Programme Specification: Undergraduate

For Academic Year 2025/26

1. Course Summary

Names of programme and award title(s)	BSc (Hons) Neuroscience with Artificial Intelligence BSc (Hons) Neuroscience with Artificial Intelligence International Year (see Annex for details) BSc (Hons) Neuroscience with Artificial Intelligence with Work Placement Year (see Annex for details) BSc (Hons) Studies in Neuroscience with Artificial Intelligence BSc (Hons) Studies in Neuroscience with Artificial Intelligence with International Year (see Annex for details) BSc (Hons) Studies in Neuroscience with Artificial Intelligence with Work Placement Year (see Annex for details)
Award type	Single Honours
Mode of study	Full-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 6
Normal length of the programme	3 years; 4 years with either the International Year or Placement Year between years 2 and 3
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Keele Campus
Accreditation (if applicable)	All routes, excluding the 'Studies in' routes, are accredited by the Royal Society of Biology. For further details see the section on Accreditation.
Regulator	Office for Students (OfS)
Tuition Fees	**UK students:** Fee for 2025/26 is £9,535* **International students:** Fee for 2025/26 is £17,700** The fee for the international year abroad is calculated at 15% of the standard year fee The fee for the work placement year is calculated at 20% of the standard year fee

How this information might change: *Please read the important information at http://www.keele.ac.uk/student-agreement/. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.*

** These fees are regulated by Government. We reserve the right to increase fees in subsequent years of study in response to changes in government policy and/or changes to the law. If permitted by such change in policy or law, we may increase your fees by an inflationary amount or such other measure as required by government policy or the law. Please refer to the accompanying Student Terms & Conditions. Further information on fees can*

be found
at http://www.keele.ac.uk/studentfunding/tuitionfees/

*** These fees are for new students. We reserve the right to increase fees in subsequent years of study by an inflationary amount. Please refer to the accompanying Student Terms & Conditions for full details. Further information on fees can be found at http://www.keele.ac.uk/studentfunding/tuitionfees/*

2. Overview of the Programme

The Neuroscience with Artificial Intelligence programme at Keele will give you the opportunity to explore key principles of Neuroscience (e.g. neuroanatomy, neurophysiology, neuropharmacology, neuropathology, and behaviour), alongside developing relevant digital skills, particularly in the artificial intelligence field. Artificial intelligence has emerged as a prominent research tool in the field of neuroscience. In particular, applying machine learning principles can help unlock previously hidden trends in the complex datasets found in the field of neuroscience. These include investigating the thousands of electrical signals generated from thousands of different neurons, to extracting huge numbers of protein changes from omics experiments and making sense of big data. Further, there is a major developing application of artificial intelligence and machine learning to diagnose neurological disorders, where humans fail. On the other hand, knowledge of how the brain works has enabled the development of new artificial intelligence systems based on neural networks. These new developments highlight the need for training the next-generation of Neuroscience students with the key skills of the Artificial Intelligence field. Newly trained graduates could go into academic research, biotechnology/industry research or clinical optimisation of diagnostic tools.

Our overarching aim in the programme is to equip you with fundamental knowledge in the fascinating field of Neuroscience and the emerging potential of Artificial Intelligence. Neuroscience concepts are covered throughout all levels with core and optional modules available including Neuroanatomy, Neurophysiology and Neuropathology. You will learn all necessary core fundamental Computer Science topics that underpin Artificial Intelligence, such as programming, computer systems, and the study of algorithms and their analysis in level 4. In subsequent years, you will then study core areas of Artificial Intelligence and data science in a series of modules taught by Computer Science experts, such as data science techniques, computational and artificial intelligence, and machine learning applications, learning the latest methods and research directions. This will allow you to apply these skills and techniques in a variety of fields, and in particular neuroscience. Neuroscience modules including Neuroscience Research Methods and Models in Neuroscience Research will consider how Artificial Intelligence techniques are being applied in the field of Neuroscience. By the end of the degree, we aim to provide you with the multidisciplinary skills and knowledge employed by scientists in these fields.

During the programme you will receive research training in experimental design, practical techniques and data analysis. This will culminate in the opportunity to undertake a final year research project (laboratory or computer based) under expert guidance of our Neuroscience teaching staff. Between Years 2 and 3 of the course, you can also opt to spend (i) a year abroad studying or (ii) a placement year working in industry or a partner research institute.

3. Aims of the programme

The broad aims of the programme are to enable you to:

- gain specific knowledge, understanding and skills relevant to neuroscience and a broad understanding of artificial intelligence
- understand how artificial intelligence principles could be applied to neuroscience datasets
- develop critical skills, independence and originality in thought to apply to scientific and digital research
- become skilled and motivated scientists, suitably prepared for further study or for employment within or outside their field
- gain employability skills to facilitate entry into the jobs market in any area where scientific skills are valued
- demonstrate independent research skills, which are important for problem solving roles in academia, industry or health sectors.

4. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

Successful students will be able to:

- cellular and gross anatomical features of the, developing and adult, peripheral and central nervous system
- neuronal function, from a single cell to neuronal networks
- the physiological principles underlying neuronal activity
- cellular mechanisms underlying pathology of the nervous system
- neuronal mechanisms of cognitive function, and the relationship to the same phenomena at the behavioural level
- the foundations of the core areas of computer science relevant to the field of artificial intelligence
- how to apply data science and machine learning techniques in a wide variety of contexts
- the scientific basis of artificial intelligence, including the ethical responsibilities of computer scientists
- the basic experimental skills appropriate to the subject
- the approaches to acquiring, interpreting, analysing data from a variety of sources, including the use of statistics
- the contribution of research to the development of neuroscience and/or artificial intelligence knowledge

Subject specific skills

- Successful students will be able to:
- use a range of techniques for the acquisition and analysis of information relevant to neuroscience and artificial intelligence
- use a range of laboratory techniques to ensure competence in experimental skills
- record and analyse data in a manner that ensures validity, accuracy, calibration, precision, and reliability
- formulate a hypothesis to design, conduct, analyse, report and evaluate experiments
- recognise philosophical and ethical issues relevant to the subject, and appreciate the need for ethical standards and professional codes of conduct
- work safely and responsibly in biological and computer laboratories, with awareness of standard procedures
- make use of and critique qualitative and quantitative research design and analytical techniques
- design and apply artificial intelligence algorithms to large data sets
- evaluate benefits and limits of artificial intelligence-based systems when applied to specific problems
- compare different artificial intelligence techniques that can be applied to data sets in a variety of domains

