

This Higher Education Achievement Report incorporates the model developed by the European Commission, Council of Europe and UNESCO/CEPES for the Diploma Supplement.

The purpose of the Supplement is to provide sufficient recognition of qualifications (diplomas, degrees, certificates etc). It is designed to provide a description of the nature, level, context and status of the studies that were pursued and successfully completed by the individual named on the original qualifications to which this Supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition.

Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why. The University of Warwick only produces HEARs in a digital format. Only HEARs accessed or verified via www.gradintel.com can be considered valid.

Section 1: Information identifying the holder of the qualification

1.1 Family name(s):	Fong
1.2 Given name(s):	Hei Ning Audrey
1.3 Date of birth (day/month/year):	28/10/2000
1.4 Student identification number:	1808359
HESA identification number:	1811638083595

HUSID (HESA Unique Student Identifier) is the unique national identifying number for students registered at a UK university. It is defined by HESA, the UK's Higher Education Statistics Agency.

Section 2: Information identifying the qualification

2.1 Qualification achieved:	Master of Mathematics (with Honours)
The power to award degrees is regulated by law in the UK.	
2.2 Main field(s) of study:	Mathematics (MMath)
2.3 Name and status of awarding institution:	The University of Warwick
The University of Warwick is self-governing and legally independent of government but subject to its policies and laws. The University is a degree awarding institution, operating under a Royal Charter which was established in 1965.	
2.4 Name and status of institution (if different from 2.3) administering studies:	As awarding institution
2.5 Language(s) of instruction/examination:	English

Section 3: Information on the level of the qualification

3.1 HESA level of qualification: UK Integrated Masters Degree with Honours Level 7 (European HE 2nd cycle qualification)

See section 8 for reference to nationally devised "level indicators" which relate to the qualification as contained within the Framework for Higher Education Qualifications in England, Wales and Northern Ireland, (QAA, 2008). Also available at <http://www.qaa.ac.uk/>.

3.2 Official length of programme: 4 years full-time

3.3 Programme entry requirements or access:

The University aims to admit students of the highest calibre, who have the academic potential and the motivation to succeed on its challenging courses. The University encourages applications from applicants from all backgrounds and it consistently evaluates the potential of each applicant individually and on their own merits.

Section 4: Information on the contents and results gained

4.1 Mode of study:

Year	Mode of Study
18/19	Full-time according to Funding Council definitions
19/20	Full-time according to Funding Council definitions
20/21	Full-time according to Funding Council definitions
21/22	Full-time according to Funding Council definitions

4.2 Programme requirements:

A Mathematics degree enhances a student's ability to think clearly, learn new ideas quickly, manipulate precise and intricate concepts, follow complex reasoning, construct logical arguments and expose illogical ones, invaluable skills which prepare our students for the rapidly changing modern world of employment.

Our undergraduate Mathematics programmes are distinguished by their academic excellence, flexibility and choice. All courses contain the same basic core of Mathematics in the first year, allowing easy transfer between degree courses. Our curriculum is broad, modern, and rigorous; and our degrees internationally recognised. Warwick Mathematics Institute is consistently ranked as one of the UK's top mathematics departments, with internationally renowned research that drives the quality of our teaching and the mathematical experience of students.

In undertaking study in Mathematics at Warwick, students develop an advanced knowledge of a foundational core of pure mathematics and an understanding of a range of applied mathematics and techniques. This, teamed with the ability to think independently, deploy research skills and the capacity to integrate separate arguments coherently, prepares students for professions requiring strong reasoning and analytic skills.

The MMath extends the opportunities over students on the three year BSc. by introducing them to more advanced topics, largely based on the current research interests of the department. This additional depth provides excellent preparation for further postgraduate study, as well as allowing students to pursue strains of mathematics to a much higher level than they may otherwise encounter.

4.3 Programme details, and the individual grades/marks/credits obtained:

Programme start date: 24/09/2018

Programme end date: 02/07/2022

The University of Warwick introduced component assessment marks for the HEAR in the academic year 2021/2022. Prior to 2021/2022 component assessment marks are not available.

