS
Uned / Unit 1 Bioleg / Biology	120
Uned / Unit 2 Cemeg / Chemistry	120
Uned / Unit 3 Ffiseg / Physics	120

Ionawr blwyddyn 11 / January year 11	
Asesiad / Assessment	UMS
Uned / Unit 7 Asesiad dan reolaeth / Controlled Assessment	80

Haf blwyddyn 11 / Summer year 11	
Asesiad / Assessment	UMS
Uned / Unit 4 Bioleg / Biology	120
Uned / Unit 5 Cemeg / Chemistry	120
Uned / Unit 6 Ffiseg / Physics	120

Cyfanswm UMS	800
Total UMS	

Eich canlyniadau a'r cam nesaf....  
Your results and the next step ...

**Gwyddoniaeth  
dwyradd  
Double award  
Science**

**Beth yw eich targed?**

**What is your target?**

Cyfanswm UMS Total UMS	Graddau Grades
720	A*A*
680	A*A
640	AA
600	AB
560	BB
520	BC
480	CC
440	CD
400	DD
360	DE
320	EE
280	EF
240	FF
200	FG
160	GG

Eich canlyniadau  
a'r cam nesaf....  
Your results and  
the next step ...

# Gwyddoniaeth Triphlyg Triple Science

Haf blwyddyn 10 / Summer year 10	
Asesiad / Assessment	Cyfanswm / Total UMS
Uned / Unit 1 Bioleg / Biology	180
Uned / Unit 1 Cemeg / Chemistry	180
Uned / Unit 1 Ffiseg / Physics	180

Ionawr blwyddyn 11 / January year 11	
Asesiad / Assessment	Cyfanswm / Total UMS
Uned / Unit 3 Bioleg / Biology Asesiad dan reolaeth / Controlled Assessment	40
Uned / Unit 3 Cemeg / Chemistry Asesiad dan reolaeth / Controlled Assessment	40
Uned / Unit 3 Ffiseg / Physics Asesiad dan reolaeth / Controlled Assessment	40

Haf blwyddyn 11 / Summer year 11	
Asesiad / Assessment	Cyfanswm / Total UMS
Uned / Unit 2 Bioleg / Biology	180
Uned / Unit 2 Cemeg / Chemistry	180
Uned / Unit 2 Ffiseg / Physics	180

Cyfanswm UMS Total UMS	400 (ym mhob pwnc)
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Eich canlyniadau a'r cam nesaf...  
Your results and the easiest path...

## Gwyddoniaeth Triphlyg Triple Science

**Beth yw eich targed ?**

**What is your target?**

Cyfanswm UMS Total UMS	Graddau Grades
360	A*
320	A
280	B
240	C
200	D
160	E
120	F
80	G

# Llwybr asesu Gwyddoniaeth Dwyradd

## Assessment pathway for Double award Science

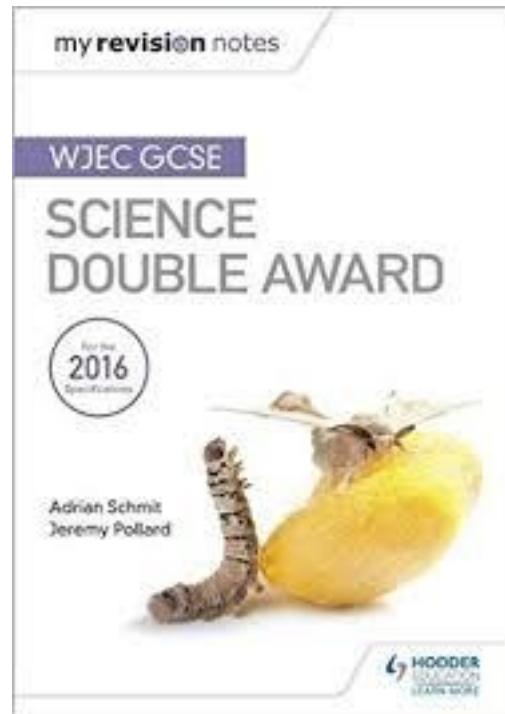
Haf / Summer Bl 10 / Yr 10	Ionawr / January Bl 11 / Yr 11	Haf / Summer Bl 11 / Yr 11
<b>Uned 1 / Unit 1</b> Bioleg 1 / Biology 1 (1 hr 15min)	<b>Uned 7 / Unit 7</b> 2 x arholiad Asesiad dan Reolaeth (2 awr yr un)	<b>Uned 4 / Unit 4</b> Bioleg 2 / Biology 2 (1 hr 15min)
<b>Uned 2 / Unit 2</b> Cemeg 1 / Chemistry 1 (1 hr 15 min)	2 x Controlled Assessment examinations (2 hours each)	<b>Uned 5 / Unit 5</b> Cemeg 2 / Chemistry 2 (1 hr 15 min)
<b>Uned 3 / Unit 3</b> Ffiseg 1 / Physics 1 (1 hr 15 min)		<b>Uned 6 / Unit 6</b> Ffiseg 2 / Physics 2 (1 hr 15 min)