Key or transferable skills (including employability skills)

Successful students will be able to:

- develop an adaptable, flexible, sustainable and effective approach to study and work, including time management, creativity and intellectual integrity
- acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal, graphical
- prepare, process, interpret and present data using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually
- use the internet and other electronic sources critically as a means of communication and a source of information
- cite and reference work in an appropriate manner, avoiding issues with plagiarism
- communicate effectively to a variety of audiences by written, spoken and graphical means using appropriate techniques and scientific language
- develop skills necessary for self-managed and lifelong learning, including working independently and organisational, enterprise and knowledge transfer skills
- work with others to achieve an objective in a respectful manner that is accepting of the viewpoints and opinions of others and evaluates the roles and development of team members
- motivate themselves and sustain that motivation over an extended period of time
- identify and work towards targets for personal, academic and career development
- develop a sufficient level of conceptual understanding to enable the development of arguments and analysis of Computer Science with a focus on Artificial Intelligence

Keele Graduate Attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social and ethical responsibility.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

5. How is the programme taught?

Diversity, flexibility, and inclusivity is at the heart of our education strategy which is developed. The delivery of our programme will include the following types of activities:

Laboratory practicals: Take place in one of our state-of-the-art science labs. These give you first-hand experience in a range of scientific techniques and have been designed to ensure you develop both independent and team-based skills.

Digital material: Traditional 'lectures' are often redesigned for online consumption, giving you more flexibility to decide how, when and where to study. This can include provision of short videos, directed reading, key learning outcomes and forms that allow you to ask questions anonymously.

Live, campus-based interactive lectures: Delivered by experts in the field, including external guest speakers. Interactive lectures focus on active learning and aim to provide opportunities for you to discuss key content and consolidate your learning.

Live, campus-based tutorials and workshops: Often designed to support those areas that we know can be difficult, such as statistics. Tutorials and workshops are often delivered in small groups designed to promote social learning, develop a sense of community, and to give you an opportunity to apply your knowledge and deepen your understanding of core issues through discussion with other students and your tutors.

Final year research project. Undertaking an experimental project with the support of an experienced researcher allows students to formulate relevant research questions and devise, carry out and analyse experiments to answer them.

Apart from these formal activities, we operate an open-door policy so you can ask for a meeting with any of our tutors across the year to discuss particular areas of difficulty or concern. You will also have access to specialist advice and support through our Academic Mentors, Disability Inclusion Tutors, Student Experience and Support Officers, and a range of central services including Counselling and Mental Health, Careers and Employability, and Student Finance.

6. Teaching Staff

University life is not just about the content of your degree. It is also an opportunity to network and to speak to people working in fields that excite you. In the School of Life Sciences and the School of Computer Science and Mathematics, you will meet a diverse range of staff that you can see by using the following links>: (https://www.keele.ac.uk/lifesci/ourpeople/ and https://www.keele.ac.uk/scm/staff/ respectively).

We will also invite speakers from the School of Medicine, Allied Health Professions and Pharmacy, and local NHS Trusts.

Our staff include world-leading researchers, clinical practitioners, and experts in learning and teaching. As part of their training, all staff complete post-graduate qualifications on learning and teaching. Some take this to Masters level and beyond, choosing to specialise in pedagogic research to ensure that our programmes are taught to the very highest standards.

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

7. What is the structure of the Programme?

The academic year runs from September to June and is divided into two semesters. Each semester will generally have 12 weeks of teaching, and an additional 3 weeks of final assessments. Details of each semester can be found using the following link: https://www.keele.ac.uk/students/academiclife/keydates/.

Our programme is organised into modules. Each module is usually a self- contained unit of study, and each is usually assessed separately with the award of credits on the basis of 1 credit = 10 hours of student effort. An outline of the structure of the programme is provided in the tables below.

There are two types of modules delivered as part of your programme. They are:

- Compulsory modules - a module that you are required to study on this course;
- Optional modules - these allow you some flexibility to specialise in areas you are interested in.

Global Challenge Pathways

This programme includes the option for you to take a Global Challenge Pathway. These modules offer you an exciting opportunity to work with students and staff from different disciplines to explore topical global issues such as power and conflict, health inequalities, climate change, generative AI, social justice, global citizenship, and enterprise from different perspectives.

Global Challenge Pathways can be taken as one 15-credit module at Levels 5 and 6. For more information about our Global Challenge Pathways please visit:
https://www.keele.ac.uk/study/undergraduate/globalchallengepathways/

Modern Languages or Certificate in TESOL

Alternatively, you could choose to study modules with the University Language Centre. The Language Centre offers three pathways; The Language Specialist, The Language Taster, and The Trinity Certificate in Teaching English to Speakers of Other Language (TESOL). Language Centre modules are available separately for students at Level 4. At Levels 5 and 6 they are included within the Global Challenge Pathways.

If you choose the Language Specialist pathway, you will automatically be enrolled on a Semester 2 Modern Language module as a continuation of your language of choice as a faculty funded 'additional' module. Undertaking a Modern Languages module in Semester 2 is compulsory if you wish to continue to the Language Specialist Global Challenge Pathway the following academic year.

For more information about Language Centre option modules available to you please visit the following webpages.

For new (Level 4) students please visit: https://www.keele.ac.uk/study/languagecentre/

For current (Level 5 and Level 6) students please visit: https://www.keele.ac.uk/students/academiclife/global-challenge-pathways/

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For further information on the content of modules currently offered, please visit:
https://www.keele.ac.uk/recordsandexams/modulecatalogue/

Year	Compulsory	Optional	
		Min	Max
Level 4	120	0	0
Level 5	90	30	30
Level 6	90	30	30

Module Lists

Level 4

Compulsory modules	Module Code	Credits	Period
Introduction to Programming	CSC-10070	15	Semester 1
Computer Systems and Fundamentals	CSC-10080	30	Semester 1-2
Introduction to Neuroscience	LSC-10047	30	Semester 1-2
Human Physiology and Anatomy	LSC-10101	30	Semester 1-2
Practical and Academic Skills in Bioscience	LSC-10103	0	Semester 1-2
Introduction to Algorithms	CSC-10064	15	Semester 2

Level 4 Module Rules

Practical and Academic Skills in Bioscience (LSC-10103)

LSC-10103 *Practical and Academic Skills in Bioscience* is a compulsory zero-credit module. All laboratory work across this Level of study will be coordinated through this module and assessed within other credit-bearing modules across the year, where appropriate. This module will also develop wider academic skills and includes additional academic support and development material to enhance your overall student experience and develop key employability skills. The module will be passed via attendance to a minimum threshold (70%) of taught laboratory sessions and successful completion of a competency skills audit (OSPE). Students unable to pass this module will transfer to our alternative, *Studies in Neuroscience with Artificial Intelligence* pathway that is not accredited by the RSB.

