University of Nottingham
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School of Veterinary Medicine and Science

American Veterinary Medical Association Self Study Report

2022

Introduction

The School of Veterinary Medicine and Science, University of Nottingham was established in 2006, and is accredited by the Royal College of Veterinary Surgeons (RCVS) and European Association of Establishments for Veterinary Education (EAEVE).

The School offers two undergraduate veterinary programmes, a 5-year course and a 6-year course including a Gateway / Preliminary Year (for widening participation and also high achieving non-science students). Our outcomes-based programmes are mapped to AVMA, RCVS and EAEVE competences and provide students with high-quality degrees in year 3 and year 5. Teaching delivery is innovative, maximising the student experience through early hands-on exposure to animals, clinical integration and the use of small group and facilitated learning and is underpinned by e-learning and e-assessment. The curriculum is delivered in vertically (clinically) and horizontally (subject) integrated programmes and include a strong research component. The School uses a community-based lecture-free clinical year 5 teaching model, in which teaching is delivered at a number of Clinical Associates. Rotations are overseen by School clinicians and students are taught by both School and Clinical Associate veterinarians. The rotations are providing an excellent clinical experience for our students, and include a range of first opinion and referral caseloads across all major species.

We take pride in our exceptional levels of student support, which has resulted in a high student retention rate, and our graduates are confident in their skills and competences that are immediately applicable to day one of employment. Our graduates are keenly sought after by employers, and graduates continue to engage with the School through a successful alumni programme.

The School has built a reputation as world-class in its research achievements and has established four Strategic Research Areas which act as foci for research excellence. Undergraduate and postgraduate students have demonstrable research outputs. Faculty are recruited for both their research contribution and potential and their ability to teach on the veterinary course ensuring that teaching is research-enriched and contemporary.

Our quality assurance and control processes around education, teaching and the wider School ensure the highest standards and implementation of best practice. Outcomes are constantly reviewed to ensure that appropriate enhancements are made to our strategy and operations.

The School is autonomous, having strategic, operational and financial management responsibility and producing a £27.2m turnover, and meeting all performance targets yearly. Investment has been made into bespoke facilities, resources and equipment at the 1000-acre Sutton Bonington campus, where we are also able to access wider University facilities, including teaching, research and farm facilities. Making the strategic choice to have no hospital on site has provided the School with the benefit of utilising, and investing in, where appropriate, Clinical Associate facilities in order to maximise the value from the opportunity.

Strategic direction

The School of Veterinary Medicine and Science contributes to University strategy as set out in http://www.nottingham.ac.uk/about/strategy/index.aspx. As part of the wider Faculty strategy the School has 10 strategic priorities in the following areas:

- Estates and Facilities
- Education and Student Experience
- Research and Knowledge Exchange
- People
- Ways of Working
- Education and Student Experience
- Research and Knowledge Exchange
- Governance and Assurance
- Global and Civic Engagement
- Alumni and Philanthropy

These 10 areas are translated into 67 detailed SMART objectives, which are tailored to the Schools context. The School's progress against these objectives are reviewed quarterly with the Faculty Pro-Vice Chancellor and are given narrative and a visual "Red, Amber, Green" (RAG) rating. The Faculty/School strategy documents will be provided separately.

Strengths

- Pioneering, talented, and committed School Faculty and Support Staff who share an ambition to deliver excellence in teaching and research, with individuals recognised within the University, nationally and internationally for their teaching, research, clinical, administrative and technical expertise
- An engaging outcomes-based student-centred curriculum that combines a clinically focussed basic science curriculum with clinical learning opportunities and an appropriate clinical caseload, as to ensure our students develop professionally and practically and so have true 'Day One' skills
- Evidence-based and innovative teaching methods including a community-based clinical model with supportive Clinical Associates who value our mutual relationship
- An integrated research programme produces research-literate veterinarians with a penchant for life-long learning
- Rated second in UK for research power in the 2014 Research Excellence Framework assessment, with 37% of our work assessed as world-leading and 80% of internationally excellent quality. Research in the School is strengthened by a dynamic community of postgraduates
- The School is continually rated top of the UK's National Student Survey and the Association of Veterinary Students Survey for student experience suggesting that our students appreciate their experience, both in their teaching and learning and through support mechanisms
- The School again won the student-nominated Best School Award at the University's Oscar's 2021
- Highly popular Veterinary School as measured by undergraduate applications, with novel student recruitment processes leading to a wide diversity of students, with over 30% of students from disadvantaged backgrounds
- High employment rates and salaries for graduates who are sought-after in the profession
- The School takes pride in our students, who are engaged and committed, and work in partnership with the School and the local community. The School's exceptional student engagement was recognised with an ASPIRE award, the first veterinary school to be awarded this international accolade
- Unique research facilities in the Centre for Dairy Science Innovation and the Wolfson Centre for Global Virus Research
- The School is financially robust, efficient and effective with substantial ongoing investment in facilities and resources supported by the University
- Quality assurance and control is integral to all aspects of the School's activities such that it has become engrained in School culture

Weaknesses and challenges

- New UK Veterinary Schools are replicating our educational ideas, and the increased numbers of Schools coupled with student applicant numbers remaining somewhat static may result in the future recruitment of lower quality applicants within all UK veterinary schools, however the risk for Nottingham is low due to 8 applications per place.
- Uncertainty about what government expects from and how it will reward Knowledge Exchange (although we are very good at this)
- As a young Veterinary School we have few senior research leaders which reduces the potential for research mentoring

Recommendations

The School has achieved and continues to achieve outstandingly in our field. Our next phase of development is to consolidate our achievements to date.

- We need to ensure that the University continues recognise the requirement for sustained and appropriate funding in order to underpin the growth of the School and continue to deliver an excellent student experience (e.g. our new teaching building)
- We will focus on the development of Clinical Associate relationships and facilities in order to deliver dual intake clinical rotations
- We will focus further on leading the development and implementation of EDI initiatives

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ABC	Activity Based Costing
ADC	Appraisal and Development Conversations
AE/T	Animals Examined/Treated
AH	Animal Husbandry
AHDOPS	Animal Husbandry Directly Observed Procedural Skills
AHEMS	Animal Husbandry Extra Mural Studies
AHPA	Animal & Plant Health Agency
AHW	Animal Health and Welfare
AP	Associate Professor
APHA	Animal and Plant Health Authority
AVP	Advanced Veterinary Practitioner
BAME	Black, Asian and Minority Ethnic
BBSRC	Biotechnology and Biological Sciences Research Council
BCVA	British Cattle Veterinary Association
BET	Best Evidence Topics
BEVA	British Equine Veterinary Association
BSAVA	British Small Animal Veterinary Association
BVA	British Veterinary Association
BVEDS	British Veterinary Ethnicity and Diversity Society
BVM	Bachelor of Veterinary Medicine
BVMedSci	Bachelor of Veterinary Medicine and Science
BVS	Bachelor of Veterinary Surgery
CA	Clinical Associate
CAR	Circulatory and Respiratory Systems
CEMS	Clinical Extra Mural Studies
CEVM	Centre for Evidence-based Veterinary Medicine
CLIVE	Computer-aided Learning in Veterinary Education
CPS	Clinical Professional Skills
CR	Clinical Relevance
CRS	Cardiorespiratory Systems
DATR	Defence Animal Training Regiment
DEFRA	Department for Environment, Food and Rural Affairs
DIMO	Digital Innovations and Media Officer
DLG	Digital Learning Group
DOPS	Directly Observed Procedural Skills
DoS	Director of Safety
DTS	Digital and Technology Services
DVetMed	Doctor of Veterinary Medicine
DVetSurg	Doctor of Veterinary Surgery
DWR	Dick White Referrals
EDI	Equality, Diversity and Inclusion
EEAR	Educational Enhancement and Assurance Reviews
EMQ	Extended Matching Questions
EMS	Extra Mural Studies
ENI	Endocrine and Integument
EQI	Equine
FBO	Food Business Operator
FC	Farm Calls
FCP	Fundamentals of Clinical Practice
FELSIG	Faculty E-learning Special Interest Group
FHEA	Fellow Higher Education Academy
GCSE	General Certificate of Secondary Education
GDP	Graduate Development Program
GIL	Gastrointestinal
HACCP	Hazard Analysis Critical Control Points
HBLB	Horserace Betting Levy Board
HEA	Higher Education Academy
HESA	Higher Education Statistics Agency
HEU	Home / European
IELTS	International English Language Testing System
IMR	Intra-Mural Rotations
JCG	James Cameron Gifford
LAV	Large Animal
LCB	Lymphoreticular Cell Biology
LCF	Learning Community Forum
LGBT+	Lesbian, gay, bisexual and transgender/transsexual
LRLR	Libraries, Research and Learning Resources
MCQ	Multiple Choice Questions
MHS	Medicine and Health Sciences
MOOC	Massive Open Online Course
MRC	Medical Research Council

