

**PROGRAMME SPECIFICATION**

|          |                                 |  |
|----------|---------------------------------|--|
| <b>1</b> | <b>Awarding Institution</b>     | Newcastle University and University of Groningen   |
| <b>2</b> | <b>Teaching Institution</b>     | Newcastle University and University of Groningen   |
| <b>3</b> | <b>Final Award</b>              | MSc Dual Award   |
| <b>4</b> | <b>Programme Title</b>          | Operations and Supply Chain Management (Newcastle) and Technology and Operation Management (Groningen) |
| <b>5</b> | <b>UCAS/Programme Code</b>      | 4120F  |
| <b>6</b> | <b>Programme Accreditation</b>  | N/A  |
| <b>7</b> | <b>QAA Subject Benchmark(s)</b> | Masters Awards in Business and Management  |
| <b>8</b> | <b>FHEQ Level</b>               | Level 7  |
| <b>9</b> | <b>Date written/revised</b>     | July 2021  |

**10 Programme Aims**

The overall aim of the programme is to provide a pre-experience Master's qualification in operations management. Specifically the programme aims to provide participants the opportunity to engage with the study of operations management in different business environment and cultural contexts. The specific aims of the programme are explicitly in line with the QAA benchmark standards for Masters Awards in Business and Management.

Students will apply this knowledge to the development of operations strategies, instruments and processes. Students will also learn how to analyse operations functions in different countries, understand various institutional environments and develop a sharp eye for operations management within multinational enterprises. Additionally, students will develop skills to efficiently communicate and cooperate with people from different cultural backgrounds.

On completion of the programme students will have enhanced employability for a wide range of operations management careers in international, multinational or transnational companies.

Attributes of students successfully completing the programme include:

- Advanced knowledge and understanding of how to improve business performance and organisation competitive advantages.
- Enhanced general intellectual development, including the improved capacity for enquiry, problem solving, critical thinking and analysis.
- A self - managed approach to learning and the ability to work independently.
- The acquisition of relevant professional attributes (ethical practice, confidentiality, etc.)
- Enhanced employability

The programme clearly reflects the knowledge, understanding and skills specified for specialist Masters Degrees of Programme type 1 (career entry) and the level of the programme has been informed by the Higher Education qualifications framework. In this way the programme explicitly meets the relevant external referents. The programme also meets the relevant benchmarks remit for Masters Awards in Operations Management in relation to organisations, the external context in which they operate, and how they are managed.

More specifically the aims are:

- 1 To provide a study of operations management in different business environment and cultural contexts.

- 2 To produce graduates with the necessary specialist knowledge and skills appropriate to pursue careers in operations management, technology management, supply chain management, general management or consulting.
- 3 To produce graduates able to understand, explain and apply an integrated approach to operations management as a means of improving organisational performance.
- 4 To develop transferable skills including report writing, personal and interpersonal skills, presentation skills, group working skills and an appreciation of working in a multicultural environment.
- 5 To expose students to a variety of learning experiences.
- 6 To provide an understanding of the contribution of lifelong learning and personal development to both individual and organisational development.
- 7 To produce highly marketable graduates who are able to make an immediate contribution to their organisations.
- 8 To develop advanced research skills, the ability to critically evaluate and utilise current research, and to generate directions for further study that open onto to PhD routes
- 9 To meet the criteria for Level 7 qualifications as laid down in the Framework for Higher Education Qualifications
- 10 To comply with University policy and QAA Codes of Practice

## **11 Learning Outcomes**

The programme outcomes have references to the benchmark statements for Masters Awards in Operations Management and provides students with opportunities to demonstrate disciplinary competency by undertaking research, developing their knowledge and understanding of the key principles and theories of the subject area and combining theory with the application of skills required to generate solutions within their discipline.

### **Knowledge and Understanding**

On completing the programme students should have knowledge and understanding of:

- A1 The functions of operations management, purchasing and supplier chain.
- A2 The importance and the applications of lean supply, and supply chain management.
- A3 The importance and role of operations strategy and supply chain strategy of business performance improvement and competitive advantage.
- A4 Methods of planning, control and continuous improvement of business performance.
- A5 Quality assurance system, quality control approaches and the use of statistical methods.
- A6 Integrated approach to operations and supply chain management on business competitive advantage.
- A7 The role and function of technology and information technology in supporting operations and supply chain management.
- A8 Ethical issues and their implications in management practice.

|   |
|---|
| <p>A9 International aspects of operations and supply chain management.</p> <p>A10. The nature and scope of advanced research in operations and supply chain management.</p> <p>A11 Comparative international business environments and how they differ across countries and institutions.</p>   |
| <p><b>Teaching and Learning Methods</b></p>   |
| <p>The primary mode of instruction is via lectures and staff led discussion, supplemented by practical exercises including the use of case studies and group project. Students are encouraged to employ reading lists to broaden subject knowledge and to use appropriate business cases, quantitative examples and new developments in operations management to ensure up to date knowledge of the theory and practice. External speakers may be brought in to provide examples of key aspects of operations and supply chain management in different organisations. Students are encouraged to critically evaluate these sessions in the light of their developing knowledge. (A1 – A11).</p> |
| <p><b>Assessment Strategy</b></p>   |
| <p>Knowledge (A1- A11) is assessed by a mix of unseen examinations, open book examinations, supported by assignments which are selected to best reflect the subject being studied. In addition a thesis will be produced.</p>   |
| <p style="text-align: center;"><b>Intellectual Skills</b></p>   |
| <p>On completing the programme students should be able to demonstrate:</p> <p>B1 Critical thinking and creativity</p> <p>B2 Problem solving and decision making</p> <p>B3 Research/investigative skills</p> <p>B4 Critical evaluation of data/information/evidence</p> <p>B5 Ethics and value management</p> <p>B6 Ability to conduct research into business and management issues</p> <p>B7 Learning through reflection</p>  |
| <p><b>Teaching and Learning Methods</b></p>   |
| <p>Intellectual skills are developed through lectures, group discussions, group activities/exercises and independent study. All cognitive skills are exercised significantly during the production of assignments and especially during the research and production of the dissertation. B1, B2 and B4 are also assessed during examinations. The teaching/learning methods employed recognise the range of experience that participants bring to the programme and aim to encourage the sharing of that experience. They also encourage participants to develop a self-managed approach to learning and the ability to work as part of a group or independently, as appropriate.</p>           |
| <p><b>Assessment Strategy</b></p>   |
| <p>Subject specific skills are assessed by a mix of unseen examinations, open book examinations, supported by assignments and other assessed exercises which are selected to best reflect the subject being studied. In addition a thesis is produced.</p>  |

### **Practical Skills**

On completing the programme students should be able to:

- C1 Conceptualise real world problems using analytical frameworks drawn from operations theory.
- C2 Identify key factors and theories, critically analyse and evaluate the concepts and practices of operations strategy in different contexts.
- C3 Solve operations problems within different business environment with particular emphasis on operations strategy.
- C4 Integrate evidence from a variety of sources to effect improvement in the operations performance.
- C5 Advise within the workplace on operation functions and strategy in both national and international contexts.
- C6 Evaluate evidence critically, reach conclusions and present findings.
- C7 Provide advice on how to apply operations tools and techniques to improve organisational competitive advantages.
- C8 Synthesise and evaluate factors to critically assess supply network and the importance of supplier customer relationships in operations management practice.
- C9 Contribute effectively to the planning, design and implementation of a research project at an advanced level.
- C10 Identify activities/issues that may present ethical challenges, be able to articulate the underlying issues that generate those challenges and articulate responses in the relevant disciplinary and/or professional context.

### **Teaching and Learning Methods**

The intended learning outcomes are practised and developed through a variety of means including group discussions, group exercises, case studies, independent study, and skills practice, giving feedback, making presentations, producing reports etc.

### **Assessment Strategy**

Practical skills (C1-C10) are assessed by a mix of unseen examinations, open book examinations, supported by assignments which are selected to best reflect the subject being studied. Formative assessments of these skills are by means of tutor and peer group feedback. In addition research skills are assessed when a thesis is produced.

### **Transferable/Key Skills**

On completing the programme students should have:

- D1 Appropriate verbal/written communication skills to convey information tailored in content, style and presentation to the needs of their intended audience.
- D2 The ability to work effectively within a team and the ability to use individuals' contributions in group processes, as appropriate
- D3 The ability to conduct research into business and management issues using quantitative and qualitative methods.

- D4 The ability to work independently, showing creativity and initiative.
- D5 Numeracy and quantitative skills by applying the appropriate computational techniques and interpret or critically evaluate the results.

### **Teaching and Learning Methods**

Key skills are introduced to participants in sessions throughout the induction period and within modules of the programme. D1, D2 and D3 are developed through group discussions/activities/exercises and through production of assignments. Oral communication skills are developed specifically through presentations. D3 is developed by the extensive training provided in research methods and exercised by participants in the production of the dissertation. D4 is developed by the production of the individual assignments and particularly by the dissertation. D5 is developed through specific programme outcomes embedded in modules.

### **Assessment Strategy**

Transferable skills (D1- D5) assessed by a mix of unseen examinations, open book examinations, supported by assignments which are selected to best reflect the subject being studied. In addition D3 is assessed when a thesis is produced. Attainment of all other key skills outcomes is not directly assessed but is seen as ancillary to the production of assessed work – the performance of communication skills, planning and organising is a necessary precondition for meeting other intended learning outcomes. It follows, therefore, that it is not possible to graduate without meeting the key skills outcomes.

## **12 Programme Curriculum, Structure and Features**

### **Basic structure of the programme**

#### **Programme Features**

This is a 180 Credit/ 90 ECTS modular programme which is studied over a 17 month period on a full-time basis. It is designed for students who generally have limited related experience and aims to develop Masters level knowledge, understanding and skills in operations management subjects. The programme aims to prepare individuals for employment and therefore will generally attract recent graduates (cognate or relevant first degree) but there may possibly be some mature entry students. Students will undertake Semester one study at Newcastle University Business School and Semester two study at the Faculty of Economics and Business at the University of Groningen. Students will have a choice of where to undertake their dissertation. The supervision of the dissertation will be joint by both universities.

#### **Year One, Semester One** – Undertaken at Newcastle University Business School

This element of the programme represents 60 credits/30 ECTS of study and provides participants with a broad introduction to the main areas of supply chain and either an introduction to operations management or, for students with an undergraduate degree in operations management, the Degree Programme Director may give approval for alternative modules in supply chain and a choice of management modules in place of the operations management module.

#### **Year One, Semester Two**– Undertaken at the University of Groningen

This element of the programme represents 60 credits/30ECTS of study and provides participants with the opportunity to develop their knowledge and abilities in more advanced and specialist aspects of operations management.

**Year Two, Semester One** – Provided jointly by Newcastle University and University of Groningen

After completion of the taught programme students undertake a 60 credit dissertation which continues into semester 1 of year 2.

Students are required to carry out 60 credits of study by means of a dissertation. This is carried out during semester one of year two following completion of the taught programme during year one. The dissertation is designed to enable students to demonstrate their knowledge, understanding and skills gained from the programme within the context of a detailed study of a management or business issue. The students can complete this at Newcastle University or the University of Groningen. They will be allocated a supervisor from each University and the joint nature of the dissertation is supported with workshops run jointly by the two Universities during this period. The dissertation will be marked by both supervisors and the students will be required to participate in an oral defence (viva) as part of this process.

Students are required to pass all core elements of the programme.

**Key features of the programme (including what makes the programme distinctive)**

This programme provides students with the opportunity to study at two highly respected Universities and experience living in two different countries. The key feature of this distinctive dual award programme is its focus on operations management in different contexts of culture and business environment. As well as the inclusion of specific modules addressing some advanced context, a range of the module assessments give students the opportunity to develop and practice intercultural communication and learning, harnessing the international experience of their programme and the international cohort and staff teaching the modules. The programme will provide students with skills in operations management and develop their intercultural competences for their future careers.

**Programme regulations (link to on-line version)**

[4120 Programme Regulations 23-24](#)

**13 Support for Student Learning**

Generic information regarding University provision is available [here](#).

*Induction*

During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principal support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students.

On arrival in Groningen for Semester Two students will attend an induction programme for the University of Groningen and the Faculty of Economics and Business. They will be given a general introduction to University life and general information about the School and the programme. They will also be given detailed programme information and the timetables of lectures, practicals, tutorials etc.