Level 5

Compulsory modules	**Module Code**	**Credits**	**Period**
Data Science Techniques	CSC-20095	15	Semester 1
Functional Neuroanatomy	LSC-20139	30	Semester 1
Practical and Professional Skills in Bioscience	LSC-20127	0	Semester 1-2
Computational and Artificial Intelligence I	CSC-20043	15	Semester 2
Neuroscience Research Methods	LSC-20078	30	Semester 2

Optional modules	**Module Code**	**Credits**	**Period**
Cellular and Molecular Neuroscience	LSC-20133	15	Semester 1
Neurophysiology	LSC-20135	15	Semester 1
Flexible Work Placement (Level 5)	NAT-20011	15	Semester 1-2
Neuropharmacology	LSC-20061	15	Semester 2
Learning & Memory	LSC-20076	15	Semester 2

Level 5 Module Rules

LSC-20107 *Practical and Professional Skills in Bioscience* is a compulsory zero-credit module. All laboratory work across this level of study will be coordinated through this module and assessed within other credit-bearing modules across the year, where appropriate. This module will also develop advanced academic skills in literature searching and analysis and includes additional career development workshops, enhancing your overall student experience and developing key employability skills. The module will be passed via attendance to a minimum threshold (70%) of taught laboratory sessions and successful completion of a competency skills audit (OSPE). Students unable to pass this module will transfer to our alternative, *Studies in Neuroscience and Artificial Intelligence* pathway that is not accredited by the RSB.

Please note: You cannot take both Flexible Work Placement (Level 5) and Flexible Work Placement (Level 6)

Level 6

Compulsory modules	Module Code	Credits	Period
Machine Learning Applications	CSC-30041	15	Semester 1
Models in Neuroscience Research	LSC-30104	15	Semester 1
Professional Development in Bioscience	LSC-30090	0	Semester 1-2
Research Project	LSC-30102	30	Semester 1-2
Computational and Artificial Intelligence II	CSC-30027	15	Semester 2
Current Research Topics in Neuroscience	LSC-30042	15	Semester 2

Optional modules	Module Code	Credits	Period
Behavioural Neuroscience	LSC-30052	15	Semester 1
Neuropathology	LSC-30118	15	Semester 1
Flexible Work Placement (Level 6)	NAT-30008	15	Semester 1-2
Professional Experience in Education	NAT-30012	15	Semester 1-2
Regeneration and Repair in the Nervous System	LSC-30039	15	Semester 2
Special Senses	LSC-30053	15	Semester 2

Level 6 Module Rules

LSC-30102 *Research Project* cannot be condoned. Students unable to reach the 40% pass threshold for this module may be able to repeat to repeat the year (either in full or on a modular basis), or transfer to our non-accredited pathway, *Studies in Neuroscience and Artificial Intelligence*.

Please note: You cannot take both Flexible Work Placement (Level 5) and Flexible Work Placement (Level 6). You also cannot take both Flexible Work Placement (Level 6) and Professional Experience in Education.

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Level 4

The table below sets out what you will learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
cellular and gross anatomical features of the, developing and adult, peripheral and central nervous system.	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
neuronal function, from a single cell to neuronal networks.	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
the physiological principles underlying neuronal activity.	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
the basic experimental skills appropriate to the subject.	Practical and Academic Skills in Bioscience - LSC-10103
the approaches to acquiring, interpreting, analysing data from a variety of sources, including the use of statistics.	Practical and Academic Skills in Bioscience - LSC-10103 Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
neuronal mechanisms of cognitive function, and the relationship to the same phenomena at the behavioural level.	Introduction to Neuroscience - LSC-10047
cellular mechanisms underlying pathology of the nervous system.	Introduction to Neuroscience - LSC-10047
the contribution of research to the development of neuroscience and/or artificial intelligence knowledge.	Computer Systems and Fundamentals - CSC-10080 Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101 Practical and Academic Skills in Bioscience - LSC-10103
the foundations of the core areas of Computer Science relevant to the field of artificial intelligence	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080
how to apply data science and machine learning techniques in a wide variety of contexts	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080
the scientific basis of artificial intelligence, including the ethical responsibilities of computer scientists.	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
use a range of techniques for the acquisition and analysis of information relevant to the subject	Introduction to Programming - CSC-10070 Computer Systems and Fundamentals - CSC-10080 Introduction to Neuroscience - LSC-10047 Introduction to Algorithms - CSC-10064 Human Physiology and Anatomy - LSC-10101 Practical and Academic Skills in Bioscience - LSC-10103
use a range of laboratory techniques to ensure competence in experimental skills.	Practical and Academic Skills in Bioscience - LSC-10103 Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
record and analyse data in a manner that ensure validity, accuracy, calibration, precision, and reliability	Practical and Academic Skills in Bioscience - LSC-10103 Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
formulate a hypothesis to design, conduct, analyse, report and evaluate experiments.	Practical and Academic Skills in Bioscience - LSC-10103 Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
recognise philosophical and ethical issues relevant to the subject, and appreciate the need for ethical standards and professional codes of conduct.	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
work safely and responsibly in the laboratory, with awareness of standard procedures	Practical and Academic Skills in Bioscience - LSC-10103
evaluate benefits and limits of artificial intelligence-based systems when applied to specific problems	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080
compare different artificial intelligence techniques that can be applied to data sets in a variety of domains	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080
design and apply artificial intelligence algorithms to large data sets	Introduction to Programming - CSC-10070 Introduction to Algorithms - CSC-10064 Computer Systems and Fundamentals - CSC-10080

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
develop an adaptable, flexible, sustainable and effective approach to study and work, including time management, creativity and intellectual integrity	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal, graphical	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
prepare, process, interpret and present data using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
use the internet and other electronic sources critically as a means of communication and a source of information	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
cite and reference work in an appropriate manner, avoiding issues with plagiarism	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
communicate effectively to a variety of audiences by written, spoken and graphical means using appropriate techniques and scientific language	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
work with others to achieve an objective in a respectful manner that is accepting of the viewpoints and opinions of others and evaluates the roles and development of team members	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
motivate themselves and sustain that motivation over an extended period of time	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
identify and work towards targets for personal, academic and career development	Introduction to Neuroscience - LSC-10047 Human Physiology and Anatomy - LSC-10101
develop a sufficient level of conceptual understanding to enable the development of arguments and analysis of Computer Science, with a focus on artificial intelligence	Computer Systems and Fundamentals - CSC-10080 Introduction to Algorithms - CSC-10064 Introduction to Programming - CSC-10070