MSK	Musculoskeletal
MVM	Master of Veterinary Medicine
MVS	Master of Veterinary Surgery
NEU	Neuroscience
NHS	National Health Service
NMSK	Neuromuscular
NSES	Nottingham Student Experience Survey
NSS	National Student Survey
NUH	Nottingham University Hospitals
OfS	Office for Students
OFSTED	Office for Standards in Education, Children's Services and Skills
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
PAL	Peer Assisted Learning
PBL	Problem Based Learning
PDSA	People's Dispensary for Sick Animals
PFHEA	Principle Fellow Higher Education Academy
PG	Postgraduate
PGCHE	Postgraduate Certificate in Higher Education
PGR	Postgraduate Research
PICO	Patient Intervention Comparator Outcome
PPS	Personal Professional Skills
PRO	Project
PV	Patient Visits
PVC	Pro-Vice Chancellor
PVS	Principles of Veterinary Science
QAA	Quality Assurance Agency
QR	Quality Related
R&T	Research and Teaching
RAG	Red, Amber, Green
REF	Research Excellence Framework
REP	Veterinary Production
RPA	Rotation Professionalism Assessment
RSPCA	Royal Society for the Prevention of Cruelty to Animals
RVC	Royal Veterinary College
RVN	Registered Vet Nurse
SA	Small Animal
SAS	Student Academic Skills
SB	Sutton Bonington
SBA	Single Best Answer
SEM	Student Evaluation of Module
SET	Student Evaluation of Teaching
SFHEA	Senior Fellow Higher Education Academy
SGTR	Small Group Teaching Room
SJT	Situational Judgement Test
SRA	Strategic Research Areas
SSC	School Safety Committee
STEM	Science Technology Engineering and Maths
SVMS	School of Veterinary Medicine and Science
T&L	Teaching and Learning
TA	Teaching Associate
TEF	Teaching Excellence and Student Outcomes Framework
TLA	Teaching, Learning and Assessment
TLOC	Teaching and Learning Observation College
UCAS	Universities and Colleges Admissions Service
UEB	University Executive Board
UG	Undergraduate
UKRI	UK Research and Innovation
URI	Urinary
UT	University Teacher
VDS	Veterinary Defence Society
VERG	Veterinary Education Research Group
VetSoc	Veterinary Society
VPH	Veterinary Public Health
VPS	Veterinary Professional Skills
VSC	Veterinary Schools Council
WLP	Workload Planning

Standard 1: Organisation

1.1 Provide a college mission statement for the undergraduate, DVM, or equivalent program. The college mission statement must address:
- **the overall teaching, research, and service commitment,**
- **the commitment to undergraduate education,**
- **the commitment to provide instruction and clinical opportunities for students in a wide variety of domestic species, including food animal, equine, and companion animal**
- **the commitment to excellence in program delivery**

School Mission: Our mission is to educate veterinary surgeons to enable them to have a broad impact on animal health and welfare and to public health, and to contribute significantly to the veterinary profession as a whole. We enhance society by carrying out world-leading innovative research and technology transfer in basic, translational and clinical sciences to tackle key issues in fundamental science, animal and human health and global sustainability. We drive for excellence and innovation in education, research, knowledge exchange and service, and in doing so ensure we champion equality and diversity, and well-being and at all times act with openness and fairness.

School Vision for Education: All members of the School and our Clinical Associates will have pride and confidence in every graduate that we produce. Our graduates will be world-leading in their practical and professional approach to veterinary medicine.

School Vision for Research: The School will be recognised internationally for research excellence in our four major strategic research areas, impacting on animal and human health worldwide by developing new advanced diagnostics and therapeutics, by developing novel technologies for pathogen detection, control and treatment, and by implementing novel approaches to enhance health and welfare of livestock. Our vision is to provide leadership in comparative biomedical research, animal welfare and animal management through innovation, clinical care, knowledge exchange and interdisciplinary partnerships.

Overarching School aims

Education
- To educate and train veterinary students, providing them with the knowledge, intellectual, practical and professional skills to fulfil the demands required of them to succeed and develop as accomplished and well-rounded veterinary professionals. They will be equipped with a thorough preparation in all aspects of basic, applied and clinical veterinary science, together with a capacity for deductive thought, ethical reasoning, problem solving, business skills, and research and committed to continued professional development
- To provide a dynamic environment which will deliver an inspirational learning experience drawing upon internationally renowned leading-edge pedagogic methods and the latest research advances
- To provide an excellent student experience, whilst ensuring that the veterinary profession maximises the potential contribution from all areas of society by attracting and recruiting outstanding students from a diverse range of backgrounds
- To communicate new advances and ensure lifelong learning through the provision of Continuing Professional Development (CPD) to the veterinary community

Research:
- To initiate and conduct world-leading basic, applied, educational and clinical research to improve animal and public health and welfare, enhance clinical practice, improve the economic efficiency and safety of animal production, and deliver research-led veterinary education
- To apply and transfer knowledge, concepts and technology to improve society and the economy, ensuring our research is relevant to our stakeholders: veterinarians, the scientific community, UK and world animal industries, government and their agencies and bodies, non-governmental organisations, students and the public at large

Fundamental aims:
- To champion equality and diversity
- To operate with openness and fairness
- To protect the well-being of our School community
- To ensure facilities and a financial model that is appropriate and sustainable for a modern veterinary school.

Our School faculty and support staff charter is shown in Appendix 1.1. Our people are our greatest asset; everyone has a crucial part of play in making our School a success. Our charter sets out how we put our shared values into practice and create an environment that is:

- Based on trust, collaboration and openness
- Where we all have a sense of belonging
- Where health, safety and wellbeing are incorporated into daily practice
- Where personal development is encouraged and supported
- Where we strive to be the best we can be as individuals, as teams and as a School

1.2 Identify the body that accredits the university and the current status of accreditation.

University College, Nottingham, opened in 1881. It was awarded its Royal Charter in 1948, becoming The University of Nottingham.

The Quality Assurance Agency for Higher Education (QAA) works with Higher Education institutions to define, safeguard and improve academic standards and the quality of Higher Education in the UK. In the 2016 QAA Institutional Audit the University was recognised as a provider of high quality and standards with the award of the Quality Mark, and awarded Gold in the 2017 Teaching Excellence Framework. The School is fully accredited by the Royal College of Veterinary Surgeons (RCVS), with the last accreditation visit in 2021. The School has also achieved full accreditation by the European Association of Establishments for Veterinary Education (EAEVE) in 2019.

1.3 Provide a flow chart indicating the position of the college of veterinary medicine in the university structure and show lines of authority and responsibility, and give the names and titles of principal university administrative officers related to the college

Two main bodies are involved in the governance of the University, the Council and the Senate, which include representatives from faculty and students. The day-to-day management of the University is the responsibility of University Executive Board (UEB) (Appendix 1.2). Senior Officers directly relevant to the School are:

- Vice-Chancellor: Professor Shearer West CBE
- Deputy Vice-Chancellor: Professor Andy Long
- Pro-Vice-Chancellor, Education and Student Experience: Professor Sarah Speight
- Pro-Vice-Chancellor, Research and Knowledge Exchange: Professor Dame Jessica Corner
- Pro-Vice Chancellor, Faculty of Medicine and Health Sciences: Professor Sir Jonathan Van Tam
- Registrar: Dr Paul Greatrix
- Chief Financial Officer: Mrs Margaret Monckton
- Chief Estates and Facilities Officer: Mrs Linda Goodacre
- Chief Marketing and Communications Officer: Ms Helen Pennack
- Director of Human Resources: Mrs Jaspal Kaur

The School is part of the Faculty of Medicine and Health Sciences, which also comprises the School of Medicine, School of Health Sciences and School of Life Sciences (Appendix 2). The primary decision-making Committees are the weekly Faculty Management Board (the Dean and Heads of Operations are members along with other School Heads, the Faculty PVC, Faculty Associate PVC for Education and Student Experience, Faculty Associate PVC for Research, Faculty Finance Manager) and monthly Faculty Board (membership as per Management Board, Faculty Associate PVC for Equality, Diversity and Inclusion, Faculty Global Engagement Lead and Faculty HR Manager). A number of University Committees provide strategic oversight and governance; these Committees have either Faculty or cross-University representation from academic Schools. (http://www.nottingham.ac.uk/governance/universitycommittees/index.aspx).