# Llwybr asesu Gwyddoniaeth Triphlyg

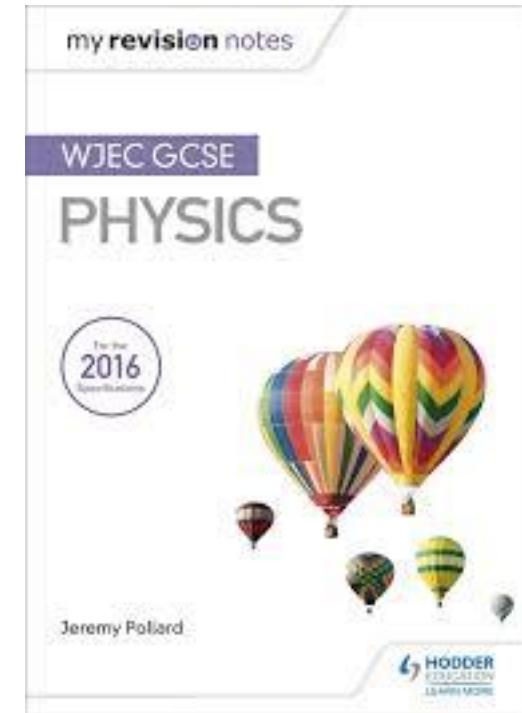
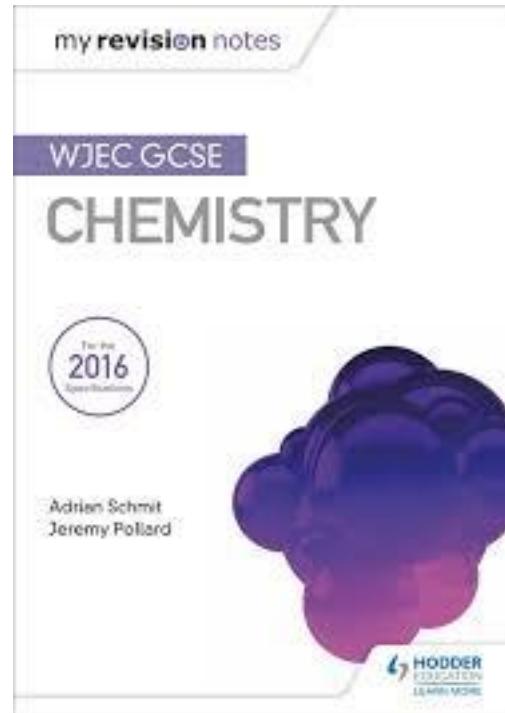
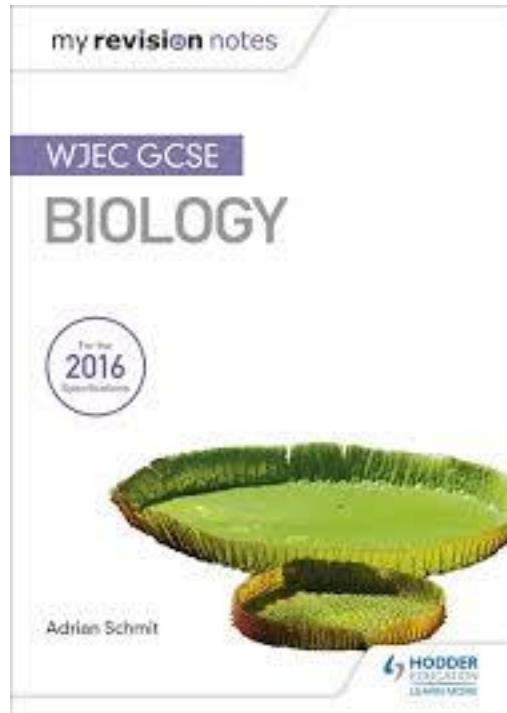
# Assessment pathway for Triple Science