Level 5

The table below sets out what you will learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
cellular and gross anatomical features of the, developing and adult, peripheral and central nervous system.	Functional Neuroanatomy - LSC-20139
neuronal function, from a single cell to neuronal networks.	Functional Neuroanatomy - LSC-20139
the basic experimental skills appropriate to the subject.	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
the approaches to acquiring, interpreting, analysing data from a variety of sources, including the use of statistics.	Practical and Professional Skills in Bioscience - LSC-20127 Neuroscience Research Methods - LSC-20078
neuronal mechanisms of cognitive function, and the relationship to the same phenomena at the behavioral level.	Functional Neuroanatomy - LSC-20139
cellular mechanisms underlying pathology of the nervous system.	Functional Neuroanatomy - LSC-20139
the contribution of research to the development of neuroscience and/or artificial intelligence knowledge.	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127 Computational and Artificial Intelligence I - CSC-20043
how to apply data science and machine learning techniques in a wide variety of contexts	Computational and Artificial Intelligence I - CSC-20043
the foundations of the core areas of Computer Science relevant to the field of artificial intelligence	Computational and Artificial Intelligence I - CSC-20043
the scientific basis of artificial intelligence, including the ethical responsibilities of computer scientists.	Computational and Artificial Intelligence I - CSC-20043

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
use a range of techniques for the acquisition and analysis of information relevant to the subject.	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
use a range of laboratory techniques to ensure competence in experimental skills.	Practical and Professional Skills in Bioscience - LSC-20127 Neuroscience Research Methods - LSC-20078
record and analyse data in a manner that ensure validity, accuracy, calibration, precision, and reliability .	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
formulate a hypothesis to design, conduct, analyse, report and evaluate experiments.	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
recognise philosophical and ethical issues relevant to the subject, and appreciate the need for ethical standards and professional codes of conduct.	Computational and Artificial Intelligence I - CSC-20043 Neuroscience Research Methods - LSC-20078
work safely and responsibly in the laboratory, with awareness of standard procedures.	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
evaluate benefits and limits of artificial intelligence-based systems when applied to specific problems	Computational and Artificial Intelligence I - CSC-20043
compare different artificial intelligence techniques that can be applied to data sets in a variety of domains	Computational and Artificial Intelligence I - CSC-20043
design and apply artificial intelligence algorithms to large data sets	Computational and Artificial Intelligence I - CSC-20043

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
develop an adaptable, flexible, sustainable and effective approach to study and work, including time management, creativity and intellectual integrity	Neuroscience Research Methods - LSC-20078 Functional Neuroanatomy - LSC-20139
acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal, graphical	Neuroscience Research Methods - LSC-20078
prepare, process, interpret and present data using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually	Neuroscience Research Methods - LSC-20078
use the internet and other electronic sources critically as a means of communication and a source of information	Neuroscience Research Methods - LSC-20078 Functional Neuroanatomy - LSC-20139
cite and reference work in an appropriate manner, avoiding issues with plagiarism	Neuroscience Research Methods - LSC-20078 Functional Neuroanatomy - LSC-20139
communicate effectively to a variety of audiences by written, spoken and graphical means using appropriate techniques and scientific language	Neuroscience Research Methods - LSC-20078
develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	Neuroscience Research Methods - LSC-20078 Functional Neuroanatomy - LSC-20139
work with others to achieve an objective in a respectful manner that is accepting of the viewpoints and opinions of others and evaluates the roles and development of team members	Neuroscience Research Methods - LSC-20078 Practical and Professional Skills in Bioscience - LSC-20127
motivate themselves and sustain that motivation over an extended period of time	Functional Neuroanatomy - LSC-20139 Neuroscience Research Methods - LSC-20078
identify and work towards targets for personal, academic and career development	Neuroscience Research Methods - LSC-20078 Functional Neuroanatomy - LSC-20139
develop a sufficient level of conceptual understanding to enable the development of arguments and analysis of Computer Science, with a focus on artificial intelligence	Computational and Artificial Intelligence I - CSC-20043

Level 6

The table below sets out what you will learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
cellular and gross anatomical features of the, developing and adult, peripheral and central nervous system.	Regeneration and Repair in the Nervous System - LSC-30039 Current Research Topics in Neuroscience - LSC-30042 Neuropathology - LSC-30118 Behavioural Neuroscience - LSC-30052 Special Senses - LSC-30053
neuronal function, from a single cell to neuronal networks.	Behavioural Neuroscience - LSC-30052 Special Senses - LSC-30053 Regeneration and Repair in the Nervous System - LSC-30039 Current Research Topics in Neuroscience - LSC-30042 Neuropathology - LSC-30118
the physiological principles underlying neuronal activity.	Neuropathology - LSC-30118 Behavioural Neuroscience - LSC-30052 Current Research Topics in Neuroscience - LSC-30042 Special Senses - LSC-30053
the basic experimental skills appropriate to the subject.	Research Project - LSC-30102
the approaches to acquiring, interpreting, analysing data from a variety of sources, including the use of statistics.	Research Project - LSC-30102
neuronal mechanisms of cognitive function, and the relationship to the same phenomena at the behavioural level.	Behavioural Neuroscience - LSC-30052 Neuropathology - LSC-30118
cellular mechanisms underlying pathology of the nervous system.	Neuropathology - LSC-30118 Regeneration and Repair in the Nervous System - LSC-30039 Special Senses - LSC-30053 Behavioural Neuroscience - LSC-30052
the contribution of research to the development of neuroscience and/or artificial intelligence knowledge	Neuropathology - LSC-30118 Regeneration and Repair in the Nervous System - LSC-30039 Behavioural Neuroscience - LSC-30052 Current Research Topics in Neuroscience - LSC-30042 Computational and Artificial Intelligence II - CSC-30027 Research Project - LSC-30102
how to apply data science and machine learning techniques in a wide variety of contexts	Computational and Artificial Intelligence II - CSC-30027
the foundations of the core areas of Computer Science relevant to the field of artificial intelligence	Machine Learning Applications - CSC-30041 Computational and Artificial Intelligence II - CSC-30027
the scientific basis of artificial intelligence, including the ethical responsibilities of computer scientists.	Machine Learning Applications - CSC-30041 Computational and Artificial Intelligence II - CSC-30027