The School is supported by administrative staff in the School and in the University's central Professional Services teams, e.g. Student Services, Human Resources, Finance etc.

The School of Veterinary Medicine and Science (SVMS), established in 2006, has the same recognition, status and autonomy as other University Schools. The veterinary programme is owned and operated entirely by the School, with some aspects of the curriculum taught and overseen by our academics in a community-based model in partner Clinical Associates organisations. The Dean of School, Deputy Head of School, Clinical Director and Director of Education are qualified veterinary surgeons and members of the Royal College of Veterinary Surgeons.

1.4 Provide a flow chart of the organizational design of the college listing names, titles (deans, associate/assistant deans, directors, department heads, etc.), academic credentials, and assignments of the college administrators

The University is a highly devolved organisation. The main academic and budgetary units are the academic Schools. The University provides the legal, financial and organisational framework in which the Schools operate. The School utilises the highly developed quality framework employed by the University which covers quality management of learning and teaching (see www.nottingham.ac.uk/quality-manual), which covers aspects from design and approval of programmes, admissions through to student support and complaints.

The School is led by the Dean of School, a veterinarian, who is fully responsible for the strategic direction, quality management, safety and operational and financial performance of the School. The School is organised into four Academic Divisions (Divisions of Veterinary Clinical Sciences, Biomedical Sciences. Global Health and Population Science) and an Operations Division, which primarily act to provide a line management structure (Appendix 1.3). A number of Sub-Deans and Directors have been appointed to provide strategic input into discrete functional activities; these are supported by an administrative team or individual, normally in the School, although for Postgraduates and Student Welfare these staff are part of central Student Services.

The Dean of School is appointed by the University[1], whilst the Deputy Head of School, Heads of Divisions and Sub-Deans/Directors, and other leadership roles are appointed by the Dean of School, normally in consultation with the Faculty PVC or School Executive Team as appropriate. Management roles are shown in Appendix 1.4.

Clinical Associates

In order that students encounter the most appropriate primary care, as well as secondary and tertiary referral caseload, and acquire true 'Day One' clinical competences, SVMS has developed a community-based teaching model, in which clinical teaching is delivered at a number of Clinical Associates. Rotations are overseen by School clinicians, and students are taught by both School and Clinical Associate clinicians. Use of these Clinical Associates negates the need for an on-site hospital at the Veterinary School, consequently, both financial and personnel resource is redirected into supporting an effective experiential learning environment around a caseload wholly appropriate for teaching Day One competences. The School has contractual relationships with a number of Clinical Associates to deliver core rotations[2]:

- Oakham Veterinary Hospital, Oakham (Equine, Small Animal)
- PDSA, Derby (Small Animal)
- PDSA, Nottingham (Small Animal)
- Pinfold Vets (Small Animal)
- RSPCA, Ratcliffe (Small Animal)
- Scarsdale Veterinary Group, Derby (Farm Animal, Small Animal[3])

The individual contract varies per Clinical Associate in terms of the financial, resource and manpower investment, and also the length of term of the contract. Subject to confidentiality, contracts will be available to inspect during the visit.

The community-based teaching activities (Intra-Mural Rotations - IMR) are planned overall and assigned by the Clinical Director, supported by a senior administrator. The Clinical Director is aided by 4 species/discipline leads (Pathology and Veterinary Public Health, Farm, Small Animal and Equine) and by Rotation Leaders, who have responsibility for developing and overseeing the delivery of learning outcomes and the overall organisation and student experience for each rotation.

[1] Heads of School are normally appointed for 3 years, through consultation between the School, Dean of Faculty and the Faculty PVC. The Dean of the Veterinary School does not have a fixed term appointment.

[2] In addition Defence Animal Training Regiment (Equine), Dovecote Veterinary Hospital (Small Animal), Dick White Referrals (Small Animal), Your Vets, Sheldon (Small Animal), RSPCA Bolton (Small Animal), Farm Vet Solutions (Farm), Wright and Morten (Farm), Pool House (Equine) and Twycross Zoo (Exotics) are contracted as a Clinical Associates however these support track rotations

[3] Pride Veterinary Centre and Shelton Lock branch practices

1.5 Describe the role of faculty, staff, and students in the governance of the college and list the major committees of the college, and their appointment authority

The School has established a number of focussed Committees, normally chaired by either a Sub-Dean/Director or a Head of Division (Appendix 1.5). These Committees act to advise the Dean and Executive Team on policy and process, have a remit for quality and also have decision making power (with strategic decisions or decisions with budgetary impact referred to Executive Team), and comprise faculty and staff from across Divisions, with student and external representation where appropriate. All Committees ultimately report into the weekly School Executive Team Meeting, which considers all strategic and operational concerns. Leadership Team comprises School Executive Team plus all line mangers. Terms of Reference for both committees will be available to view during the Visitation.
Our policy is that individuals are empowered to deal with issues as they arise, such that issues are resolved at the lowest levels, escalating as needed to Sub-Deans, line managers or School management.

Faculty, staff and students are able to influence the School's direction and decision making processes through a number of means:

- Flat organisational structure, whereby the vast majority of faculty and staff report to a member of Leadership Team, facilitating easy raising of issues or ideas for management consideration
- Monthly School meetings, available to be attended by all faculty and staff, report on and seek feedback on key issues
- Wide School consultation on and review by all faculty and staff to gain input on policies, documents etc as needed
- Diagonal-slice cross-School working parties are established to address new projects or tasks
- Annual Staff Appraisal and Development Conversation meetings with the option for an interim meeting half way through the year
- Through various Committees (Teaching, Learning and Assessment (TLA), Research, Learning Community Forum (LCF), etc) with onwards decision making by Executive Team
- As part of surveys and feedback such as Student Evaluation of Teaching, Year, NSS, University or School surveys, rotation feedback
- Faculty and student attendance at faculty recruitment interviews
- Individual students also commonly directly contact relevant Sub-Deans/Directors, the Head of Operations or the Examinations Officer with feedback on an ongoing basis
- Anonymously through feedback boxes situated in Main Reception and in a Clinical Building corridor

The veterinary profession and wider public are involved in the running of the School on a number of levels:

- Members of the veterinary profession and public are members of the Admissions Committee
- Veterinary professionals undertake admissions assessments for undergraduate students
- Appropriately qualified and briefed veterinary professionals and other individuals deliver elements of teaching in the undergraduate programme
- Veterinary surgeons and veterinary nurses who are members of our Clinical Associate practices are involved in clinical teaching delivery during Intra Mural Rotations
- Members of the veterinary profession act as External Examiners on both the 5 and 6 year programme
- Members of the veterinary profession, farming and other animal-related industries supervise students on EMS placements and provide feedback about the School's processes and individual students
- Local animal owners are involved as clients of our Clinical Associates

Members of the School have representation on various regional, national and international professional bodies and associations and thus are able to develop working relationships with a variety of veterinary professionals ensuring that external views are adequately represented within the School. In addition, lay members are involved in the management of campus and University (for example as members of the Ethics Committee, University Senate etc).

1.6 If the college plans to change its current organization, provide a summary of those plans

There are no current plans to change the structure of the organisation.

1.7 Provide documentation of policies and activities that demonstrate that diversity is an important part of the academic culture, as consistent with applicable law

The School has put in place a number of measures to embed EDI in our culture and these are overseen by the EDI and Athena Swan committees. For example, we have created an EDI website, providing information on support for all protected characteristics, and useful contacts within and outside the SVMS for support.

