

Diploma Supplement

General Description of the Modular Programme Arrangements and Requirements for Taught Awards

The Diploma Supplement issued by the University of Leeds follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve 'international transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc).

It is designed to provide a description of the nature, level, context, content and status of studies that were pursued and successfully completed by the individual named on the original qualification 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.

It is issued as two elements as follows:

- a 'Diploma Supplement and Transcript' sheet setting out the individual and academic information on an individual holder of one of the University's awards as required under sections 1, 2, 4, 5.2, 6 and 7 of the model;
- this General Description of the modular programme arrangements and requirements for taught awards at the University setting out the information as required under sections 2.3, 2.4, 3, 4, 5, 6.2 and 8 of the model.

The two elements do not constitute a Diploma Supplement unless they have been issued together in support of an official certificate confirming the award of a degree or other academic qualification.

1. Information identifying the holder of the qualification

The following information is shown on the transcript element of this supplement.

- 1.1 Family Name
- 1.2 Given Name
- 1.3 Date of Birth
- 1.4 Student Identification Number/Code

The Identification No shown is the unique Identification Number for a student registered at the University of Leeds.

The HESA No shown is the unique national identifying/reference number for students registered at a state university in the UK from the Higher Education Statistics Agency, UK.

2. Information identifying the qualification

Selected information relating to the qualification is included on the transcript element of this supplement.

- 2.1 Name of the Qualification and the Title Conferred
- 2.2 Main Field(s) of Study for the Qualification
- 2.3 Name and Status of the Awarding Institution (in original language)

The University of Leeds, a university established under a Royal Charter granted in 1904, originated from the Leeds School of Medicine founded in 1831 and the Yorkshire College of Science founded in 1874. It is recognised by the UK authorities as having the power to award its own degrees (see [Check if your university or college can award a degree](#)). The power to award degrees is protected by UK law.

- 2.4 Language of instruction/examination

The University's programmes are all taught and examined in the English language, except where the subject of the degree is such that it is obvious that all or part of the teaching and assessment will have to be in another language (for example, the BA degrees in modern languages such as French, German, Italian, Chinese, Russian etc).

3. Information on the Level of the Qualification

3.1 Level of Qualification

An overview of the awards of the University of Leeds is provided as an appendix.

3.2 Official Length of Programme

The minimum full-time duration of studies is shown under 3.1 as the number of 'programme years' (i.e. years of full-time study which may be undertaken over a longer period by part-time students) required for the University's award. In some instances students may complete a full-time programme or some parts thereof on a part-time basis – where this occurs it is evident from the number of credits recorded in any individual academic session on the personalised Diploma Supplement and Transcript sheet which accompanies this General Statement.

For second cycle Postgraduate Taught awards (Masters, PGDip and PGCert) the standard Masters programme year comprises a committed workload of at least 1800 hours (100 notional learning hours per 10 UL credits). For the Integrated degrees of Master and Bachelor and for other short and first cycle Undergraduate awards (Bachelors, GradDip, GradCert, PGC, AdvDip, FD, DipHE, CertHE, Diplomas and Certificates) the standard programme year comprises a committed workload of at least 1200 hours (100 notional learning hours per 10 UL credits). Where the required duration of full-time studies is less than a year it is shown as semesters or months.

Programme durations may vary according to the discipline: the actual number of programme years studied is shown on the transcript element of this supplement.

3.3 Access requirements

Postgraduate Taught Programmes

The normal minimum entry requirement for admission to a taught postgraduate programme require candidates to be graduates of the University of Leeds or any other approved university or institution of Higher Education with normally at least the Honours degree of Bachelor in an appropriate discipline or its equivalent; or if not graduates, to possess other qualifications and/or experience which is recognised by the University as the equivalent of an Honours degree of Bachelor through its procedures for the recognition of prior certificated or experiential learning.

Undergraduate Programmes

The normal minimum entry requirement for admission to a first degree or undergraduate award programme comprises passes (in GCSE subjects at grade A*, A, B or C) in 5 subjects in GCSE/GCE 'A-Level' examinations including:

- at least a grade A*, A, B or C in English at GCSE or its equivalent, and
- at least two subjects at grade A*-E in GCE 'A-Level' examinations or their equivalent.

This normal minimum requirement may also be fulfilled by the equivalent in other examinations such as Level 3 BTEC qualifications, International/European Baccalaureate Diploma, a recognised Access to Higher Education course or other qualifications recognised by the University or through the assessment of an applicant's prior certificated or experiential learning through the University's procedures for the recognition of such learning.

All Programmes

Applicants for admission to a programme of study leading to any degree of the University must, before they can be admitted to the University, provide evidence that they have attained normally at least a band score of 6.5 in the British Council IELTS, or equivalent qualifications which have been approved by the University.

4. Information on the Contents and Results Gained

4.1 Mode of Study

Studies are full-time unless part-time studies are indicated on the transcript element of this supplement.

4.2 Programme Requirements

The University publishes the learning outcomes of its programme and its individual modules in the [Module and Programme Catalogue](#).

4.3 Programme Details (modules or units studied and individual grades/marks/credits obtained) are shown on the transcript element of this supplement.

4.4 Grading Scheme and, if available, grade distribution and guidance

Full details of the University's grading and awarding arrangements are published in the University's Ordinances, Regulations and Rules for Award, available from the [Secretariat website](#).

The University operates a unified corporate degree, diploma and certificate awarding/classification system for undergraduate and taught postgraduate programmes that are not otherwise constrained by accreditation requirements. The University's classification arrangements are designed to be consistent with the Framework for Higher Education Qualifications of UK Degree Awarding Bodies, including taking due account of the relationship between assessment arrangements and programme learning outcomes. The classification system is based on averaging the grades obtained across the modules comprising the final programme years of the programme for the award concerned with the grades being weighted in line with the credit value of the modules concerned.

0-100 Numeric Scale (see also the guidance on the Interpretation of Diploma Supplement and

Transcript Information for Taught Modular Programmes on the reverse of the transcript element of this supplement)

All numeric grades on the transcript element are shown in the University's 0-100 scale. All assessed work is marked according to the achievement represented. Further information is given the University's Rules for Award, available from the [Secretariat website](#).

Award and Classification

Students' eligibility for award is determined on the basis of their:

- meeting the requirements of the relevant Ordinance and Regulations i.e. obtaining sufficient credits at the appropriate level(s) in the prescribed manner, and
- meeting the requirements of the programme specification concerned to satisfy the programme outcomes through passing all compulsory and sufficient optional/elective modules, and
- through achieving a 'Classification Average' or 'Award Average' grade/mark, calculated as the average (weighted mean) of the marks achieved in all the modules taken in the relevant programme year(s), which is equal to or greater than the prescribed minimum Classification/Award Average pass grade/mark.

The 'Classification Average/Award Average' mark obtained determines any classification of the award in accordance with the Rules for Award. Further information is available on request from the Quality Assurance and Enhancement Team. [Email the Quality Assurance and Enhancement Team at qat@leeds.ac.uk](mailto:qat@leeds.ac.uk).

Bachelors Degrees awarded with or without Unclassified Honours

The registrable (see section 5.2) clinical degrees of MBChB and MChD/BChD, BSc are awarded in line with the requirements of national and professional practice. They

are assessed and graded in accordance with the provisions detailed in their prescribed programme specifications. Their award with unclassified honours is reserved solely for candidates who have achieved distinction across the modules, programme components and examinations in all the programme years in accordance with the requirements stated in the relevant programme specification.

4.5 Overall Classification of the qualification (in original language) is shown on the transcript element of this supplement.

4.6 The Academic Year 2019/20 was impacted by the Coronavirus (COVID-19) pandemic and the University of Leeds applied a no detriment policy to all students to determine the final classification. This included the requirement for Assessment Boards to apply Special Circumstances Discretion to all finalists that had completed and passed required modules in determining a degree classification that did not fall below a candidate's prevailing classification average. The prevailing classification average was based on the combined weighted average of all final approved module marks achieved in those years that would normally contribute to the final classification, including those final approved module marks from assessments undertaken in the first Semester of the 2019-20 academic session.

Grades returned for Semester 2 of the 2019/20 academic year reflect the following grading modes:

- assessment was designed to return a numeric mark
- assessment was designed to return a pass/fail
- where assessment components were incomplete credit was awarded according to specified criteria, returning a pass/fail for the module

5. Information on the Function of the Qualification

5.1 Access to Further Study

A second cycle Masters degree of the University gives access to postgraduate research (Doctoral) programmes. A first cycle Bachelors degree of the University normally with second class honours or above gives access to taught postgraduate

study. Intermediate cycle awards of the University give access to first cycle Honours Bachelors degrees.

5.2 Professional Status (if applicable)

The following professions for which the University provides programmes of education and training are subject to statutory regulation by the UK Government: doctors, dentists, nurses, midwives, radiographers and school teachers.

Other professions are regulated by a specialist college, society or institute with its own individually prescribed examinations and requirements for membership. The accreditation/recognition of one of the University's programmes by one or more of these professional bodies may be on the basis that the programme meets in full its membership requirements or that success in the University's examinations, possibly at a prescribed level of attainment, gives exemption from all or some of the professional body's membership examinations. Holders of University awards accredited/recognised by such a professional body may apply for membership of that body on an individual basis and thereafter maintain or extend their membership by continuing to meet the professional body's requirements which usually include payment of annual membership fees.

Any accreditation, professional or statutory recognition of the programme of study followed by a holder of an award of the University is shown on the transcript element of this supplement. Details of the current professional standing of a holder of one of the University's awards is certified by the relevant professional or statutory body independently of documentation produced by the University.

6. Additional Information

6.1 Additional Information

Candidates for the University's awards who have previously successfully attended certain courses of study either at the University of Leeds or at an approved educational establishment are eligible for special consideration under the Accreditation of Prior Learning policy. This policy encompasses Accreditation of Prior Learning (APL), Accreditation of Prior Certificated Learning (APCL) and Accreditation of Prior Experiential Learning (APEL). This will permit granting of

exemption from any module/course and its examinations, other than the modules/courses comprising the final examinations for an award of the University, providing always that no such exemptions will apply to the statutory qualifying examinations for registrable awards or to the penultimate programme year for the Integrated degrees of Master and Bachelor. Where applicable such study exemptions are shown on the transcript element of this supplement.

Programmes of study may include requirements for substantial Study or Work Experience (Industrial Placements) outside the University which may be reflected in the programme title as detailed in the award information and/or identified in the other information given in the transcript element of this supplement.

Where modules contributing to an award of this University have been taken under the University's arrangements for collaborative programmes (i.e. programmes are offered jointly with other Universities and Institutions) these modules and the location of studies are identified in the transcript element of this supplement.

7. Certification of the Supplement

The following information is shown on the transcript element of this supplement.

7.1 Date

7.2 Signature

7.3 Capacity

7.4 Official Stamp or Seal

August 2019

8. Information on the National Higher Education System

Description of Higher Education in England, Wales and Northern Ireland

In England, Wales and Northern Ireland 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.

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). 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.

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, 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 Quality Code and programme specifications.

Credit Systems

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. 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.

Admission

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.

Appendix

Awards of the University of Leeds

The University's undergraduate and taught postgraduate programmes lead to one of the following awards:

- Master of Research (MRes)
- Master (PGT)
 - Master of Arts (MA)
 - Master of Laws (LLM)
 - Master of Education (MEd)
 - Master of Science (MSc)
 - Master of Dental Science (MDentSci)
 - Master of Public Health (MPH)
 - Master of Medical Science (MMedSc)
 - Master of Music (MMus)
 - Master of Business Administration (MBA)

- Master of Science (Engineering) (MSc (Eng))
- Master of Psychotherapy (MPsychother)
- Master of Research (MRes)
- Master of Health Science (MHSc)
- Master of Psychoanalytic Observational Studies (MPsychObs)
- Master of Child Forensic Studies (MCFS)
- Master of Midwifery (MMid)
- Master of Business Studies (MBS)
- Master of Fine Art (MFA)
- Master in Teaching and Learning (MTL)
- Master of Public Administration (MPA)
- Postgraduate Diploma (PGDip)
- Postgraduate Certificate (PGCert) (for Postgraduate Certificate of Education (PGCE) see Note 1)
- Integrated degrees of Master and Bachelor (first degree)
 - Master of Engineering and Bachelor of Engineering (MEng, BEng)

- Master of Engineering and Bachelor of Science (MEng, BSc)
- Master of Mathematics and Bachelor of Science (MMath, BSc)
- Master of Physics and Bachelor of Science (MPhys, BSc)
- Master of Chemistry and Bachelor of Science (MChem, BSc)
- Master of Geology and Bachelor of Science (MGeol, BSc)
- Master of Geophysics and Bachelor of Science (MGeophys, BSc)
- Master of Geography and Bachelor of Science (MGeog, BSc)
- Master of Natural Sciences and Bachelor of Science (MNatSc, BSc)
- Master of Environment and Bachelor of Arts (MEnv, BA)
- Master of Environment and Bachelor of Science (MEnv, BSc)
- Master of Geosciences and Bachelor of Science (MGeosci, BSc)
- Master of Design and Bachelor of Design (MDes, BDes)
- Master of Biology and Bachelor of Science (MBiol, BSc)
- Master of Dental Surgery and Bachelor of Science (MChD, BSc)
- Bachelor of Medicine and Bachelor of Surgery (MBChB)

- Master and Bachelor of Dental Surgery and Bachelor of Science (MChD/BChD, BSc)
- Bachelor (Hons)
 - Bachelor of Arts (BA)
 - Bachelor of Laws (LLB)
 - Bachelor of Science (BSc)
 - Bachelor of Engineering (BEng)
 - Bachelor of Health Science (BHSc)
 - Bachelor of Music (BMus)
 - Bachelor of Performing Arts (BPA)
 - Bachelor of Design (BDes)
- Bachelor (Ordinary)
 - Bachelor of Arts (BA)
 - Bachelor of Laws (LLB)
 - Bachelor of Science (BSc)
 - Bachelor of Engineering (BEng)

- Bachelor of Health Science (BHSc)
- Bachelor of Music (BMus)
- Bachelor of Performing Arts (BPA)
- Bachelor of Design (BDes)
- Graduate Diploma (GradDip)
- Graduate Certificate (GradCert) including Professional Graduate Certificate (see Note 1)
- Advanced Diploma (AdvDip)
- Foundation Degree (FD)
- Diploma of Higher Education (DipHE)
- Diploma
- Certificate of Higher Education (CertHE)
- Certificate

Summary of the minimum attendance, study and credit requirements for awards

The following summary is derived from the University's Curricular Ordinances and Regulations which should be consulted for full and precise details of the requirements for awards – see [Secretariat website](#).

Section 8 shows the place of the University's awards in the national education awards frameworks for England, Wales and Northern Ireland and in the European educational cycles.

In the following table, the Framework for Higher Education Qualifications is referred to as FHEQ.

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Master of Research (MRes)	1 calendar year	180	180	M	180	90	7/M	Second
Master (PGT)	1 calendar year	180	150	M	135	90	7/M	Second

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Postgraduate Diploma (PGDip)	8 months	120	90	M	75	60	7/M	Second
Postgraduate Certificate (PGCert) – (for Postgraduate Certificate of Education (PGCE) see Note 1)	4 months	60	60	M	45	30	7/M	Second

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Integrated degrees of Master and Bachelor (first degree)	4 years	480	400	M	80	240	7/M and 6/H	First and Second

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Bachelor of Medicine and Bachelor of Surgery (MBChB) and Bachelor of Dental Surgery (BChD)	5 years	600	600	M	120	300	7/M and 6/H	First and Second
Bachelor (Hons)	3 years minimum	360 minimum	300 (see Note 3)	3	100 (see Note 3)	180-240	6/H	First

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Bachelor (Ordinary)	3 years minimum	300-360 (see Note 4)	240	3	60 (160 at levels 2 and 3 combined)	150-180	6/H [1]	First
Graduate Diploma (GradDip)	1 year	120	100	3	60	60	6/H	First

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Graduate Certificate (GradCert) including Professional Graduate Certificate (see Note 1)	1 semester	60	60	3	60	30	6/H	First
Advanced Diploma (AdvDip)	3 years	300	240	3	40	150	6/H	Short

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Foundation Degree (FD)	2 years	240	200	2	100	120	5/I	Short
Diploma of Higher Education (DipHE)	2 years	240	200	2	100	120	5/I	Short
Diploma	1 year	120	80	2	60	60	5/I	Short
Certificate of Higher Education (CertHE)	1 year	120	100	1	100	60	4/C	-

Award Title	Minimum full-time duration (programme years)	Total minimum credit volume to be taken (see Note 2)	Total minimum credit volume to be passed	Highest University of Leeds (UL) level of modules which must be included	Minimum credits to be passed at highest level	European Credit Transfer System (ECTS) credit equivalence	Qualification level in the National Qualifications Framework (NQF) and FHEQ (see Section 8)	European Higher Education Area (EHEA) Cycle (see Section 8)
Certificate	1 semester	40	40	1	40	20	4/C	-

Notes

1. The PGCE (Postgraduate Certificate in Education or Professional Graduate Certificate in Education) is awarded by the University. The University works in partnership with the Red Kite Teacher Training to deliver School Centred Initial Teacher Training (SCITT) and School Direct training. Successful completion of the Red Kite course with the School of Education at the University of Leeds, leads to the award of Qualified Teacher Status (QTS) through Red Kite, and a Postgraduate Certificate in Education (PGCE) from the University of Leeds. It includes at least 60 UL credits (30 ECTS) at the level required for award.

2. In some awards some credit to be taken requirements may be fulfilled through the University's arrangements for Accreditation of Prior Learning (APL), Accreditation of Prior Certificated Learning (APCL) or Accreditation of Prior Experiential Learning (APEL).
3. Exceptionally the award requirements for 3-year programmes leading to the degree of Bachelor of Science (BSc) with Honours in the Faculty of Mathematical and Physical Sciences and in Joint Honours BSc degrees in Science may be met by the achievement of a total of 280 credits including at least 80 UL credits at UL level 3.
4. Students on programmes of study leading to the award of an Ordinary degree must enrol for at least 100 credits, and not more than 120 credits, in each programme year in modules compatible with their programme's specification.