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
use a range of techniques for the acquisition and analysis of information relevant to the subject	Research Project - LSC-30102
use a range of laboratory techniques to ensure competence in experimental skills.	Research Project - LSC-30102
record and analyse data in a manner that ensure validity, accuracy, calibration, precision, and reliability	Research Project - LSC-30102
formulate a hypothesis to design, conduct, analyse, report and evaluate experiments.	Research Project - LSC-30102
recognise philosophical and ethical issues relevant to the subject, and appreciate the need for ethical standards and professional codes of conduct.	Machine Learning Applications - CSC-30041 Regeneration and Repair in the Nervous System - LSC-30039 Computational and Artificial Intelligence II - CSC-30027 Research Project - LSC-30102
work safely and responsibly in the laboratory, with awareness of standard procedures	Research Project - LSC-30102
evaluate benefits and limits of artificial intelligence-based systems when applied to specific problems	Computational and Artificial Intelligence II - CSC-30027 Machine Learning Applications - CSC-30041
compare different artificial intelligence techniques that can be applied to data sets in a variety of domains	Machine Learning Applications - CSC-30041 Computational and Artificial Intelligence II - CSC-30027
design and apply artificial intelligence algorithms to large data sets	Computational and Artificial Intelligence II - CSC-30027 Machine Learning Applications - CSC-30041

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
develop an adaptable, flexible, sustainable and effective approach to study and work, including time management, creativity and intellectual integrity	All modules
acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal, graphical	All modules
prepare, process, interpret and present data using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually	Research Project - LSC-30102
use the internet and other electronic sources critically as a means of communication and a source of information	All modules
cite and reference work in an appropriate manner, avoiding issues with plagiarism	All modules
communicate effectively to a variety of audiences by written, spoken and graphical means using appropriate techniques and scientific language	Research Project - LSC-30102
develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	All modules
work with others to achieve an objective in a respectful manner that is accepting of the viewpoints and opinions of others and evaluates the roles and development of team members	Behavioural Neuroscience - LSC-30052 Research Project - LSC-30102 Neuropathology - LSC-30118
motivate themselves and sustain that motivation over an extended period of time	All modules
identify and work towards targets for personal, academic and career development	All modules
develop a sufficient level of conceptual understanding to enable the development of arguments and analysis of Computer Science, with a focus on artificial intelligence	Machine Learning Applications - CSC-30041 Computational and Artificial Intelligence II - CSC-30027

8. Final and intermediate awards

Credits required for each level of academic award are as follows:

BSc (Hons) Neuroscience with Artificial Intelligence	360 credits	You will require at least 120 credits at levels 4, 5 and 6 You must accumulate at least 270 credits in your main subject (out of 360 credits overall), with at least 90 credits in each of the three years of study, to graduate with a named single honours degree in this subject.
Diploma in Higher Education	240 credits	You will require at least 120 credits at level 4 or higher and at least 120 credits at level 5 or higher
Certificate in Higher Education	120 credits	You will require at least 120 credits at level 4 or higher

International Year option: in addition to the above students must pass a module covering the international year in order to graduate with a named degree including the 'international year' wording. Students who do not complete, or fail the international year, will be transferred to the three-year version of the programme.

Work Placement Year option: in addition to the above students must pass a non-credit bearing module covering the work placement year in order to graduate with a named degree including the 'with Work Placement Year' wording. Students who do not complete, or fail the work placement year, will be transferred to the three-year version of the programme.

9. How is the Programme Assessed?

The wide variety of assessment methods used on this programme at Keele reflects the broad range of knowledge and skills that are developed as you progress through the degree programme. Teaching staff pay particular attention to specifying clear assessment criteria and providing timely, regular and constructive feedback that helps to clarify things you did not understand and helps you to improve your performance. The following list is representative of the variety of assessment methods used on your programme:

Our assessment strategy is designed to be authentic and diverse so that you can develop key skills that meet academic, professional body and employer expectations. Module managers will provide appropriate guidance for each assessment and the marking criteria that will be used to assess your work.

Our assessment strategy will help you to develop and evidence your ability to:

- **Provide evidence-based solutions to current scientific problems.** Most often this is assessed through a range of essays, portfolios and literature reviews.
- **Critically reflect on current issues.** Reflective writing is an increasingly important skill in the workforce, particularly to healthcare professions. It can help you to identify personal strengths and weaknesses so that you can learn from your experience and maximise your potential.
- **Present scientific findings.** Often these are lab reports or experimental projects that test your ability to pose scientific hypotheses, design experiments, understand methodologies, present findings, analyse data and situate your work in the current literature.
- **Communicate effectively with a range of audiences.** These can include scientific posters, patient information leaflets, wikis, blogs or oral presentation.
- **Work professionally.** Your final year, independent research project will give you an opportunity to demonstrate a range of professional skills such as leadership, innovation, time keeping, communication and the ability to work safely and ethically.
- **Work effectively in a team.** Most often this is assessed through group presentations but can also include competencies such as working together in the lab.
- **Solve problems in a time-limited fashion.** Often in the work environment we are asked to solve problems in a relatively short amount of time. Our online tests and end-of-semester, online, open-book examinations will help you to evidence these skills.

We aim to provide constructive feedback within 3 weeks of submission for all assessed work. This is often phrased in terms of strengths, weaknesses and ways to improve to help you focus on key areas that can improve the quality of your work in the future.

Marks are awarded for summative assessments designed to assess your achievement of learning outcomes. You will also be assessed formatively to enable you to monitor your own progress and to assist staff in identifying and addressing any specific learning needs. Feedback, including guidance on how you can improve the quality of your work, is also provided on all summative assessments within three working weeks of submission, unless there are compelling circumstances that make this impossible, and more informally in the course of tutorial and seminar discussions.

10. Contact Time and Expected Workload

This contact time measure is intended to provide you with an indication of the type of activity you are likely to undertake during this programme. The data is compiled based on module choices and learning patterns of students on similar programmes in previous years. Every effort is made to ensure this data is a realistic representation of what you are likely to experience, but changes to programmes, teaching methods and assessment methods mean this data is representative and not specific.

Undergraduate courses at Keele contain an element of module choice; therefore, individual students will experience a different mix of contact time and assessment types dependent upon their own individual choice of modules. The figures below are an example of activities that a student may expect on your chosen course by year stage of study. Contact time includes scheduled activities such as: lecture, seminar, tutorial, project supervision, demonstration, practical classes and labs, supervised time in labs/workshop, fieldwork and external visits. The figures are based on 1,200 hours of student effort each year for full-time students.