The School was awarded the Athena Swan Bronze status in 2018 (http://www.ecu.ac.uk/equality-charters/athena-swan), and continues to implement various diversity measures and interventions to progress to Silver status. These include:

- Anonymised administrative recruitment processes
- Recruitment of an Assistant Professor in Workplace Health and Wellbeing
- Workshops and mentoring for specific demographic groups
- EDI Area Champions established (Race, Maternity and Care-givers, Disability, LGBT+, Neurodiversity) to both develop and action initiatives in the School and link with University and other stakeholder
- Mandatory online EDI training for all faculty and staff (Unconscious Bias, Equality and Diversity in the Workplace, Bullying and Harassment)
- Celebrations and events associated with annual observance months or days (e.g. LGBT+ month, Black History Month, International Women's Days)
- Director of EDI is a member of Executive Team
- Anonymous concern raising process

The School was established with a remit to increase diversity in the veterinary profession in the UK, and as such implements a range of measures (e.g. summer workshops, School visits, contextual offers, Preliminary Year course) to enhance diversity. We are particularly successful in attracting a wider range of applicants to the School, with normally over one third of any year being 'widening participation' however, male student numbers are consistently low and reflect low application numbers nationally. There are also, historically low numbers of ethnic minorities participating in the veterinary profession due to wider factors including cultural influences. We have now a BAME student group that is working with School Equality Diversity and Inclusion committee to develop initiatives to enhance ethnic diversity. The School was runner-up at the national Times Higher Awards in the Widening participation category with the development of a MOOC to assist work experience pre-application.

Students are active members of the School EDI Committee and EDI-related interventions developed in addition for students include

- Bullying and harassment guide for students on EMS placements
- 'Meet Me' presentations by faculty and staff around their routes to academia, disability, mental health etc
- Diversifying the curriculum (including decolonisation, intersectionality)
- During Welcome Week, students are introduced to the School's commitment to the values of equality, inclusion and diversity; and this is reinforced through mandatory online EDI training

Standard 2: Finances

The University allows Faculties significant freedom to run their operations as they see fit and as directed by the Faculty PVC. The Faculty PVC is assigned an overall budget and within that Schools are provided their own budget on an Activity Based Costing (ABC) basis. The School has more than 300 project codes, which are each considered individually and costs per driver are established (e.g., travel cost per student headcount).

Income and expenditure are therefore delinked, with no expectations of contribution percentages by differing income streams to the University. Any increase or decrease in income will be reflected in a corresponding increase or decrease in budget (at quarterly forecast) on an ABC basis. This funding model therefore allows for considerable differences in the cost base of Schools, i.e., budget is assigned according to need rather than any artificial contribution percentage. Separate budgets detailing expected income and expenditure are established and agreed for services rendered and educational contracts (e.g., apprenticeship, CPD), and are outwith the core School budget process.

It is not possible, with the exception of research grant funds, to retain any budget between years. The School budget is required to support all operational costs incurred directly by the School, with the exception of central functions, i.e. the School budget covers pay, consumables, school funded research, equipment etc but not, for example IT services, library, sports centre, registry etc. Budget for all the School's operations (except for research grants) is administered centrally in the School, and allocated to individual project budgets yearly. The School receives monthly financial accounts. The Dean and Head of Operations discuss the School's financial performance quarterly with the Faculty PVC, and are able to make the case for additional spend in relation to any increased income. Capitalised equipment requests are made by consultation with the School's Finance Adviser.

The School receives no income from hospital activities undertaken by School clinicians; all income associated with clinical activity undertaken by our academics, clinical Residents and Interns remains with the Clinical Associates as part of the contractual relationship.

2.1 Complete Tables A, B, and C for the past five years and analyze the trends for each category

Expenditure (Table A)

Instruction, academic support and student services has shown 29% growth over the last 5 years, both within manpower and other costs (Appendices 2.1-2.3). This is a result of growth in student numbers generally with an increase in 2020 as a result of the introduction of the dual intake. School Faculty manpower has increased by a net 37 posts over the last 5 years. Recruitment of quality Faculty to ensure our leading UK position in the educational student experience is key. Other non-manpower costs show overall growth, with the reduction in 2018/19 and 2019/20 due to University requirements to meet pension obligations and provide covid-related costs and contingency respectively.

Research expenditure has shown growth as result of the recruitment of Faculty and increased grant-funding success.

Outreach and continuing education shows very strong growth in expenditure as a result of the launch of two apprenticeships schemes coupled with CPD demand for surgical classes, however expenditure has had to be incurred before recruitment of students to ensure timely course development.

The school has no expenditure (but small capital and significant equipment spend) at **teaching hospitals**; relevant costs incurred by us at Clinical Associates are shown in Instruction, academic support and student services.

Diagnostic and other clinical labs expenditure has remained fairly static over the last 3 years and reflects spend from our pathology, nutritional analysis and newt detection services.

Facilities, maintenance and utility spend by the School is very low as these costs are incurred centrally.

Capital expenditure by the School is low as most spend is below the capitalisation minimum of £30k.

The School and central University only administer 3 small funds which are shown as **extramural student aid.**

University student aid is administered centrally and comprises emergency hardship funds, and core and potential bursaries (both of which are subject to certain household income levels). The expenditure for these funds does not show an expected growth in line with student numbers since the grant levels changed for new starters in 2020.

Other expenditure is dominated by postgraduate costs (for all research and taught programmes); these show a large increase in 2018/19 when the School started an MSc in Veterinary Physiotherapy.

Central overhead costs represent a detailed apportionment of costs which are incurred by the School for central University support, the breakdown of these costs are shown in Appendix 2.2. These costs are not directly charged to the School but are included to show a full picture of the expenditure in relation to the School across the School and University.

Revenues (Table B)

Government appropriation: the majority of the School's income is from Government grants for teaching, which have grown in relation to student numbers (Appendices 2.4-2.6). Funding for teaching of Home students is provided by the Office for Students (OfS). Funds are allocated per student FTE according to the price group of the course with additional supplements depending on the level of the course, the intensity of teaching and whether the course is part time or full time. Veterinary science has the highest price group weighting of £10,000 in 2021/22. For Home postgraduate students, OfS funding per postgraduate taught student is £11,023. Grants are also received on the basis of PGR numbers at £5,250 per FTE for home students.

The School currently receives government research funding associated with the grading resulting from the 2014 Research Excellence Framework (REF) assessment. The funding formula has three elements: quality, volume and subject cost relativities. The assessment outcomes associated with quality are shown in the form of a profile detailing the proportion of work which reached each of four quality profiles. These ranged from 4* (world leading) to 1* (nationally recognised). Funding is also received on the basis of average research income from charities and business for the previous four years of published data, e.g., for 2017/18, this would be an average of such income in 2012/13 through 2015/16. This funding stream is fairly static with slight decline reflecting historical reductions in charity and business income in our funding mix.

Revenue derived from students is our second largest income stream and is obviously a function of student headcount and shows strong growth primarily as a result of the introduction of the dual intake in 2020. Tuition fees are charged to all undergraduate and postgraduate students.

- All HEU undergraduate students pay a University fee of £9,250 per year (2020/21 entry). This fee also applies to graduates undertaking the undergraduate programme
- International undergraduate students on the 5-year programme are charged £35,220 per year (2020/21 entry)
- HEU postgraduates on taught programmes pay a fee as per the price of the course, currently this is £4,320 (Veterinary Medicine and Surgery), £2,670 (Veterinary Education) and £14,715 (Veterinary Physiotherapy). HEU postgraduates on research programmes pay £4,121 fees
- International postgraduate taught students pay fees of £14,910 (Veterinary Medicine and Surgery), £2,670 (Veterinary Education) and £24,390 (Veterinary Physiotherapy). Postgraduate Research students pay fees varying between £23,760 and £43,500 per year dependent on the type of research project

The UK Government decides the fee for HEU students, and the fee charged also relates to the University rating in the Teaching Excellence Framework, a national audit of teaching standards. The University is rated in the highest 'Gold' bracket.

No income is received from **other entities paying tuition and fees,** nor from **teaching hospitals,** as any income generated from our clinicians is retained by the Clinical Associate at which they are based.

Diagnostic and other clinical lab revenue shows a recent increase which relates to development of the Schools pathology service. CPD income which has been high historically has reduced significantly during the same period as a result of covid curtailing in-person teaching.