Haf / Summer Bl 10 / Yr 10	Ionawr / January Bl 11 / Yr 11	Haf / Summer Bl 11 / Yr 11 18
<b>Uned 1 / Unit 1</b> Bioleg 1 / Biology 1 (1 hr 45min)	<b>Uned 3 / Unit 3</b> 1 x arholiad Asesiad dan Reolaeth (2 awr) 1 x Controlled Assessment examinations (2 hours)	<b>Uned 2 / Unit 2</b> Bioleg 2 / Biology 2 (1 hr 45min)
<b>Uned 1 / Unit 1</b> Cemeg 1 / Chemistry 1 (1 hr 45 min)	<b>Uned 3 / Unit 3</b> 1 x arholiad Asesiad dan Reolaeth (2 awr) 1 x Controlled Assessment examinations (2 hours)	<b>Uned 2 / Unit 2</b> Cemeg 2 / Chemistry 2 (1 hr 45 min)
<b>Uned 1 / Unit 1</b> Ffiseg 1 / Physics 1 (1 hr 45 min)	<b>Uned 3 / Unit 3</b> 1 x arholiad Asesiad dan Reolaeth (2 awr) 1 x Controlled Assessment examinations (2 hours)	<b>Uned 2 / Unit 2</b> Ffiseg 2 / Physics 2 (1 hr 45 min)

# Adnoddau i gefnogi disgyblion adref resources to support pupils at home



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## GCSE Science Revision Guides

As part of Bangor University's education liaison and widening access activities, we are pleased to provide you with access to our GCSE Science Revision Guides.

The specially-prepared revision booklets were produced by Bangor University with the support of a National Science Academy grant from the Welsh Government. The aims of the project include:

- supporting schools in the delivery of GCSE Science, and
- raising the attainment and interest of pupils in Science.

The booklets contain revision material prepared by experienced Science teachers for the University's GCSE revision courses, and have been highly praised by both schools and pupils.

The booklets are available in both English and Welsh, and are being distributed to schools throughout Wales as a result of the National Science Academy grant from the Welsh Government.

We hope that the revision guides will prove useful to schools and their pupils as they prepare for the GCSE Science exams.

## Links to GCSE Revision Guides

- [Biology 1 \(Year 10\)](#) (new WJEC specification for Science Double Award)
- [Chemistry 1 \(Year 10\)](#) (new WJEC specification for Science Double Award)
- [Physics 1 \(Year 10\)](#) (new WJEC specification for Science Double Award)
  
- [Biology 2 \(Year 11\)](#)
- [Chemistry 2 \(Year 11\)](#)
- [Physics 2 \(Year 11\)](#)
  
- [Biology 3 \(Year 11\)](#)
- [Chemistry 3 \(Year 11\)](#)
- [Physics 3 \(Year 11\)](#)



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**BANGOR**  
UNIVERSITY

## Canllawiau Adolygu Gwyddoniaeth TGAU

Fel rhan o weithgareddau cyswllt addysg ac ehangu mynediad Prifysgol Bangor, gallwn roi mynediad atoch i'n Canllawiau Adolygu Gwyddoniaeth TGAU.