Activity

	Scheduled learning and teaching activities	**Guided independent Study**	**Placements**
Year 1 (Level 4)	38.6%	61.4%	0%
Year 2 (Level 5)	30.5%	69.5%	0%
Year 3 (Level 6)	34.4%	65.6%	0%

11. Accreditation

Students should note that to be awarded Royal Society of Biology accreditation they must achieve a minimum standard of 40% in the Life Sciences Double Experimental Project (with research skills assessment), or equivalent placement module. Students that condone this module may still be eligible for the award '*Studies in Neuroscience with Artificial Intelligence*'.

12. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at: http://www.keele.ac.uk/student-agreement/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

13. What are the typical admission requirements for the Programme?

See the relevant course page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

English for Academic Purposes

Please note: All new international students entering the university will provide a sample of Academic English during their registration Using this sample, the Language Centre may allocate you to an English language module which will become compulsory. This will replace any GCP modules. *NB:* students can take an EAP module only with the approval of the English Language Programme Director and are not able to take any other Language modules in the same academic year.

English Language Modules at Level 4:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 5:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for

Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 6:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2); ENL-90005 Advanced Business English Communication
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

Recognition of Prior Learning (RPL) is considered on a case-by-case basis and those interested should contact the Programme Director. The University's guidelines on this can be found here: https://www.keele.ac.uk/qa/programmesandmodules/recognitionofpriorlearning/

14. How are students supported on the programme?

The School of Life Sciences operates an open-door policy. This means that you can contact any of our staff via email to request a meeting or discus any problem that you may be experiencing.

In addition to the open-door policy, you can also contact the following people across Life Sciences for help and support:

- Programme Director or Director of Education for programme-, discipline- or School-related issues
- Module Manager for module-related issues
- Demonstrators for help during labs
- Academic Mentors for academic help and guidance
- Student Experience and Support Officers for more personal or pastoral help
- Early Resolution Officer to help advocate for you, for example, if you would like to raise a complaint
- Student Voice are a group of students from your programme that can advocate for you to the school

Student Services also offer a comprehensive range of specialist services that help you at any time from enrolment to graduation. The following link will provide more information: https://www.keele.ac.uk/students/studentservices/

15. Learning Resources

You will be taught in modern, dedicated teaching laboratories (some of which were opened by Sir David Attenborough himself!)

You will have access to an extensive collection of books and journals both at our library here on campus and the health library situated at the University Hospital of North Staffordshire.

You will also have access to a comprehensive range of ebooks, journals and published papers all available online.

We make extensive use of our virtual Keele Learning Environment (KLE) and Microsoft Teams to host a wide range of learning resources such as lectures and guidance materials and to facilitate live debates such as online discussions or Q&As.

16. Other Learning Opportunities

Study Abroad (International Year)

A summary of the International Year, which is a potential option for students after completion of year 2 (Level 5), is provided in the Annex for the International Year.

Work Placement Year

Students have the opportunity to apply directly for the 4-year 'with Work Placement Year' degree programme or to transfer onto the 4-year degree programme at the end of Year-1 and in Year-2 at the end of Semester 1. Students who are initially registered for the 4-year degree programme may transfer onto the 3-year degree programme at any point in time, prior to undertaking their year-long placement. Eligibility rules are included in the Annex.

Students wishing to take the work placement year should meet with the Programme Director to obtain their signature to confirm agreement before they will be allowed to commence their placement.

International students who require a Tier 4 visa must check with the Immigration Compliance Team prior to

commencing any form of placement.

A summary of the Work Placement Year, which is a potential option for students after completion of year 2 (Level 5), is provided in the Annex for the Work Placement Year.

Secondments: These are shorter industrial placements that usually take place over the summer in between Level 5 and 6 and usually last between 2-8 weeks. They can be based locally in one of our research labs here at Keele, nationally or internationally. For example, often some our students will travel to Malaysia to work with our partner *Universiti Sains Malaysia*.

Operation Wallacea: This is a private company that supports a wide range of student projects with a particular focus on biodiversity and climate research. More information can be found at: https://www.opwall.com

Other opportunities. There are a number of schemes available from e.g. the Wellcome Trust that provide bursaries for students to gain laboratory experience in the summer vacation between level 5 and 6. Staff in Life Sciences have hosted these bursaries in the past and students who are interested can approach staff, who will have to submit an application on the students' behalf to the funding bodies (usually in January or February). Staff may also be willing to host students in their laboratories during the summer vacation on a voluntary basis. Other learning opportunities students vary from year to year but include the opportunity to hear from, and talk to, a range of guest speakers and presenters including researchers from around the world. Some of these activities are timetabled as part of taught modules, others are organised separately as part of a school-wide seminar programme but are widely advertised and undergraduate students are always welcome to attend.

Note: the opportunities described above are limited and dependent on external providers.

17. Additional Costs

There will be additional costs for inter-library loans and potential overdue library fines, printing and graduation. Foreign Placements and the tropical field course are likely to incur addition costs for flights, transport, inoculations and accommodation.

Other than for the purchase of some textbooks, the value and quantity of which varies considerably from student to student, we do not anticipate any further costs for this undergraduate programme.

Activity	Estimated Cost
Optional field course hosted at USM, Malaysia	£1,200
Replacement lab coat (if you lose the free one we provide)	£10
Total estimated additional costs	£1,210

These costs have been forecast by the University as accurately as possible but may be subject to change as a result of factors outside of our control (for example, increase in costs for external services). Forecast costs are reviewed on an annual basis to ensure they remain representative. Where additional costs are in direct control of the University we will ensure increases do not exceed 5%.

18. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of the academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual National Student Survey (NSS), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students in all three years of the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

19. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education: http://www.qaa.ac.uk/quality-code
b. QAA Subject Benchmark Statement: Bioscience (2023): https://www.qaa.ac.uk/docs/qaa/sbs/sbs-biosciences-23.pdf?sfvrsn=b570a881_6
c. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations
d. RSB Handbook for Accreditation of Degrees https://www.rsb.org.uk/images/RSB_Accreditation_Handbook.pdf

20. Annex - International Year

BSc (Hons) Studies in Neuroscience with Artificial Intelligence with International Year

International Year Programme
Students registered for this Single Honours programme may either be admitted for or apply to transfer during their period of study at Level 5 to the International Year option. Students accepted onto this option will have an extra year of study (the International Year) at an international partner institution after they have completed Year 2 (Level 5) at Keele. Students who successfully complete both the second year (Level 5) and the International Year will be permitted to progress to Level 6. Students who fail to satisfy the examiners in respect of the International Year will normally revert to the standard programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript. Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional detail contained in this annex will pertain solely to students registered for the International Year option.
International Year Programme Aims
In addition to the programme aims specified in the main body of this document, the international year programme of study aims to provide students with: 1. Personal development as a student and a researcher with an appreciation of the international dimension of their subject 2. Experience of a different culture, academically, professionally and socially
Entry Requirements for the International Year

Students may apply to the 4-year programme during Level 5. Admission to the International Year is subject to successful application, interview and references from appropriate staff.

The criteria to be applied are:

- Academic Performance (an average of 55% across all modules in Semester 1 at Level 5 is normally required. Places on the International Year are then conditional on achieving an average mark of 55% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 55% requirement may progress to the International Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- General Aptitude (to be demonstrated by application for study abroad, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's Academic Mentor, 1st and 2nd year tutors and programme director)

Students may not register for both an International Year and a Placement Year.

Student Support

Students will be supported whilst on the International Year via the following methods:

- Phone or Skype conversations with Study Abroad tutor, in line with recommended Academic Mentoring meeting points.
- Support from the University's Global Education Team

Learning Outcomes

In addition to the learning outcomes specified in the main text of the Programme Specification, students who complete a Keele undergraduate programme with International Year will be able to:

1. Describe, discuss and reflect upon the cultural and international differences and similarities of different learning environments
2. Discuss the benefits and challenges of global citizenship and internationalisation
3. Explain how their perspective on their academic discipline has been influenced by locating it within an international setting.
4. Use independent research skills to identify relevant information resources on a range of subjects related, or complementary, to Neuroscience.
5. Demonstrate the use of critical thinking skills, augmented by creativity and curiosity, in discussing the application of their International Year studies to Neuroscience.

These learning outcomes will all be assessed by the submission of a satisfactory individual learning agreement, the successful completion of assessments at the partner institution and the submission of the reflective portfolio element of the international year module.

Regulations

Students registered for the International Year are subject to the programme-specific regulations (if any) and the University regulations. In addition, during the International Year, the following regulations will apply:

Students undertaking the International Year must complete 120 credits, which must comprise *at least 40%* in the student's discipline area.

This may impact on your choice of modules to study, for example you will have to choose certain modules to ensure you have the discipline specific credits required.

Students are barred from studying any module with significant overlap to the Level 6 modules they will study on their return. Significant overlap with Level 5 modules previously studied should also be avoided.

Additional costs for the International Year

Tuition fees for students on the International Year will be charged at 15% of the annual tuition fees for that year of study, as set out in Section 1. The International Year can be included in your Student Finance allocation, to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Students who meet external eligibility criteria may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible income dependent bursaries at Keele.

Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some Governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.

21. Annex - Work Placement Year

BSc (Hons) Studies in Neuroscience with Artificial Intelligence with Work Placement Year

Work Placement Year summary

Students registered for this programme may either be admitted for or apply to transfer during their studies to the 'with Work Placement Year' option (NB: for Combined Honours students the rules relating to the work placement year in the subject where the placement is organised are to be followed). Students accepted onto this programme will have an extra year of study (the Work Placement Year) with a relevant placement provider after they have completed Year 2 (Level 5) at Keele.

Students who successfully complete both the second year (Level 5) and the Work Placement Year will be permitted to progress to Level 6. Students who fail to satisfactorily complete the Work Placement Year will normally revert to the 3-year programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript.

Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional detail contained in this annex will pertain solely to students registered for the Work Placement Year option.

Work Placement Year Programme Aims

In addition to the programme aims specified in the main body of this document, the Work Placement Year aims to provide students with:

- Experience of working in a subject-related laboratory or work place within an industrial, academic or public institution either in the UK or abroad

Entry Requirements for the Work Placement Year

Admission to the Work Placement Year is subject to successful application, interview and references from appropriate staff. Students have the opportunity to apply directly for the 4-year 'with work placement year' degree programme, or to transfer onto the 4-year programme at the end of Year-1 and in Year-2 at the end of Semester 1. Students who are initially registered for the 4-year degree programme may transfer onto the 3-year degree programme at any point in time, prior to undertaking the year-long work placement. Students who fail to pass the work placement year, and those who fail to meet the minimum requirements of the work placement year module, (* or equivalent, work placement), will be automatically transferred onto the 3-year degree programme.

* We recommend where possible students undertake a placement of between 9 - 12 months on a full-time basis to maximize academic and personal growth. However, the Work Placement Year mandates a minimum of 24 weeks in duration, ideally on a full-time basis, but no less than 21 hours per week. This enables those undertaking an unpaid placement to work on a part-time basis alongside.

The criteria to be applied are:

- A good University attendance record and be in 'good academic standing'.
- Academic Performance (an average of 50% across all modules in Semester 1 at Level 5 is normally required. Places on the Work Placement Year are then conditional on achieving an average mark of 50% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 50% requirement may progress to the Work Placement Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- Students undertaking work placements will be expected to complete a Health and Safety checklist prior to commencing their work experience and will be required to satisfy the Health and Safety regulations of the company or organisation at which they are based.
- *(International students only)* Due to visa requirements, it is not possible for international students who require a Tier 4 Visa to apply for direct entry onto the 4-year with Work Placement Year degree programme. Students wishing to transfer onto this programme should discuss this with student support, the academic tutor for the work placement year, and the Programme Lead. Students should be aware that there are visa implications for this transfer, and it is the student's responsibility to complete any and all necessary processes to be eligible for this programme. There may be additional costs, including applying for a new Visa from outside of the UK for international students associated with a transfer to the work placement programme.

Students may not register for both an International Year and a Work Placement Year.

Student Support

Students will be supported whilst on the Work Placement Year via the following methods:

- Regular contact between the student and a named member of staff who will be assigned to the student as their University supervisor. The University supervisor will be in regular contact with the student throughout the year, and be on hand to provide advice (pastoral or academic) and liaise with the Placement supervisor on the student's behalf if required.
- Two formal contacts with the student during the placement year: the University supervisor will visit the student in their placement organization at around 5 weeks after the placement has commenced, and then visit again (or conduct a telephone/video call tutorial) at around 15 weeks into the placement.
- Weekly supervision sessions will take place with the placement supervisor (or his/her nominee) throughout the duration of the placement.