Research grants make up the income in **extramural grants and contracts**. There has been overall growth with minor fluctuations based on the fact that the start/end of large grants can significantly affect the overall income profile. Despite covid, there have been recent increases in research income which relates to improved grant review and mentoring processes. All grants are costed (subject to funding body rules) on a full economic cost basis, in order that indirect / overhead costs are recovered from funders. Commercial work is costed at market rates.

The School has been successful in gaining small amounts of donations, which are mostly to support research work, equipment or postgraduate positions. Major changes between years in the **current year gifts and endowment income** category reflect success in winning these donations, which are predominately from businesses or charities.

Other revenue comprises Continuing Education (CPD and apprenticeships) with income during the Covid period from apprenticeships, as in person CPD was cancelled. Other miscellaneous revenue comprises income from a number of small sources including the School shop, rental of stables and short term service projects.

No funds are carried forward from the previous year, ie there is no retention of funds, albeit research grants and donations are required to spend over the time period dictated by the funder.

Endowments (Table C)

Table C (Appendix 2.6) shows the year end position of endowment and donation funds. These funds are small and as detailed above changes between years reflect success in gaining donations.

2.2 Comment on the strengths and weaknesses in revenues over the past five years

Strengths

- The School has a high degree of autonomy and flexibility in financial matters and is well supported by the Faculty PVC and the wider University UEB and Financial Management. The overall financial position is strong, and the School manages and plans financial requirements on a detailed basis to ensure that maximum value and flexibility is attributed to the School
- Income associated with students is, and will remain strong due to the high demand for places. The income from students has grown as the School has increased intake, most notably from 2019/20. The School constructed a business case for the dual intake that was approved in 2019, thus income and associated budget is assured. The case planned to recruit a total of 77 FTE Faculty and Staff by 2026 and plans £7m capital for building developments on Campus and at Clinical Associates (detailed in Chapter 3). We have utilised these funds to date to provide high calibre academic and clinical Faculty and have also invested in new innovative initiatives such as a Centre of Veterinary Innovation and an Assistant Professor of Veterinary Workplace Health and Wellbeing
- Robust plans have been put in place that ensures the School performs highly in the next REF Assessment so that QR income levels are at least maintained. Research grant revenue is also showing growth as a result of improved research leadership including grant writing and mentoring support
- The School has invested considerably in Clinical Associate teaching hospitals, as it does not own a teaching hospital. Investments vary from capital investment in buildings to equipment. Staff and/or postgraduates are placed at Clinical Associates, or in occasional cases a payment is made in lieu

Weaknesses

- Endowments and donations from alumni have been zero over the last 5 years as our alumni are not at the stage in their careers to consider donations, (the first cohort graduated in 2011)
- There have been some reductions in budget historically as a result of the Covid-19 pandemic; all Schools were required to reduce budgets to meet University contingency requirements
- Under ABC the income attributable to the School is delinked and there is no retention of income (nor visibility of income). Currently the ABC budgeting method works well, as our School budget is able to be granted within the Faculty financial envelope - it will obviously be important that this continues

2.3 Provide a comprehensive trend analysis of revenue sources that have supported the professional teaching program over the past five years (graphs or other visual presentations would be helpful).

Trends have been detailed in section 2.1. Appendices 2.3 and 2.5 show the graphical five-year trend of revenue and expenditure

As detailed previously there are significant increases in government appropriation and student fees as a result of an increase in student numbers of 52% and 59% respectively over the last 5 years.

2.4 Describe how revenues over the past five years have impacted the School's ability to provide a contemporary professional teaching programme and ancillary support services

The School has used budgets associated with growing student numbers to support the teaching programme, such that an exceptional student experience is maintained and developed further. Investment continues to be made as required into manpower, equipment, facilities, infrastructure and course development, and has included:

- Refurbishment of the Atrium, School Kitchen/Staffroom including increased meeting space
- Reconfiguration of Clinical Small Group Teaching Rooms to allow flexible use as teaching space
- Expansion of the anatomy cold storage facilities and the creation of a purpose-built embalming area
- Expansion of the student locker room
- Refurbishment of the on-site abattoir, including new roof, windows and doors
- Relocation of the school histology laboratory to purposely designed facilities
- Development of additional Clinical Skills Lab, kennel space and office space for Technicians
- Purchase of two electric cars for use by students
- Investment in the development of the new PDSA Hospital, Nottingham
- Recruitment of support staff both in School and at Central University, including additional Welfare Manager roles.
- Recruitment of Student and Staff roles to support the April student experience over the Summer period
- Provision of grants for all year 5 students to support transport costs associated with rotations

In addition the University has funded

- Refurbishment of the Auditorium and improved lecture room technology
- A £6million expansion of the University Farm which resulted in an increase in herd size of 50%. The new unit provide state-of-the-art teaching and research facilities and includes a variety of technology-based sensor equipment.
- Upgraded wireless internet so there is excellent availability across Campus
- Improved Hopper bus timetables, including routes to Kegworth
- A £1.2M in the refurbishment of an on-site CL3 laboratory for infectious disease research.

Chart 2.3 shows trends specifically in cost per student FTE; this has reduced from £23k to £19k over the last 5 years as increased numbers have stretched the fixed cost base.

2.5 Compare the percentage of hospital income to total hospital operational costs

The School receives no income from hospital activities undertaken by School clinicians; all income associated with clinical activity undertaken by our academics, clinical Residents and Interns remains with the Clinical Associates as part of the contractual relationship. The School receives an income stream from its own Pathology service unit which accepts cases on a *pro bono* basis from our Clinical Associates but charges all cases from other submitting veterinarians.

2.6 Describe anticipated trends in future revenues and expenditures

The Government has allowed Home tuition fees to be increased, dependent on the University rating in the Teaching Excellence Framework, a national audit of teaching standards. The University is rated in the highest 'Gold' bracket. A consultation underway as to the future form of the TEF evaluation. Likewise the exact revenue from the government in relation to research relates to the outcome of the recent REF.

Expenditures will increase in relation to our development plans and with inflation, and are planned to show significant increases over the next 2 years as the dual intake enters the clinical years.

We have recently paused the MSc Advanced Clinical Practice apprenticeship programme due to low market uptake, as a result of a severe shortage of veterinary qualified veterinarians in the UK as a result of Brexit, and a high reduction in the number of new MRCVS from the EU. This shortage has resulted in reluctance of employers to grant the mandatory 20% off the job learning requirement for apprentices. Further to this the Government have put OFSTED (Office for Standards in Education, Children's Services and Skills Office for Standards in Education, Children's Services and Skills) in charge of apprenticeship monitoring. The paperwork and administration by both apprentices and the School is onerous, and the School is exploring whether the MRes Bioinformatics apprenticeship should revert to a standard MRes, rather than a Government apprenticeship levy funded course.

It is likely as two further veterinary Schools become established that there will increased competition for qualified clinicians. The School is likely to incur increased recruitment costs and to consider further retention initiatives.

Standard 3: Physical Facilities and Equipment

3.1 Provide a brief description of the major functions of, or activities that take place in the facilities used by the college in fulfilling its mission

The School is based at the University's 1,000-acre Sutton Bonington campus, 7 miles from Nottingham, close to the M1 junction 24, and within 5 miles of East Midlands Airport. The campus comprises, in addition, the School of Biosciences, central teaching and research facilities, the James Cameron-Gifford Library, student residences, music room and sports centre, as well as essential amenities including a restaurant and café.

The School is fortunate in having 4 specific and bespoke major buildings developed for the School, together with access to multiple animal and farm facilities and shared teaching and research facilities. Furthermore, through our Clinical Associates we have access to multiple veterinary hospitals for Intra-Mural Rotations.