Llunwyd y llyfrynnau adolygu yn arbennig gan Brifysgol Bangor gyda chefnogaeth grant yr Academi Wyddoniaeth Genedlaethol gan Lywodraeth Cymru. Dyma rai o amcanion y project:

- cefnogi ysgolion i gyflwyno Gwyddoniaeth TGAU, a
- chynhyddu cyrhaeddiaid a diddordeb disgyblion mewn gwyddoniaeth.

Mae'r llyfrynnau yn cynnwys deunydd adolygu a baratowyd gan athrawon gwyddoniaeth ar gyfer cyrsiau adolygu TGAU y brifysgol, ac maent wedi cael llawer o ganmoliaeth gan ysgolion a disgyblion hefyd.

Mae'r llyfrynnau ar gael yn y Gymraeg a'r Saesneg, a byddant yn cael eu dosbarthu i ysgolion ledled Cymru o ganlyniad i grant yr Academi Wyddoniaeth Genedlaethol gan Lywodraeth Cymru.

Gobeithiwn y bydd y canllawiau adolygu yn ddefnyddiol i ysgolion a'u disgyblion wrth iddynt baratoi i'r arholiadau Gwyddoniaeth TGAU.

## Cysylltiadau â Chanllawiau Adolygu TGAU

- [Bioleg 1 \(Blwyddyn 10\)](#) (manylob newydd CBAC ar gyfer Gwyddoniaeth Dwyradd TGAU)
- [Cemeg 1 \(Blwyddyn 10\)](#) (manylob newydd CBAC ar gyfer Gwyddoniaeth Dwyradd TGAU)
- [Ffiseg 1 \(Blwyddyn 10\)](#) (manylob newydd CBAC ar gyfer Gwyddoniaeth Dwyradd TGAU)
  
- [Bioleg 2 \(Blwyddyn 11\)](#)
- [Cemeg 2 \(Blwyddyn 11\)](#)
- [Ffiseg 2 \(Blwyddyn 11\)](#)
  
- [Bioleg 3 \(Blwyddyn 11\)](#)
- [Cemeg 3 \(Blwyddyn 11\)](#)
- [Ffiseg 3 \(Blwyddyn 11\)](#)



# Adnoddau i gefnogi disgyblion adref resources to support pupils at home

The screenshot shows the BBC Bitesize Science GCSE website. At the top, there's a navigation bar with BBC, Your account, News, Sport, Weather, iPlayer, TV, Radio, More, and a search bar. Below the navigation is a teal header with the 'Bitesize' logo. Underneath is an orange main content area titled 'Science'. A sub-header says 'Science is the systematic study of the physical and natural world through observation and experimentation.' Below this, text states: 'In this section of GCSE Bitesize you'll find learner guides and video clips designed to cover the latest GCSE and IGCSE Biology, Chemistry and Physics curricula. We have brought together content relevant to the AQA, OCR, Edexcel, WJEC and CCEA specifications in one expanded'.



Astudiaethau  
Crefyddol



Astudio'r Cyfryngau



Bioleg



Bioleg (2016 - ymlaen)



Cemeg



Cymraeg (2015  
ymlaen)



Cymraeg (cyn 2015)



Cymraeg Ail Iaith



Daearyddiaeth



Drama



Ffiseg



Ffiseg (2016 - ymlaen)



Hanes



Llenyddiaeth  
Gymraeg (2015  
ymlaen)



Llenyddiaeth  
Gymraeg (cyn 2015)



Mathemateg (2015  
ymlaen)



Mathemateg (cyn  
2015)



Mathemateg Rhifedd  
(2015 ymlaen)

# Rhinweddau'r gradd

# Characteristics of a grade

Gradd Grade	Rhinwedd Characteristic	Sgiliau Skills
A	Cymhwys o'r dysgu, esbonio, dadansoddi, gwerthuso a rhagfynegi. Apply learning, explain, analyse, evaluate and predict.	Llythrennedd / Literacy  Sgiliau Maths / Maths skills
B	Cymhwys o'r dysgu, esbonio a dadansoddi. Apply learning, explain and analyse.	Sgiliau gwaith ymarferol / Practical skills  Sgiliau datrys problemau / Problem solving skills
C	Dysgu, deall a disgrifio. Learn, understand and describe.	