*Study skills support*

Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support is available through Maths Aid and help with academic writing is available from the Writing Development Centre (further information is available from the Robinson Library). Further study skills support is available from the central support services at both universities.

#### *Academic and Pastoral support*

Each undergraduate and taught postgraduate student will be assigned a personal tutor.\* A personal tutor is one part of a wider network of advice and guidance available to students to support their personal and general academic development. The module leader acts as the first point of contact for subject-specific academic advice. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Student Voice Committee, and/or at the Board of Studies. Within the academic unit, students may also receive additional academic and pastoral advice from a range of other student-facing staff including degree programme directors, dissertation/project supervisors, and administrative support staff.

\*Arrangements may vary for students taking special types of provision.

The University also offers a wide range of institutional services and support upon which students can call, such as the Writing Development Centre, Careers Service and Student Wellbeing Service. This includes one-to-one counselling and guidance or group sessions / workshops on a range of topics, such as emotional issues e.g. stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Student Union operates a Student Advice Centre, which can provide advocacy and support to students on a range of topics including housing, debt, legal issues etc.

At the Faculty of Economics and Business of the University of Groningen, the initial point of contact for a student is with a lecturer or module leader. Thereafter the Degree Programme Coordinator or Director may be consulted. The content and structure of a teaching programme and the rights and obligations of students are set out in the Teaching and Examination Regulations (TER). The Rules and Regulations set out how the TER is implemented in practice. The Board of Examiners is the first body to deal with complaints by students concerning the TER and its implementation. They decide on requests for dispensation from the rules.

At the Faculty of Economics and Business of the University of Groningen, the Study Advice Department provides study advice and tutoring as well as student mediation and career counselling. For questions about courses, exams, applications, degree ceremonies, etc., students can consult the Faculty's Education Desk. The University also offers a range of other supporting services, including the faculty Career Office, the central university Student Service Centre and Student Service Desk, the Student Counsellors, the Centre for Study Support and Academic Careers (SO) and The Psychological Counselling Service

<http://www.rug.nl/education/find-out-more/other-student-facilities/student-service-centre?lang=en>

#### *Support for students with disabilities*

The University's Disability Support team provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies.

At Groningen University students with a disability can consult the Faculty Study Advisor. Also, the Centre for Study Support and Academic Skills offers support in study planning. The Student Psychologists can help students if they have any psychosocial problems. In all other cases students can make an appointment with a Student Counsellor, who will help them find out what they are entitled to and what the best way to deal with the situation is.

#### *Learning resources*

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and the University's IT Service (NUIT), which supports campus-wide computing facilities.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-session language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

The library of the University of Groningen consists of the University Library and 15 faculty libraries. Documents can be easily located using the online Catalogue which can be consulted via the link: <http://www.rug.nl/library/>  
Computer facilities for students include a number of PC rooms that can be used for computer practicals for teaching and course-related purposes. The RUG computer network enables students to access one of the world's most advanced networks with trouble-free connections to the major Dutch, European and transatlantic networks. The University's Electronic Learning Environment is called Nestor and is used to post course information, download course documents (assignments, slides, old exam papers), find course schedules, exchange ideas with the lecturer and other students via e-mail, chat rooms and online discussions, etc.

Whether you want to improve your English language skills, learn Dutch, or wish to study any foreign language independently, the <http://www.rug.nl/talencentrum/index> of the Faculty of Arts offers various opportunities at several levels.

#### **14 Methods for evaluating and improving the quality and standards of teaching and learning**

##### **Newcastle University**

Generic information regarding University provision is available [here](#).

##### **University of Groningen**

The Faculty of Economics and Business of the University of Groningen operates a quality assurance system, ensuring that all aspects of the degree programmes are systematically checked and amended where necessary. It comprises a number of evaluation instruments including course evaluation, curriculum evaluation, curriculum audit and indicators.

##### **Course evaluations**

These are carried out online at the end of every study block. The results are published on Nestor. Follow-up discussions are held between lecturers and programme directors on the basis of the results.

##### **Curriculum evaluations**

An evaluation form is issued to all propaedeutic students halfway through their first year and to all students who have gained their Bachelor's or Master's degree. The results are published once a year (in May/June). Programme directors are responsible for follow-up.

##### **Curriculum audit**

Every six years, a degree programme's curriculum is reviewed by an internal committee to see how the degree programme can be improved. The curriculum audit is conducted in accordance with the accreditation requirements.

##### **Accreditation**



According to the Act on Accreditation of Higher Education of 2002, all degree programmes offered by Universities and Universities of Professional Education are evaluated according to established criteria and programmes that meet those criteria are accredited, i.e. recognized. Only accredited programmes are eligible for government funding and can award recognized degrees. Accredited programmes are listed in the Central Register of Higher Education Study Programmes. Accreditation is organized by the Netherlands Flemish Accreditation Organization (NVAO). A positive accreditation decision is valid for 6 years. All degree programmes offered by the Faculty of Economics and Business are accredited by the NVAO.

In addition to this, The Faculty of Economics and Business is part of an elite group of institutions that have achieved business accreditation from [AACSB International](#)

## 15 Regulation of assessment

### Newcastle University

Generic information regarding University provision is available [here](#).

### The University of Groningen

The University of Groningen uses the common marking scheme for Dutch higher education. Dutch grades range from 1 (very poor) to 10 (excellent); the minimum passing grade is 6. Transcripts will usually only give rounded grades (above x.5 is rounded up and below x.5 is rounded down). For exams and course work, grades are mostly unrounded. The Dutch grading system is listed in the table below:

|    |                   |   |                     |
|----|-------------------|---|---------------------|
| 10 | excellent         | 5 | almost satisfactory |
| 9  | very good         | 4 | unsatisfactory      |
| 8  | good              | 3 | very unsatisfactory |
| 7  | very satisfactory | 2 | poor                |
| 6  | pass              | 1 | very poor           |

The rules and regulations concerning the teaching and assessment of the degree programmes offered by the Faculty of Economics and Business are set out in the Faculty's Teaching and Examination Regulations (including the purpose and format of the degree programme; design of the degree programme; language of instruction; examinations and final assessments; required qualifications; etc.). See

<http://www.rug.nl/feb/education/student-handbook/>

#### *Reassessment of Taught Modules*

If a student fails to achieve a pass or what they deem to be a satisfactory mark on an assignment they are given one opportunity to submit a reparation assignment, thereby giving the student the opportunity to replace the unsatisfactory grade with a higher grade.

If a student resits an examination then the highest grade counts.

#### **Modules with Dual Recognition**

For those modules receiving dual recognition and the joint dissertation an agreed inter-institutional marking scheme has been agreed upon, whereby the common marking schemes have been mapped against each other. See Appendix 1

Students will be able to re-sit/resubmit assessments for the modules taken in Groningen as outlined in their regulations. However the following rules will apply for the recognition of these marks towards the Newcastle Award –

1) If a student re-sits/re-submits an assessment (or part thereof) after failing his/her first attempt the grade for the re-sit/resubmission will be capped at 50 in line with the regulations at Newcastle and appear as such on their Newcastle transcript.

2) In line with the Newcastle regulations, if a student has passed an assessment but resits/resubmits an assessment (or part thereof) the grade from the first attempt will appear on the Newcastle transcript and will be used to calculate the overall average for the Newcastle award.

In addition, information relating to the programme is provided in:

The Newcastle University Prospectus: <http://www.ncl.ac.uk/postgraduate/courses/>

The Newcastle Degree Programme and University Regulations:  
<http://www.ncl.ac.uk/regulations/docs/>

The University of Groningen, Faculty of Economics and Business Student Handbook, and Teaching and Examination Regulations <http://www.rug.nl/feb/education/student-handbook/>

The University of Groningen, Faculty of Economics and Business: <http://www.rug.nl/feb/index>

The University of Groningen, Faculty of Economics and Business Online Course Catalogue (Ocasys): <http://www.rug.nl/ocasys/rug/>

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.

Appendix 1

**Newcastle Groningen Inter-institutional Postgraduate grading scale**

| NUBS        |            | RUG                     |                         |
|-------------|------------|-------------------------|-------------------------|
| end marking | marks in % | grades (with 1 decimal) | end grade (no decimals) |
| distinction | 100        | 10.0                    | 10                      |
|             | >=98       | 9.9                     |                         |
|             | >=96       | 9.8                     |                         |
|             | >=94       | 9.7                     |                         |
|             | >=92       | 9.6                     |                         |
|             | <b>90</b>  | <b>9.5</b>              |                         |
|             | 89         | 9.4                     | 9                       |
|             | 88         | 9.3                     |                         |
|             | 87         | 9.2                     |                         |
|             | 86         | 9.1                     |                         |
|             | 85         | 9                       |                         |
|             | 84         | 8.9                     |                         |
|             | 83         | 8.8                     |                         |
|             | 82         | 8.7                     |                         |
|             | 81         | 8.6                     | 8                       |
|             | 80         | 8.5                     |                         |
|             | 79         | 8.4                     |                         |
|             | 78         | 8.3                     |                         |
|             | 77         | 8.2                     |                         |
|             | 76         | 8.1                     |                         |
| 75          | 8          |                         |                         |
| 74          | 7.9        |                         |                         |
| 73          | 7.8        |                         |                         |
| 72          | 7.7        |                         |                         |
| 71          | 7.6        |                         |                         |
| <b>70</b>   | <b>7.5</b> |                         |                         |
| merit       | 69         | 7.4                     | 7                       |
|             | 68         | 7.3                     |                         |
|             | 67         | 7.2                     |                         |
|             | 66         | 7.1                     |                         |
|             | 65         | 7                       |                         |
|             | 64         | 6.9                     |                         |
|             | 63         | 6.8                     |                         |
|             | 62         | 6.7                     |                         |
| 61          | 6.6        |                         |                         |

|      |           |            |   |
|------|-----------|------------|---|
|      | <b>60</b> | <b>6.5</b> |   |
| pass | 59        | 6.4        | 6 |
|      | 58        | 6.3        |   |
|      | 57        | 6.2        |   |
|      | 56        | 6.1        |   |
|      | 55        | 6          |   |
|      | 54        | 5.9        |   |
|      | 53        | 5.8        |   |
|      | 52        | 5.7        |   |
|      | 51        | 5.6        |   |
|      | <b>50</b> | <b>5.5</b> |   |
| fail | 49        | 5.4        | 5 |
|      | 48        | 5.3        |   |
|      | 47        | 5.2        |   |
|      | 46        | 5.1        |   |
|      | 45        | 5          |   |
|      | 44        | 4.9        |   |
|      | 43        | 4.8        |   |
|      | 42        | 4.7        |   |
|      | 41        | 4.6        |   |
|      | <b>40</b> | 4.5        |   |
|      | 39        | 4.4        | 4 |
|      | 38        | 4.3        |   |
|      | 37        | 4.2        |   |
|      | 36        | 4.1        |   |
|      | 35        | 4          |   |
|      | 34        | 3.9        |   |
|      | 33        | 3.8        |   |
|      | 32        | 3.7        |   |
|      | 31        | 3.6        |   |
|      | <b>30</b> | 3.5        |   |
|      | 29        | 3.4        | 3 |
|      | 28        | 3.3        |   |
|      | 27        | 3.2        |   |
|      | 26        | 3.1        |   |
|      | 25        | 3          |   |
|      | 24        | 2.9        |   |
|      | 23        | 2.8        |   |
|      | 22        | 2.7        |   |
|      | 21        | 2.6        |   |
|      | <b>20</b> | 2.5        |   |
| 19   | 2.4       | 2          |   |
| 18   | 2.3       |            |   |
| 17   | 2.2       |            |   |

|  |           |     |   |
|--|-----------|-----|---|
|  | 16        | 2.1 |   |
|  | 15        | 2   |   |
|  | 14        | 1.9 |   |
|  | 13        | 1.8 |   |
|  | 12        | 1.7 |   |
|  | 11        | 1.6 |   |
|  | <b>10</b> | 1.5 |   |
|  | >=8       | 1.4 | 1 |
|  | >=6       | 1.3 |   |
|  | >=4       | 1.2 |   |
|  | >=2       | 1.1 |   |
|  | 0         | 1   |   |