The three-storey Academic Building is the main hub of the School and comprises:
- 400-seat, 160-seat and 30-seat lecture/seminar spaces with full AV facilities, including lecture capture
- 30-seat computer room, which can be used flexibly as a seminar room
- 15 small-group teaching rooms
- Laboratories and support facilities for virology and microbiology, cell and tissue culture, (immuno)histology, cell and molecular biology, immunology, clinical sample handling and specialist laboratories for transmissible spongiform encephalopathies, gas chromatography and imaging
- Staff, research fellow, postgraduate and visitor offices, and social space

The predominantly single storey Clinical Teaching Building provides:
- 160-seat dissection room, fully equipped with stainless steel tables, sinks, hydraulic table, extraction system, walk-in freezers and fridges, hoist system, radiograph viewers together with 2 preparation rooms; adjacent 30-seat cadaver surgery suite
- 13 small-group teaching rooms, together with a Year 5 hub comprising 2 small-group teaching rooms
- 40-seat seminar room with AV facilities, electronic whiteboard and videoconference facilities
- 13 bay / 78-seat Clinical Teaching Lab extensively equipped with examination facilities and clinical equipment including ultrasound, ECG, anaesthetic monitors
- Clinical Skills Centre with specialised resources such as a virtual reality rectal simulator (haptic cow), clinical training models and aids as well as clinical diagnostic equipment.
- 30-seat Surgical Skills Centre containing 12 operating tables
- Simulated radiography suite, containing 4 decommissioned full size and dental x-ray machines
- Museum
- Offices
- Support facilities including 16 walk-in dog and 6 cat kennels, laundry, locker and changing rooms

The three storey Gateway Building provides:
- 120-seat seminar room
- 120-seat computer room
- Offices
- Other offices, laboratories and facilities for the School of Biosciences

Pathology Building provides:
- Post mortem suite with associated cold storage facilities, fully equipped with stainless steel tables, hydraulic table, sinks and hoist system
- Seminar/teaching room with multi-headed microscope facility
- Offices

The School also utilises the 200-seat campus high specification general teaching laboratory for the delivery of basic science practical sessions.

The School has facilities for animals at the campus:
- Cats and dogs: kennels and an outdoor exercise pen and separate cages for cats
- Small mammals and exotic animals: The School has developed a dedicated facility to house small mammals and exotic animals. The animals are housed in various cages and vivaria in two temperature-controlled rooms
- Laboratory and research animals: An animal house and research surgery complex provides facilities for, and access to animals and teaching associated with laboratory animals
- Equine: The School also has sixteen 4m x 4m loose boxes and associated yard, tack and feed rooms for students horses, 20 acres of turn-out and a 30m x 20m floodlit indoor menage

- Farm Animals: The 1,000 acre University Farm comprises several animal facilities including include various barns, sheep polypens and commercial pig fattening houses. The Dairy Unit comprises cubicles and pens with milking through Lely Astronaut A3 robotic units
- Smallholding: A purpose-built smallholding contains accommodation pens for cattle, sheep and pigs, an examination area and static crush and student changing and washroom facilities. Chickens are housed in a securely fenced coop. The School has an apiary comprising five hives

The School has access to the on-site fully licensed abattoir with all the facilities which one would expect to find in a commercial slaughterhouse, e.g. lairage with a number of pens, stunning facility, a scalding tank, an overhead line, slaughter floor and gut room. There are two large cold rooms, and a substantial cutting room and cold store.

The School's own Pathology service unit with 3 board certified pathologists and technical support staff is based on the Sutton Bonington campus, adjacent to the University Sports Centre on a 0.5 acre site. These premises were, until recently, used as a surveillance centre by the Animal and Plant Health Authority (APHA). The facility comprises purpose built, state-of-the-art post-mortem rooms with large hydraulic post mortem tables. The University has invested in upgrading and expanding facilities to include changing facilities including showers, new lairage, large walk-in cold room, offices, a student 'common room' with a kitchen and library, and a large seminar room with a 10-headed microscope with live projection onto a wide screen monitor and video conference facilities. The development provides the facility for handling a range of animals including farm species, zoo animals, cats, dogs and horses.

Our clinical facilities are based at our Clinical Associates, where, dependent on the terms of the contractual relationship the School has invested in facilities and equipment:

Oakham Veterinary Hospital
The Oakham Veterinary Hospital is a RCVS tier 3 Hospital and is set in a 9-acre site which includes equine and small animal departments. Within the equine hospital, facilities include 3 consulting rooms, 2 operating theatres, standing surgery area, examination facilities with stocks, scintigraphy room, standing MRI facility, CT suite, digital radiography room, post-mortem room, 26 horse boxes including isolation facilities, reproduction facilities including a dummy mare, farriery unit, sand arena, 2 trot-up areas, lunge pen, and a learning and teaching space for students. The site has 12 acres of grassland in small turnout paddocks, including mare and foal facilities. The diagnostic laboratory includes HBLB/ British Equine Veterinary Association (BEVA) CEM testing and the equine unit is an approved Artificial Insemination (AI) centre.

The small animal facilities include 4 consulting rooms, 2 operating theatres, digital radiography rooms, large central preparation area, pharmacy, isolation facility, kennels, separate cattery, teaching and seminar room.

In addition, the shared facilities include a fully equipped laboratory. The dedicated student facility comprises bedrooms, kitchen, social area, IT facilities, soft seating and workspace areas.

PDSA Derby
The Derby PDSA PetAid hospital consists of a waiting room, 6 consulting rooms, 2 operating theatres, operating preparation area, radiography suite, kennelling for 29 animals, isolation ward, and rest area. Students at PDSA Derby share study and amenity facilities with PDSA clinicians and staff.

PDSA Nottingham
The Nottingham PDSA PetAid hospital consists of 2 waiting rooms, 6 consulting rooms, 3 operating theatres, operating preparation area, radiography suite, kennelling for 30 animals, isolation ward, rest area. Students share PDSA Nottingham study and amenity facilities. The school has invested in the capital phase of building the new Nottingham PDSA Hospital that will open in 2022.

Pinfold Vets
Pinfold Vets is an award winning[4] first opinion small animal practice in East Leake, Leicestershire. There are 3 consulting rooms, 1 operating theatre, a digital radiography room, 8 dog and 4 cat kennels, 1 isolation place and a laboratory area. Students share Pinfold study and amenity facilities. There is a newly purpose-built Preventive Medicine Centre, with 2 more consulting rooms and a large student room with breakout and IT facilities.

[4] Pinfold is Petplan UK Veterinary Practice of the Year 2022

RSPCA Radcliffe
The re-homing centre at Radcliffe includes a new education centre with a 16-seat seminar room and a newly purpose built veterinary suite with 5 dog kennels, 8 cat pods and 2 pods reserved for exotics. There are a further 3 cat pods in the isolation facility. There is a prep room, 1 operating theatre with 2 tables and 2 anaesthetic machines. Cat isolation can be used as a theatre, there is 1 operating table in there and 1 anaesthetic machine. The dental area is a separate area from both prep and theatre spaces and has its own anaesthetic machine. Students usually share the rest area with local clinicians and staff.

Scarsdale Veterinary Group (Markeaton: Farm)
Scarsdale is RCVS accredited as an Equine and Farm Animal General practice. The dedicated Farm and Equine unit has hospital and operating facilities for all species of farm animals. There are 6 pens for admission of adult cattle, numerous 'calf' pens for admission, and housing/isolation. The ambulatory farm team also have access to ultrasound scanners, bull and ram fertility testing equipment. The dedicated student room comprises learning and teaching space, locker and changing facilities, kitchenette, IT facilities and workspace areas.

The student room comprises learning and teaching space, locker and changing facilities, kitchenette, IT facilities and workspace areas.

Scarsdale Veterinary Group (Pride Veterinary Centre)
Scarsdale's Hospital at Pride Park, Derby, is a RCVS accredited Small Animal Hospital and Emergency Services Clinic. It comprises substantial client waiting areas divided into species-related zones, 14 consultation rooms, multiple diagnostic rooms including advanced imaging, 5 operating theatres, species specific wards, isolation wards, intensive care, and a dentistry room. Other facilities include endoscopy, digital radiography, MRI and CT and an extensive laboratory. There is a substantial pharmacy, client retail and hydrotherapy. Students have a dedicated student room with learning and teaching space, kitchenette, library, and IT facilities.

Scarsdale Veterinary Group (Shelton Lock practice)
The Shelton Lock practice is a branch practice which also hosts Blue Cross charity cases, it is accredited by the RCVS Practice Standards scheme. Facilities include 2 consulting rooms, a preparation room and operating theatre. In addition, there is a small laboratory, ultrasound and digital radiography, Kennels are available for outpatients. Students share practice study and amenity facilities.

Farm Vet Solutions
Farm Vet Solutions is a dedicated ambulatory farm animal practice with two main centres (at Melton Mowbray and Lutterworth) and covering a wide area. University clinicians and student activities are ambulatory and are centred on the caseload of the Melton branch, based out of the School.