Learning Outcomes

In addition to the learning outcomes specified in the main text of the Programme Specification, students who complete the 'with Work Placement Year' option will be able to:

- Demonstrate an ability to successfully work within their placement institution and to learn practical skills and develop their science base within the scope of their work project

These learning outcomes will be assessed through the Work Placement Year module (NAT-30010) which involves:

- Successful completion of the module

Regulations

Students registered for the 'with Work Placement Year' option are subject to programme-specific regulations (if any) and the University regulations. In addition, during the Work Placement Year, the following regulations will apply:

- Students undertaking the Work Placement Year must successfully complete the zero-credit rated 'Work Placement Year' module (NAT-30010)
- In order to ensure a high quality placement experience, each placement agency will sign up to a placement contract (analogous to a service level agreement).
- Once a student has been accepted by a placement organisation, the student will make a pre-placement visit and a member of staff identified within the placement contract will be assigned as the placement supervisor. The placement supervisor will be responsible for ensuring that the placement experience meets the agreed contract agreed with the University.
- The placement student will also sign up an agreement outlining his/her responsibilities in relation to the requirements of each organisation.

Students will be expected to behave professionally in terms of:

(i) conforming to the work practices of the organisation; and

(ii) remembering that they are representatives of the University and their actions will reflect on the School and have an impact on that organisation's willingness (or otherwise) to remain engaged with the placement.

Additional costs for the Work Placement Year

Tuition fees for students on the Work Placement Year will be charged at 20% of the annual tuition fees for that year of study, as set out in Section 1. The Work Placement Year can be included in your Student Finance allocation; to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their placement provider, accommodation, food and personal costs. Depending on the placement provider additional costs may include parking permits, travel and transport, suitable clothing, DBS checks, and compulsory health checks.

A small stipend may be available to students from the placement provider during the placement but this will need to be explored on a placement-by-placement basis as some organisations, such as charities, may not have any extra money available. Students should budget with the assumption that their placement will be unpaid.

Eligibility for student finance will depend on the type of placement and whether it is paid or not. If it is paid, this is likely to affect student finance eligibility, however if it is voluntary and therefore unpaid, should not affect student finance eligibility. Students are required to confirm eligibility with their student finance provider.

International students who require a Tier 4 visa should check with the Immigration Compliance team prior to commencing any type of paid placement to ensure that they are not contravening their visa requirements.

22. Annex - Programme-specific regulations

Programme Regulations: Neuroscience with Artificial Intelligence

Final Award and Award Titles	BSc (Hons) Neuroscience with Artificial Intelligence BSc (Hons) Neuroscience with Artificial Intelligence International Year (see Annex for details) BSc (Hons) Neuroscience with Artificial Intelligence with Work Placement Year (see Annex for details) BSc (Hons) Studies in Neuroscience with Artificial Intelligence BSc (Hons) Studies in Neuroscience with Artificial Intelligence with International Year BSc (Hons) Studies in Neuroscience with Artificial Intelligence with Work Placement Year
Intermediate Award(s)	Diploma in Higher Education Certificate in Higher Education
Last modified	n/a
Programme Specification	https://www.keele.ac.uk/qa/programmespecifications

The University's Academic Regulations which can be found on the Keele University website (https://www.keele.ac.uk/regulations/)[1] apply to and regulate the programme, other than in instances where the specific programme regulations listed below over-ride them. These programme regulations list:

- *Exemptions* which are characterised by the omission of the relevant regulation.
- *Variations* which are characterised by the replacement of part of the regulation with alternative wording.
- *Additional Requirements* which set out what additional rules that apply to students in relation to this programme.

The following **exemptions, variations** and **additional requirements** to the University regulations have been checked by Academic Services and have been approved by the Faculty Education Committee.

A) EXEMPTIONS

The clause(s) listed below describe where an exemption from the University's Academic Regulations exists:

For the whole duration of their studies, students on this Programme are exempt from the following regulations:

No exemptions apply.

B) VARIATIONS

The clause(s) listed below describe where a variation from the University's Academic Regulations exists:

No variations apply

Additional Requirements

The programme requirements listed below are in addition to the University's Academic Regulations:

Additional requirement 1: Royal Society of Biology Accreditation

A pass mark must be obtained in both of our zero-credit, lab-based modules (one at Level 4 and the other Level 5) and the Research Project with research skills assessment to attain an accredited degree. For students who do not fulfil the conditions of this regulation, the degree award will be '*Studies in Neuroscience with Artificial Intelligence*' and the degree will not be accredited by the Royal Society of Biology.

Additional requirement 2: Attendance

Attendance at tutorials, seminars, workshops and laboratory sessions on this programme is compulsory. Failure

to attend a class without good cause will result in an informal warning. Failure to attend any subsequent classes without good cause will lead to the issuing of a formal University warning in accordance with Regulation B8 and could result in the requirement to withdraw from the university.

Additional requirement 3: Self-Certification

Self-certification of illness as a reason for absence from compulsory classes will be accepted for no more than two periods of absence, each covering no more than 7 days, per semester. Any subsequent absence for reasons of illness must be accompanied by a doctor's note.

Additional requirement 4: Laboratory and tutorial classes

Wearing a laboratory coat is compulsory in all laboratories. Students will not be allowed to attend the laboratory class without a laboratory coat.

Students must wear appropriate clothing in the laboratories, including sensible footwear. Closed shoes and low heels should be worn. This is to avoid tripping and to protect the feet in the case of spillages. Long hair must be tied back. Students who are inappropriately dressed may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.

Students who arrive late to laboratory classes may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.

Students who display serious misconduct in any class may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause. Serious misconduct involves wilful damage to property, injury or threat to persons, or persistent disruption of teaching.

The unauthorised use of mobile phones or headphones is not permitted in any class.

Students are not permitted to record, video or photograph taught sessions or meetings with staff, except with the permission in advance of the staff concerned. Permission will be given where this is part of an approved disability adjustment. Any permission to record, video or photograph is for personal use only and all recordings, videos or photographs remain the property of the presenter and Keele University.

Additional requirement 5: Health and Safety

Students are required to read and follow the procedures in the School of Life Sciences Safety Handbook, which is available from the Biomedical Science Noticeboard on the KLE.

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[1] References to University Regulations in this document apply to the content of the University's Regulatory Framework as set out on the University website here https://www.keele.ac.uk/regulations/.

Version History

This document

Date Approved: 01 April 2025

Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes