

The RSS Accreditation and Quality Mark Schemes

A Guide for Accredited Partners

April 2021

Introduction:

In 2013 the Royal statistical society (RSS) carried out a major strategic review of its activities. One of the key outcomes of this in depth review was the decision to cease offering the Society's own examinations after May 2017. In place of RSS examinations we decided to develop a revised accreditation model which would enhance our existing partnerships with educational institutions. This model allows us to accredit programmes in relation to a new set of standards for statistical education initially at level 6 and seven of the national qualification framework.

In 2019 the RSS reviewed the changes the Society had made to its accreditation offering in recognition of the changing landscape of Statistical teaching launching in April 2021. This development allowed the Society to align the accreditation standards with a competency-based definition of what we expect from a Graduate Statistician (GradStat), the title awarded to graduates of accredited programmes.

This competency-based definition also allowed for the creation of a lower form accreditation aimed at a modular/training course level, called the RSS Quality Mark. The RSS Quality Mark will enable institutes to gain accreditation against individual data and statistical modules that may be part of programmes not traditionally linked with awarding GradStat stats and allow individuals the opportunity to gain individual recognition either via the new Data Analyst title or via the new competency-based route for GradStat.

In offering accreditation the RSS has **three** major objectives

To introduce more flexibility in the benchmarks for accrediting qualifications. By developing a set of standards that programmes will need to meet we aim to widen the potential scope of our accreditation beyond that of the previous graduate diploma syllabus. The RSS will accredit only those programmes that deliver the skills and knowledge which will be required by students in their journey to become a Graduate Statistician and which appropriately assessed for student against these.

To introduce a modular form of recognition called the RSS Quality Mark. A new objective for 2021 and partnered with the above objective, the RSS Quality Mark aims to accredit a wider range of good statistical and data training. Aimed at accrediting the quality the individual module/course is aimed at, this Quality Mark will enable individuals to gain recognition for statistical training and help them complete different competencies as they work towards becoming a professional member.

To build stronger partnerships with statistical education providers in the UK and abroad. We have already built good relationships with education providers but as a modern professional body we recognise that there is an important role for the RSS facilitating a dialogue between providers about new developments in statistical education and how they should be delivered. Through this process we will ensure that our accreditation standards continue to reflect changing needs across a broad range of sectors of employment.

Accreditation will be the process through which the Royal Statistical Society works with education providers to ensure that programmes in statistics, and its allied disciplines, meet quality standards. we will work collaboratively with education providers to accredit, help develop the quality and increase the relevance of programmes to students. Our accreditation process is designed to be straight forward and aims to reduce the administrative burden associated with accreditation by encouraging providers to utilise their existing documentation when putting together an application produced for QAA, Ofsted or their own internal monitoring.

Benefits of Accreditation:

At the RSS we have the responsibility to develop and maintain standards in educational qualifications for those individuals who wish to follow a career statistics and allied disciplines. The RSS accreditation and quality mark scheme is set to become an important benchmark for higher education programmes as well as commercial training providers.

Becoming an RSS accredited partner will provide your institution and its students with a range of benefits through our accreditation scheme we will

1. **Recognise excellence:** Reflecting your institutions commitment to providing high quality learning, teaching and assessment, where approval has been granted for accreditation partners can use accredited logos on their website certificates and publicity materials.
2. **Increase the marketability of your programmes in a competitive market place:** You will receive a listing on the RSS website and we will also refer potential students to our list of accredited programmes.
3. **Provider students with a route to Society membership:** All students on an accredited programme will be eligible for e-Student membership of the RSS with the potential to progress along the professional pathway of RSS membership from Data analysts to Graduate Statistician and Chartered Statistician status.
4. **Provide your students with a competitive edge in a challenging job market:** The RSS brand is regarded as a mark of quality that is valued and understood by prospective students and employers. Accredited institutions with full programmes accredited can also nominate an exceptional graduate for annual RSS prize of one year's free members.
5. **Provide employees with an assurance of level of technical skills and knowledge provided by a programme:** Supporting your relationships with employers and helping to achieve employment for out employment outcomes for your graduates full stops



Cost of Accreditation:

The RSS charges an application fee for institutions applying for accreditation and those successful in their application pay a yearly fee for the duration of the accreditation, usually 5 years. However, the application fee covers the 1st year's fee. Whilst an institution can apply for as many or as few programmes and/or modules to be accredited the pricing structure is tiered depending on how many are put forward for accreditation. The table below sets out the fees for both the full RSS programme accreditation and the RSS Quality Mark scheme. Please note that the application fee is based on how many are put forward, however if successful the yearly fee is based upon how many were successful, you will not be charged going forward for those that were unsuccessful.