Mathematics (MMath) 18/19

Year	Module Code	Title	Mark %	Credits	ECTS Credits
18/19	MA106-12	Linear Algebra	95	12.0	6.00
18/19	MA112-6	Experimental Mathematics	85	6.0	3.00
18/19	MA117-12	Programming for Scientists	89	12.0	6.00
18/19	MA124-6	Mathematics by Computer	86	6.0	3.00
18/19	MA125-6	Introduction to Geometry	86	6.0	3.00
18/19	MA131-24	Analysis	95	24.0	12.00
18/19	MA132-12	Foundations	76	12.0	6.00
18/19	MA133-12	Differential Equations	93	12.0	6.00
18/19	MA134-12	Geometry and Motion	81	12.0	6.00
18/19	MA136-6	Introduction to Abstract Algebra	99	6.0	3.00
18/19	PH136-15	Logic 1: Introduction to Symbolic Logic	88	15.0	7.50
18/19	PX148-12	Classical Mechanics & Special Relativity	94	12.0	6.00
18/19	ST111-6	Probability (Part A)	94	6.0	3.00
18/19	ST112-6	Probability (Part B)	78	6.0	3.00
TOTAL YEAR 18/19 CREDITS				147.0	73.50

Mathematics (MMath) 19/20

Year	Module Code	Title	Mark %	Credits	ECTS Credits
19/20	CS262-15	Logic and Verification	85	15.0	7.50
19/20	MA213-6	Second Year Essay	63	6.0	3.00
19/20	MA241-12	Combinatorics	87	12.0	6.00
19/20	MA243-12	Geometry	79	12.0	6.00
19/20	MA244-12	Analysis III	86	12.0	6.00
19/20	MA249-12	Algebra II: Groups and Rings	79	12.0	6.00
19/20	MA250-12	Partial Differential Equations	69	12.0	6.00
19/20	MA251-12	Algebra I: Advanced Linear Algebra	81	12.0	6.00
19/20	MA256-6	Introduction to Mathematical Biology	0**	0.0	0.00
19/20	MA257-12	Introduction to Number Theory	73	12.0	6.00
19/20	MA259-12	Multivariable Calculus	87	12.0	6.00
19/20	MA260-12	Norms, Metrics and Topologies	69	12.0	6.00
19/20	PH210-15	Logic II : Metatheory	69	15.0	7.50

TOTAL YEAR 19/20 CREDITS

144.0

72.00

Mathematics (MMath) 20/21

Year	Module Code	Title	Mark %	Credits	ECTS Credits
20/21	MA3A6-15	Algebraic Number Theory	71	15.0	7.50
20/21	MA3B8-15	Complex Analysis	80	15.0	7.50
20/21	MA3D5-15	Galois Theory	93	15.0	7.50
20/21	MA3F1-15	Introduction to Topology	88	15.0	7.50
20/21	MA3G6-15	Commutative Algebra	69	15.0	7.50
20/21	MA3H3-15	Set Theory	89	15.0	7.50
20/21	MA3H5-15	Manifolds	86	15.0	7.50
20/21	MA3H6-15	Algebraic Topology	74	15.0	7.50
20/21	MA3J9-15	Historical Challenges in Mathematics	84	15.0	7.50
20/21	MA4A5-15	Algebraic Geometry	77	15.0	7.50
TOTAL YEAR 20/21 CREDITS				150.0	75.00

Mathematics (MMath) 21/22

Year	Module Code	Title	Mark %	Credits	ECTS Credits
21/22	MA377-15	Rings and Modules	71	15.0	7.50
		Assessment	Weight	Mark	
		Worksheet	15%	85.00	
		Examination - Summer (Weeks 4 to 9)	85%	68.00	
21/22	MA426-15	Elliptic Curves	87	15.0	7.50
		Assessment	Weight	Mark	
		Worksheet	15%	86.00	
		Examination - April	85%	87.00	
21/22	MA475-15	Riemann Surfaces	72	15.0	7.50
		Assessment	Weight	Mark	
		Examination - April	100%	72.00	
21/22	MA4H4-15	Geometric Group Theory	62	15.0	7.50
		Assessment	Weight	Mark	
		Worksheet	15%	68.00	
		Examination - April	85%	61.00	
21/22	MA4H9-15	Modular Forms	74	15.0	7.50
		Assessment	Weight	Mark	
		Examination - Summer (Weeks 4 to 9)	100%	74.00	
21/22	MA4J8-15	Commutative Algebra II	74	15.0	7.50
		Assessment	Weight	Mark	
		Examination - April	85%	71.00	
		Worksheet	15%	92.00	
21/22	MA4K9-30	Project (Research)	83	30.0	15.00
		Assessment	Weight	Mark	
		Other	15%	80.00	