<i>RSS Accreditation fees</i>	Applicati on fee	Year 1	Year 2	Year 3	Year 4	Year 5
1-5 courses	£2000	Free – covered by the application fee	£2000	£2000	£2000	£2000
6-10 courses	£2500		£2500	£2500	£2500	£2500
11+ courses	£3000		£3000	£3000	£3000	£3000
<i>RSS Quality Mark fees only</i>	Applicati on fee	Year 1	Year 2	Year 3	Year 4	Year 5
1-5 modules	£1000	Free – covered by the application fee	£1000	£1000	£1000	£1000
6-10 modules	£1500		£1500	£1500	£1500	£1500
11+ modules	£2000		£2000	£2000	£2000	£2000

The invoice for application fee will be issued upon receipt of an 'Expression of Interest' form. This will not prevent you completing your application in the meantime. The annual fee is then invoiced usually in the September of each year.

Other costs relating to the accreditation fee related to any expenses incurred, including travel expenses, during a visit to the applying institution. Visits are usually required with the first 12 months of accreditation being awarded in a support capacity, however in some cases it may be required whilst the application is being assessed. Those institutions based overseas will be expected to cover all expenses incurred.

Standards & Criteria:

RSS Full Programme Accreditation:

For degree programmes, achieved through study of modules or course units with Quality Marks. A degree programme will be eligible for accreditation if it can demonstrate the following learning outcomes for graduates (*a full definition with learning outcomes can be found within **appendix 1***):

A graduate statistician has good knowledge of

- the frequentist and Bayesian methods for conducting data analyses
- their logical foundations, including relevant probability theory
- the principles of systematic data collection, management and curation

They can use this knowledge, together with software and programming skills, to

- build, assess and refine models appropriate for describing and understanding a wide variety of processes or problems,
- draw appropriate inferences from them,
- effectively communicate both substantive results and the nature of the uncertainty inherent in them, to expert or lay audiences.

They are aware of the implications of their work for the rights of individuals and maintain the highest ethical standards at all times.

We expect that achieving this range of learning outcomes would usually require **at least 120 credits** in quality marked modules. The RSS recognises that there are many ways to become a competent and trustworthy graduate statistician, and that the range and depth of study associated with each of the learning outcomes will vary across different degree programmes. We also recognise that these outcomes may be achieved within degree programmes or pathways with a variety of titles, and may combine these outcomes with others such as mathematics, computing, data engineering or substantive subjects

To obtain accreditation for a degree programme, providers should:

- Briefly describe how the programme delivers each graduate statistician learning outcome, for example by indicating the quality marked modules in which students can demonstrate achievement in one or more of these outcomes
- the % of students successfully completing the programme over the last 3 years
- compliance with a relevant independent university quality assurance procedure
- action taken to ensure widening participation and diversity on the programme.
- describe how the department offering the programme engages with RSS, e.g. how students are encouraged to take up e-membership
- report how many teaching staff on the programme are Gradstat or CStat holders.

The RSS understands that it may take some time for institutions to adapt to the new requirements that we set out here, especially those on communication and ethics, and that changes to curricula and teaching can take some time to effect. We are therefore prepared to accept for accreditation degree programmes that do not yet fully meet all the requirements, provided that there is both a commitment to meeting them and progress towards fulfilling them.

Shifting the 'unit of analysis' for degree programmes from the programme as a whole to the modules it comprises will enable us to deal more effectively with the diversification of degree programmes and pathways within them. This enables us to accredit several degree programme variants in any university by focusing on their constituent components, which are typically common to many degree programmes and pathways. As we explain below, by introducing accreditation based on individual modules we will be able to broaden the range of university teaching, and that offered by other providers which is reviewed by and regulated by RSS. Accreditation of degree programmes will be based on a review of the coherence and volume of modules with Quality Marks comprising the programme.

The RSS Quality Mark:

The RSS now base our assessment of the relevance and standard of statistics education and training by awarding a **Quality Mark** to **modules**. We use the term **module** to refer to any distinct course of study of any kind, at any level, on any aspect of statistics, in which student achievement is assessed, whether by formal examination or coursework, or forming part of a record of achievement as attended. Modules could be delivered by a school, college or university, either *in situ* or remotely, as a standalone qualification, as CPD, or as part of a degree or other larger programme of study, in statistics or in any other subject.