		Written Report	80%	82.00			
		Other	5%	100.00			
21/22	MA4L7-15	Algebraic Curves			80	15.0	7.50
		Assessment	Weight	Mark			
		Worksheet	15%	98.00			
		Examination - Summer (Weeks 4 to 9)	85%	77.00			
21/22	MA4M3-15	Local Fields			77	15.0	7.50
		Assessment	Weight	Mark			
		Examination - Summer (Weeks 4 to 9)	85%	74.00			
		Worksheet	15%	95.00			
TOTAL YEAR 21/22 CREDITS						150.0	75.00
TOTAL CREDITS AWARDED						591.0	295.50

** In certain situations, an assessment for a module could not take place and this has resulted in a “zero” being displayed on the HEAR statement. The zero and absence of a mark simply means there was no opportunity to assess and should not be read as lack of or unsuccessful engagement with those elements of the module.

4.4 Grading scheme and, if available, grade distribution guidance:

The following classes of degree are awarded at undergraduate level, see <http://go.warwick.ac.uk/assessmentconventions> for more information:

Classification	Normal Average Grade
First Class Honours	At least 70%
Second Class Honours (1st Division)	At least 60%
Second Class Honours (2nd Division)	At least 50%
Third Class Honours	At least 40%
Pass	At least 35%

4.5 Overall classification of the qualification (in original language): First Class Honours

Section 5: Information on the function of the qualification

5.1 Access to further study:

This qualification may allow access to further study (at FHEQ level 7 or for equivalent EHEA second cycle qualifications) subject to individual requirements of the institution concerned.

5.2 Professional status (if applicable):

Not applicable

Section 6: Additional information

The University of Warwick has agreed a list of activities undertaken outside the academic curriculum that will be recorded in the HEAR. All activities recorded in this section have been verified by the University. This section also includes any departmental or University prizes won. Other activities and achievements not included in the HEAR, may be recorded in a CV or e-portfolio. Visit <http://www.warwick.ac.uk/hear> for a full list of activities.

Note: The HEAR was introduced at the University of Warwick at the beginning of the 2011/12 academic year, and therefore includes only information about activities undertaken and prizes awarded in the 2011/12 academic year or later.

6.1 Additional information:

2019/20

Society Executive

Responsible for the running of a Students' Union Society, alongside other executive members - Bridge Society : Safety

2020/21

Active Bystander Intervention course - completion certificate

Awarded to students who completed the in-depth Active Bystander Intervention course and evidenced 9+ hours of participation. The Active Bystander Intervention course aims to equip students with knowledge, skills and confidence to act as Active Bystanders in situations of sexual misconduct, abuse and violence.

Society Executive

Responsible for the running of a Students' Union Society, alongside other executive members - Bridge Society : Welfare Officer

2021/22

Society Executive

Responsible for the running of a Students' Union Society, alongside other executive members - Bridge : President

6.2 Further information sources:

The University of Warwick is one of the UK's leading universities, with an acknowledged reputation for excellence in research and teaching, for innovation, and for links with business and industry. Its mission is:

- To become a world leader in research and teaching
- Through research of international excellence, to increase significantly the range of human knowledge and understanding
- To equip graduates to make an important contribution to the economy and to society
- To serve our local region - academically, culturally and economically
- To continue to make a Warwick education available to all those able to benefit from it, regardless of economic or social circumstances.

Find out more at <http://www.warwick.ac.uk/about>.

Section 7: Certification of the HEAR

7.1 **Date** 05/07/2022

7.2 **Signatory:** Dr Chris Twine

C.R. Twine

7.3 **Official capacity:** Academic Registrar

7.4 **Official stamp or seal**



Section 8: Information on the national higher education system

Description of Higher Education in England, Wales and Northern Ireland

In England, Wales and Northern Ireland¹, higher education institutions are independent, self-governing bodies active in teaching, research and scholarship. They are established by Royal Charter or legislation and most are part-funded by government. Higher education (HE) is provided by many different types of institution. In addition to universities and university colleges, whose charters and statutes are made through the Privy Council which advises the Queen on the granting of Royal Charters and incorporation of universities, there are a number of publicly-designated and autonomous institutions within the higher education sector. Publicly funded higher education provision is available in some colleges of further education by the authority of another duly empowered institution. Teaching to prepare students for the award of higher education qualifications can be conducted in any higher education institution and in some further education colleges.

Degree awarding powers and the title 'university'

All universities and many higher education colleges have the legal power to develop their own courses and award their own degrees, as well as determine the conditions on which they are awarded. Some HE colleges and specialist institutions without these powers offer programmes, with varying extents of devolved authority, leading to the degrees of an institution which does have them. All universities in existence before 2005 have the power to award degrees on the basis of completion of taught courses and the power to award research degrees. From 2005, institutions in England and Wales that award only taught degrees ('first' and 'second cycle') and which meet certain numerical criteria, may also be permitted to use the title 'university'. Higher education institutions that award only taught degrees but which do not meet the numerical criteria may apply to use the title 'university college', although not all choose to do so. All of these institutions are subject to the same regulatory quality assurance and funding requirements as universities; and all institutions decide for themselves which students to admit and which staff to appoint. Degrees and other higher education qualifications are legally owned by the awarding institution, not by the state. The names of institutions with their own degree awarding powers ("Recognised Bodies") are available for download at: <http://www.bis.gov.uk/policies/higher-education/recognised-uk-degrees/recognised-bodies>

Higher education institutions, further education colleges and other organisations able to offer courses leading to a degree of a Recognised Body are listed by the English, Welsh and Northern Irish authorities, and are known as "Listed Bodies". View the list at: <http://www.bis.gov.uk/policies/higher-education/recognised-uk-degrees/listed-bodies>

Qualifications

The types of qualifications awarded by higher education institutions at sub-degree and undergraduate (first cycle) and postgraduate level (second and third cycles) are described in the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (FHEQ). This also includes qualification descriptors that were developed with the HE sector by the Quality Assurance Agency for Higher Education (QAA - established in 1997 as an independent UK-wide body to monitor the standard of higher education provision - www.qaa.ac.uk). The FHEQ was self-certified as compatible with the Framework for Qualifications of the European Higher Education Area, the qualifications framework adopted as part of the Bologna Process, in February 2009. Foundation degrees, designed to create intermediate awards strongly oriented towards specific employment opportunities, were introduced in 2001. In terms of the European Higher Education Area they are "short cycle" qualifications within the first cycle. The FHEQ is one component of the Credit and Qualifications Framework for Wales (CQFW). The Qualifications and Curriculum Authority (QCA), the Department for Children, Education, Lifelong Learning and Skills, Wales (DCELLS) and the Council for

Curriculum Examination and Assessment, Northern Ireland (CCEA) have established the Qualifications and Credit Framework (to replace, in time, the National Qualifications Framework (NQF)). These authorities regulate a number of professional, statutory and other awarding bodies which control VET and general qualifications at all levels. The CQF is also incorporated into the CQFW. There is a close association between the levels of the FHEQ and the NQF (as shown overleaf), and other frameworks of the UK and Ireland (see 'Qualifications can cross Boundaries' <https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-can-cross-boundaries.pdf>)

Quality Assurance

Academic standards are established and maintained by higher education institutions themselves using an extensive and sophisticated range of shared quality assurance approaches and structures. Standards and quality in institutions are underpinned by the universal use of external examiners, a standard set of indicators and other reports, by the activities of the QAA, and in professional areas by relevant professional, statutory and regulatory bodies. This ensures that institutions meet national expectations described in the FHEQ: subject benchmark statements, the Code of Practice and programme specifications. QAA conducts peer-review based audits and reviews of higher education institutions with the opportunity for subject-based review as the need arises. The accuracy and adequacy of quality-related information published by the higher education institutions is also reviewed. QAA also reviews publicly funded higher education provision in further education colleges.

Credit System

Most higher education institutions in England and Northern Ireland belong to one of several credit consortia and some operate local credit accumulation and transfer systems for students moving between programmes and/or institutions. A framework of national guidelines, the Higher Education Credit Framework for England, was launched in 2008. Credit is also an integral part of the CQFW and the QCF. It may be possible for credit awarded in one framework to be recognised by education providers whose qualifications sit within a different framework. HE credit systems in use in England, Wales and Northern Ireland are compatible with the European Credit Transfer System (ECTS) for accumulation and transfers within the European Higher Education Area, and are used to recognise learning gained by students in institutions elsewhere in Europe.

Admissions

The most common qualification for entry to higher education is the General Certificate of Education at 'Advanced' (A) level. Other appropriate NQF level 3 qualifications and the kite-marked Access to HE Diploma may also provide entry to HE. Level 3 qualifications in the CQFW, including the Welsh Baccalaureate, also provide entry, as do Scottish Highers, Advanced Highers or qualifications at the same levels of the Scottish Credit and Qualifications Framework. Part-time and mature students may enter HE with these qualifications or alternatives with evidenced equivalent prior formal and/or experiential learning. Institutions will admit students whom they believe to have the potential to complete their programmes successfully.

¹ The UK has a system of devolved government, including for higher education, to Scotland, to Wales and to Northern Ireland. This description is approved by the High Level Policy Forum which includes representatives of the Department for Business, Innovation and Skills, the Scottish Government, the Welsh Assembly Government, the Higher Education Funding Councils for England, Scotland and Wales, the Quality Assurance Agency (QAA), Universities UK (UUK), GuildHE and the National Recognition Information Centre for the UK (UK NARIC)

Diagram of higher education qualification levels in England, Wales and Northern Ireland

Framework for Higher Education Qualifications (FHEQ) ⁵		FQ- EHEA cycle	Credit		Progression for selection of students (FHEQ levels)	National Qualifications Framework for England, Wales and Northern Ireland ⁶	
Typical Qualifications	Level		Typical UK	Typical ECTS credit ranges ³		Typical Qualifications	Level
Doctoral Degrees (eg PhD, DPhil, EdD)	8	3 rd cycle	Typically not credit rated ¹	Typically not credit rated		Vocational Qualifications Level 8	8
Masters Degrees Integrated Masters Degrees Postgraduate Diplomas Postgraduate Certificate of Education Postgraduate Certificates	7	2 nd cycle	180	60-120 ²		Fellowships NVQ Level 5 Vocational Qualifications Level 7	7
Bachelors Degrees with Honours Bachelors Degrees Professional Graduate Certificate in Education Graduate Diplomas Graduate Certificates	6	1 st cycle	360	180-240		Vocational Qualifications Level 6	6
Foundation Degrees Diplomas of Higher Education Higher National Diplomas	5	Short cycle	240	120		NVQ Level 4 Higher National Diplomas (HND) Higher National Certificates (HNC) Vocational Qualifications Level 5	5
Higher National Certificates Certificates of Higher Education	4		120			Vocational Qualifications Level 4	4
Entry to HE via equivalent experiential or prior learning							National Vocational Qualification (NVQ) Level 3 Vocational Qualifications Level 3 GCE AS and A Level Advanced Diploma Welsh Baccalaureate Advanced ⁴

¹PhD and DPhil qualifications are typically not credit-rated. Newer doctoral degrees, such as the Professional Doctorate, are sometimes credit rated, typically 540 UK credits.

²A range of 90-120 ECTS is typical of most awards

³1 ECTS credit is typically worth 2 UK credits

⁴The Welsh Baccalaureate Qualification is part of the Credit and Qualifications Framework for Wales (CQFW)

⁵For students with the necessary prerequisites, entry to each FHEQ level is possible from the next lower level in the NQF or Framework for Higher Education Qualifications.

⁶These levels will also apply to the Qualifications and Credit Framework (QCF). The QCF will eventually replace the National Qualifications Framework (NQF)

Levels 2, 1
and entry