The content of the eligible modules can be any aspect of statistics or data analysis, including, but not limited to: theoretical, logical and mathematical foundations, probability theory, applications of statistics and data analysis in any context, research design, the collection, management and curation of data for analysis, sampling, surveys, data mining, data engineering, machine learning, reproducibility, statistical computation and software, ethics, data security and protection.

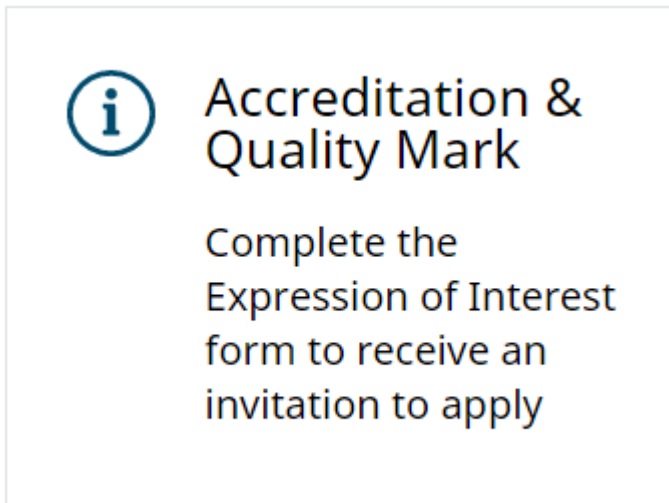
The **Quality Mark** is based on evaluation of *five* criteria

1. Learning Outcomes
2. Content and delivery
3. Assessment and achievement
4. Review
5. Resources

These criteria are evaluated by reviewing module documents, plus some additional evidence. Module documents are any brochures, prospectuses, course outlines, curricula or any other documents used to describe the module to prospective or current learners. The table within **Appendix 2** at the end of this document suggests the additional evidence that is likely to be relevant. The evaluation is designed to be 'light touch' insofar as a minimum of information and documentation is required beyond that which providers will normally prepare for the delivery of a module. Accreditation of degree programmes will be based on a review of the coherence and volume of modules with Quality Marks comprising the programme.

How to Apply:

To apply the lead applicant must be a member of the RSS and once logged in to the website, the applicant goes to the MyRSS section and selects the option below:



Here you complete the application form below to begin the process. Once submitted you receive an email with a link to the full accreditation form. The expression of interest form is sent to the Head of Professional Standards & Accreditation at the RSS so that they are aware of your intention and can prepare the invoice once the full application is submitted.

[Home](#) > [Accreditation](#) > [University Accreditation Expression of Interest](#) > [Form](#)

Form △

Name of institution

Name of School/Department

Name of lead contact - Title/Forename/Surname

E-mail address of lead contact

Address for invoice

Addressee for invoice

Purchase order number for invoice (if applicable)

Are you applying for a module or training course to be accredited with the RSS Quality Mark, full RSS GradStat equivalent accreditation or a mixture of both:

▼
RSS Quality Mark
Full RSS GradStat Accreditation (for example a BSc in Statistics)
A mixture of both (a portfolio of modules that sit within a range of degrees)
 ▼

Please note that you will be invoiced according to the most up-to-date prices listed on our website here. Once your expression of interest has been received and reviewed by our office, you will be sent a link to the application form.

Submit

Please select the number of modules/courses you would like to have considered for accreditation of the RSS Quality Mark:

▼
1-5
6-10
11+

Please note that you will be invoiced according to the most up-to-date prices listed on our website here. Once your expression of interest has been received and reviewed by our office, you will be sent a link to the application form.

Submit

Appendix 1:

To fulfil the requirements for full programme accreditation, graduates must meet the criteria below:

Graduates have a good knowledge of

- **the frequentist and Bayesian methods for conducting data analyses**
 - Programmes are free to concentrate on either approach, so long as students are given a secure grounding in both.
- **their logical foundations, including relevant probability theory**
 - Programmes must give students a secure knowledge of the mathematical foundations of statistics. However, this should always be within some context of application: proficiency in mathematics without a good understanding of its implications is insufficient. Similarly, proficiency in the practical application of statistics must be underpinned by a robust knowledge of the mathematical foundations.
- **the principles of systematic data collection, management and curation**
 - Data now has many different sources. 'Found' administrative or transactional data is increasingly important, as well as data that is the product of a specific research design. This means that as well as knowledge of the principles and practice of experimental research design, and sampling, graduates require some experience in the preparation of data for analysis, including matching data from different sources and also require an understanding of the implications of data quality for subsequent analysis, and the need where appropriate to produce reproducible knowledge.

They can use this knowledge, together with software and programming skills, to

- **build, assess and refine models appropriate for describing and understanding a wide variety of processes or problems**
 - Students should be able to marry their knowledge of the logical foundations of statistics with proficiency in using software to put statistical theory into practice. They should be able to evaluate the strengths and weaknesses of alternative approaches and appreciate that there may not always be one single 'best' solution. This includes being able to identify how statistics may address problems posed in non-statistical terms.
- **draw appropriate inferences from them**
 - Students should be able to use their statistical expertise both to draw conclusions and describe the degree of uncertainty associated with these conclusions, and the assumptions made in reaching them.
- **effectively communicate both substantive results and the nature of the uncertainty inherent in them, to expert or lay audiences.**

- Statistical expertise that cannot be effectively communicated to others is of limited value. Students should be able to match the degree of technical complexity in the presentation of results to the level of understanding of their target audience. They should also be aware of, and able to communicate, the limitations of the conclusions they reach.

They are aware of the implications of their work for the rights of individuals, are trustworthy, maintain the highest ethical standards and work for the public good.

Ethics encompasses more than data security and protection. As the volume and complexity of data collected on individuals grows, students must be aware of the importance and nature of informed consent. They should understand the importance of the integrity of their work not only for the reputation of the statistics profession but for public trust in the value of evidence, and its use for their benefit.

Appendix 2:

Criteria for the RSS Quality Mark

	Criteria	Suggested Additional Evidence
Learning outcomes	<p>The module has clear learning outcomes which</p> <ul style="list-style-type: none"> • form part of the skills and knowledge expected of a graduate statistician or enable progression towards them • are relevant to the programme of study in which it is taught, or (for 'stand alone' modules) provide a coherent view of statistics within a problem-solving framework • appropriate for the range and level of skills that learners bring to the course • match the content of the module and its delivery. 	<p>A brief account of the skills and knowledge expected on entry to the module (if this is not in the module documents). Opportunities for study on completion of the module.</p> <p>Modules set at levels below NQF6 (degree) should deliver learning outcomes appropriate to their level which enable progression towards the graduate level outcomes.</p>
Content and delivery	Module content matches the learning outcomes.	Whilst the quality mark does not specify any particular content, it does require the content to have a coherent and explicit link to the learning outcomes.
	<p>Appropriate attention is given to the mathematical foundations of practical applications, and to the practical application of theory and mathematics, as well as the communication and presentation of results.</p> <p><i>Where relevant</i>, students gain experience of working with realistic, large datasets and/or solve problems relating to data in context.</p> <p><i>Where relevant</i>, students use appropriate software.</p>	<p>Purely theoretical or mathematical modules are eligible, as long as they form part of a programme of study in which their application is taught and assessed. So too may purely practical modules (e.g. on 'statistical consulting') as long as they form part of a programme of study in which their theoretical and mathematical foundations are taught and assessed.</p> <p>'Cook book' and 'Point and click' approaches or the learning of formulae outside a context of application are specifically discouraged.</p> <p>'Paper and pencil' and hand calculation are perfectly acceptable pedagogy, but students should also use software as necessary.</p>
	The fundamental importance of integrity, ethics and data security are taught.	Any modules dealing with empirical data should stress the obligation to collect, manage, analyse, report or curate data ethically.
	The delivery, learning hours and modes of study (e.g. lectures, lab work, seminars, online resources, self-study) are appropriate to the module content.	The material supplied should be detailed enough to allow assessors to judge whether the content matches the learning outcomes and are reasonably achievable given the skills and knowledge of students accepted on to the module. The format of the evidence is not important. Existing documents are preferred to any prepared specifically for accreditation.
Assessment	The assessment used allows students to demonstrate their achievement of the learning outcomes. A substantial majority of students successfully achieve these outcomes.	<p>Examples of course assessments. Proportion of students successfully completing the course / passing the assessment.</p> <p>Diversity in modes of assessment are encouraged. Some modules may not be formally assessed (e.g. student placements). As long as these form part of a coherent programme of study they are eligible for the quality mark.</p>
Review	The course has been designed, delivered or reviewed by a GradStat or CStat holder, or a member of a university or college statistics department, subject area or group.	Name(s) of those involved and meeting criteria.
	The module sits within a recognised independent quality assurance programme that reviews	Statement of compliance with relevant QA procedures.

	<ul style="list-style-type: none">• Teaching quality• Student support, feedback and consultation	
Resources	The module is adequately resourced.	Staff student ratios; staff time available to teach the module; library computing or study resources available to students.