Wright and Morten
Wright and Morten Veterinary Group is a large mixed practice based in Cheshire and serving a large area predominantly in Cheshire and Derbyshire. The farm practice is ambulatory with a base near Holmes Chapel, and is an RCVS accredited farm animal general practice. University clinicians and students access the caseload of Wright and Morten on an ambulatory basis, based out of the School.

Clinical facilities for track rotations are also based at Clinical Associates, where, dependent on the terms of the contractual relationship the School has invested in facilities and equipment:

Defence Animal Training Regiment
The Defence Animal Training Regiment (DATR), which specialises in military equine and canine veterinary medicine and surgery, is based on a 360-acre site at Melton Mowbray in Leicestershire. Up to 140 horses can be stabled at the DATR, whilst a further 260 can be at grass. There is an extensive equine training facility and the Army School of Farriery has a purpose built facility for both students and instructors. The Canine Division has facilities for kennelling over 200 dogs, training barns and training houses. The Veterinary Division facility has fully equipped hospitalisation, imaging, operating and treatment facilities for both canine and equine care. Facilities include an equine surgery suite and small animal surgery suite, examination, hospitalisation and isolation kennels and stables, digital radiography, canine hydrotherapy, canine post-mortem facilities and a horse walker. There is a dedicated student facility for teaching and learning and social space.

Dick White Referrals
Dick White Referrals is a state-of-the-art small animal veterinary referral hospital, based near Newmarket, Cambridgeshire. The centre combines modern clinical facilities with intensive care facilities, 12 consulting rooms, 5 operating suites, dedicated internal medicine investigation room, spacious climate-controlled accommodation for over 50 patients, diagnostic imaging including radiography and fluoroscopy and on-site diagnostic laboratory with extensive clinical pathology, histopathology, and microbiology facilities. A separate

building houses ultrasound, CT and MRI units. Facilities also include a dedicated physiotherapy unit and seminar room, the students stay in a house on site rented by DWR and have use of the practice amenities during the Phase 4 build programme. Once complete the students will resume access to dedicated student accommodation and amenities.

Dovecote Veterinary Hospital
The Dovecote Veterinary Hospital is a RCVS tier 3 Hospital with six consulting rooms, separate kennelling for dogs and cats, an isolation facility, a prep area, 2 theatres and advanced imaging – CT and MRI. There is a large conference room and a kitchen and social area available to the students.

Pool House Equine Clinic
Pool house equine clinic is a tier 2 equine clinic and is set in 12 acre site. The site has undergone extensive redevelopment with a new diagnostic and surgical centre. This consists of a client consultation room, 4 general examination/consultation rooms, a separate standing theatre and dental theatre alongside 2 critical care stables. There are two operating theatres with separate induction and assisted recovery box. There is a standing MRI unit and dedicated farriery area alongside a designated reproduction unit with separate stocks and facilities to undertake fresh and frozen AI. Across the site there are 4 sets of stock to facilitate examination of cases. There are 31 stables including an isolation facility for 4 horses. There are turnout facilities across 12 acres. A laboratory is available onsite, including equipment for determination of ACTH concentrations. There is onsite accommodation in single occupancy rooms, a gym and student study / teaching room as well as a conference room with data projector facilities.

RSPCA Bolton
Bolton Branch manages the RSPCA's busiest charity clinic. The growing caseload also includes support veterinary services for the RSPCA Inspectorate and two neighbouring branches. Facilities include an indoor client waiting area and an outdoor covered waiting area for fractious dogs. A reception and pharmacy support two consulting rooms and two operating theatres with heated operating tables. Two anaesthetic machines allow surgery ranging from neutering (dogs and cats), dental procedures, mass removals to thyroidectomies. There are two separate wards which can house up to 22 dogs and cats. Students share a practice kitchen / rest area with a microwave, fridge, wash / drink facilities, lockers. Future clinical and building plans (submitted) include new ultrasonography, radiography and onsite student accommodation.

Your Vets – Sheldon
Your Vets is an RCVS accredited practice with 4 consulting rooms, a prep area, digital radiography, ultrasound, 2 theatres, and student accommodation (2 bedrooms) and access to the rest amenities. Small animal track students spend a week at Your Vets and a week at RSPCA Radcliffe.

East Midland Zoological Society - Twycross Zoo
Twycross Zoo was established in 1963 and contains over 1,000 animals of 200 species. It occupies over 40 acres. Twycross Zoo has the largest collection of primate species in any zoo in the world. Working out of a dedicated veterinary unit most work is carried out in animal enclosures and the necessary anaesthesia and other equipment such as ultrasound scanners and sampling equipment is taken to the patient. In the veterinary unit, there is a clinical treatment/surgical area, recovery room and pharmacy/laboratory, digital radiography, ultrasound, endoscopy. There is a small post-mortem room, access to library and computers and basic laboratory facilities, with microscopes, conference and seminar rooms, together with a dedicated student room.

Tyndale Veterinary Practice
Tyndale Vets is a large farm-only ambulatory practice base near Dursley in Gloucestershire. The practice holds RCVS Farm Animal General Practice accreditation, and has facilities including an in-house laboratory and advanced breeding (e.g. embryo transfer and in vitro fertilisation) facilities as well as standard farm practice requirements (such as portable ultrasound).

Paragon Veterinary Group
Paragon Veterinary Group is a large mixed practice in north Cumbria. The farm centre of the practice (based at Dalston and Newbiggin) delivers track rotations, and holds RCVS accreditation for the Farm Animal General Practice standards. As well as standard ambulatory farm practice facilities, the practice has an in-house laboratory and extensive facilities for advanced breeding techniques, including ovum pick-up and dedicated embryo production/handling lab with associated cattle housing.

Bishopton Veterinary Group
Bishopton Vet Group is a large mixed practice in Yorkshire. The farm element of the practice delivers track rotations and is based at the main practice headquarters in Ripon. The farm practice holds RCVS Farm Animal

General Practice accreditation, and has extensive facilities including an in-house laboratory, advanced breeding facilities, a mobile foot crush and extensive training facilities.

3.2 Provide an area map that indicates the principal facilities of the college. Describe distance and travel time to off-campus facilities

A campus map and map of Clinical Associates is shown in Appendices 3.1 and 3.2.

3.3 Describe the college's safety plan and facilities management plan including mechanisms documenting compliance.

Strategy and programme for upgrading and maintaining buildings and equipment

School facilities are managed through a combination of in-house process and support from central University Estates; formal oversight is by the School Head of Operations/Technical and Facilities Manager. A reporting system exists so that any member of the School can report a facilities issue/defect – in addition to this, regular walk-arounds and audits are carried out by technical and administration staff to identify and report issues or areas for improvement. The University Estates Office provides a range of professional services including repairs and maintenance via a dedicated helpdesk. An online system for reporting maintenance items or defects provides users the ability to gain access to progress of the job reported and to receive an email on completion. Emergency requests for maintenance which occur outside of normal working hours can be made via the University 24 hour Security Control Room.

The School upgrades facilities as required, in conjunction with University Estates, with larger scale improvements as required to support strategic initiatives (for example, improvement in teaching facilities to accommodate an increase in student numbers). Where Clinical Associate facilities are expanded embedded clinicians provide input into design plans, which are monitored by the School through regular meetings between clinical sub-deans and Clinical Associate partners.

Health and Safety measures and compliance

Safety policy

The University has a documented Health and Safety Policy, Codes of Practice and Guidance. The University Safety Office is the primary contact point with the Health and Safety Executive, The Environment Agency and the Fire Service. It also oversees all aspects of health and safety, advises in developing safety policies or procedures and monitors the implementation of safety policies (for further information see http://www.nottingham.ac.uk/safety/safetyhandbook.htm).

The School aspires to be a centre of academic and research excellence and seeks to ensure high standards in all areas including health and safety. The School expects, and is committed to the following principles:

- Attaining standards of health and safety which meet or exceed the requirements of the University of Nottingham
- Managers and faculty/staff/students working together to attain the highest standards of safety within the School
- Ensuring competence of faculty, staff and students through provision of information, instruction, training and adequate supervision
- Fostering a "no blame" culture to facilitate the reporting of all accidents, incidents and near misses so that effective action can be taken to rectify deficiencies and prevent reoccurrence
- Monitoring health and safety performance and using the information to inform decisions so that there is a continual improvement of health and safety performance

The School expects all faculty, staff and students to take reasonable care of themselves and others who may be affected by their actions. An outline of the School Health and Safety Management is provided in the School Safety Handbook and Student Handbooks. New employees and students have an induction into the building safety and the emergency procedures of the University by the School Director of Safety (DoS). Health and Safety is a standing item on the weekly Executive Team agenda and Monthly Staff Meeting agenda. School safety guidance, risk assessments, Standard Operating Procedures (SOPs), and School Safety Committee minutes are available for all areas and activities through the on-line School Health and Safety Workspace and Moodle platforms. Central University safety information is available online.

Consistent with University policy, the School maintains a School Safety Committee (SSC) chaired by the Dean of School, with student representation and coordinated by the School Director of Safety (DoS). The SSC reports

directly to the University Central Safety Office to ensure health and safety complies with University and UK requirements. The role of the DoS is to create and maintain the health and safety management system on behalf of the Dean. Assisting the DoS are area specific safety assistants covering, radiation safety, biological safety and administration, research and teaching area activities. In addition to specific safety committee members all Principal Investigators and teaching leads have a responsibility to ensure the work/teaching they lead complies with School, University and national requirements.

EMS process
Students attend compulsory training on placement safety and animal handling. Placement providers are required to sign a Health and Safety agreement to confirm standard safety and insurance requirements. On placement, students complete a personal standardised health and safety review to highlight risks. Prior to agreement for non-UK placements a standard checklist of requirements is completed and signed off by the student and School.

Facilities
The University Estates Office develops, services and manages the University estate. The Estates Service Level Agreement (SLA) defines the roles and responsibilities of the Estates Office and building occupiers. The SLA comprises a list of maintenance, servicing and safety activities and their responsibilities in relation to those activities. The Head of Operations, DoS and Estates representatives sit on the Campus Operations Group which reviews any campus-wide Health and Safety issues. On a day-to-day level, the School Management Team and DoS have a duty to ensure Estates provide a safe and efficient working environment within the School.

Emergency (Fire, Ambulance, and Security)
First aid is provided by trained First Aiders within the school. The call out of emergency services is facilitated through the University security team and they will support the first aiders and coordinate the most rapid response to locations on campus. The security team also attend and manage fire and security alarms.

Incident reporting
All incidents and near misses within the School are reported and recorded online. All reported incidents are investigated by the School Safety Officer, reviewed by the Central Safety Office and reported to the School Safety Committee; where appropriate follow-up actions will be reported and monitored. Required actions and notifications are made and a summary of all incidents are reviewed at the quarterly SSC meetings. Incident reports are maintained by the central University.

Audits and checks
Annual safety audits of the School are undertaken by the University Central Safety Office. Local audits and checks are carried out at the required intervals by a combination of external contractors, University Fire Inspector, DoS and the technical team to ensure compliance with safety policies and insurance requirements. School-managed derogated CL3 facilities are audited biannually by the University Safety Office.

Records
The DoS reviews and records audits, incident reports and other activities of the School in relation to Health and Safety, the minutes are uploaded on the workspace and are accessible to all faculty, staff and students. Training records are maintained for individuals and research students, these are reviewed by line managers/research leaders dependent on individuals activities (minimum frequency annual).

Recreational, study, locker and food facilities available to staff and students
Each student has access within the School to a Small Group Teaching Room (SGTR) for the purpose of study which they can access 24 /7 – all SGTR's are equipped with a wide range of teaching resources and computing facilities. The James Cameron-Gifford Library located on site provides further facilities for study. The School provides locker facilities for all veterinary students, faculty and staff.

Various food facilities are available on campus including the Mulberry Tree Café, The Square Restaurant and Costcutter Convenience Store. Students also have access to a range of facilities provided through the SB Guild such as the campus bar and a kitchen facility. A newly refurbished rest area is provided within the Veterinary School for use by both faculty, staff and postgraduate students and includes sufficient soft seating areas and facilities for the preparation and consumption of food. Students have 24 /7 access to the Atrium with soft seating.

The Sutton Bonington Sports Centre houses a range of sporting facilities, including a large sports hall, squash courts, climbing wall and fitness suite together with various external sports pitches and courts. Further sporting facilities, including a 25m swimming pool are available on the University Park campus, where a £40m investment has been made into sports facilities. Students have the added benefit of numerous sports societies

as well as a wide range of other recreational societies and facilities ran through the SB Guild such as The Music Society.

3.4 Describe how safety and facilities plans are managed and reviewed at all off-campus core training site

Safety management in Clinical Associate practices is under their local safety management process. All Clinical Associates have health and safety policies and procedures in place to meet national requirements. The School undertakes to advise and assist Clinical Associates with implementation of policies and procedures. School faculty and students receive a detailed induction and undertake to adhere to local protocols. Clinical Associate safety is reported to the Schools Safety Committee by the DoS.

The facilities are maintained by Clinical Associates. The currency of standards is also monitored by Rotation Leaders and the Clinical Director, in conjunction with the Technical and Facilities Manager, and is a specifically addressed in an annual review with Clinical Associates.

3.5 Describe the adequacy (pertains to all facilities used by the college whether on-campus or offcampus)

The teaching facilities in the School have been, and continue to be, expanded to support the increase in student numbers, e.g. extension to the dissection room, further clinical skills laboratory space, and plans for a new building (see section 3.7 for detail). There are 2 lecture theatres available that will accommodate our class sizes. Timetabling currently ensures access as required but the School continues to make representation to the University to increase lecture hall facilities.

As a result of offering new options for rotation tracks, the School is able to accommodate increased student numbers. Clinical Associate facilities provide an exceptional clinical experience for students, although there are plans to improve support facilities (see section 3.7)

3.6 For safety and educational purposes, protocols must be posted in the isolation facilities and the facilities must be used for instruction in isolation procedures (biocontainment)

Isolation facilities for clinical cases are available at several Clinical Associates, as appropriate for the caseloads seen, likely infections encountered and the level of containment likely to be required. Students are therefore exposed to a range of isolation facilities and approaches, reflecting the range encountered in clinical practice. Their year 5 experience builds on teaching earlier in the course on infectious disease control planning.

Each Clinical Associate has SOP in place. For example the Defence Animal Training Regiment (DATR) has isolation/quarantine facilities specific for military working dogs returning from postings abroad that include barrier nursing and dedicated kennel staff. The primary concern in this facility is rabies, but includes other exotic, and zoonotic and transmissible infections. Pride Veterinary centre has a bespoke, state of art isolation facility, functionally separate from the rest of the hospital, with rigorous physical and SOP-based biosecurity measures, focussed largely on the containment of highly infectious diseases of cats and dogs. Both DATR and Oakham Veterinary Hospital have isolation stabling for horses with barrier nursing, directed at the control of infections such as diarrhoea, salmonellosis and strangles. Other Clinical Associates will have SOPs for minimising disease transmission (Dick White referrals, for example, has a very strong infection control system).

3.7 Describe current plans for improvement

The teaching facilities in the School have been, and continue to be, expanded to support the increase in student numbers. As part of the move to a dual entry model, significant investment in facilities has been made by the university to the value of £7m. Developments were split in four phases:

Phase 1 – Now complete

- Reconfiguration of Clinical Small Group Teaching Rooms to allow flexible use as teaching space

Phase 2 – Now complete

- Expansion of the Clinical Skills Laboratory and kennels facilities
- Expansion of the cold storage facilities within anatomy along with the creation of a purpose-built embalming area
- Expansion of the student locker room

Phase 3 – Now complete

- Refurbishment of the on-site abattoir, including new roof, windows and doors
- Relocation of the school histology laboratory to purposely designed facilities
- Refurbishment of the school kitchen and rest area
- Upgrade of atrium furniture for student social/study use
- Increased provision of meeting room space

Phase 4 – In planning, with completion in early/mid 2023, development of a "mock practice" split across two buildings

Single storey small animal/academic building

- Two consultation rooms with associated viewing room
- Two fully equipped theatres and physiotherapy suite
- Clinical investigation area with associated diagnostic laboratory space
- Live radiography
- Pharmacy
- Kennels and cattery
- Changing rooms

Single storey equine/farm animal building

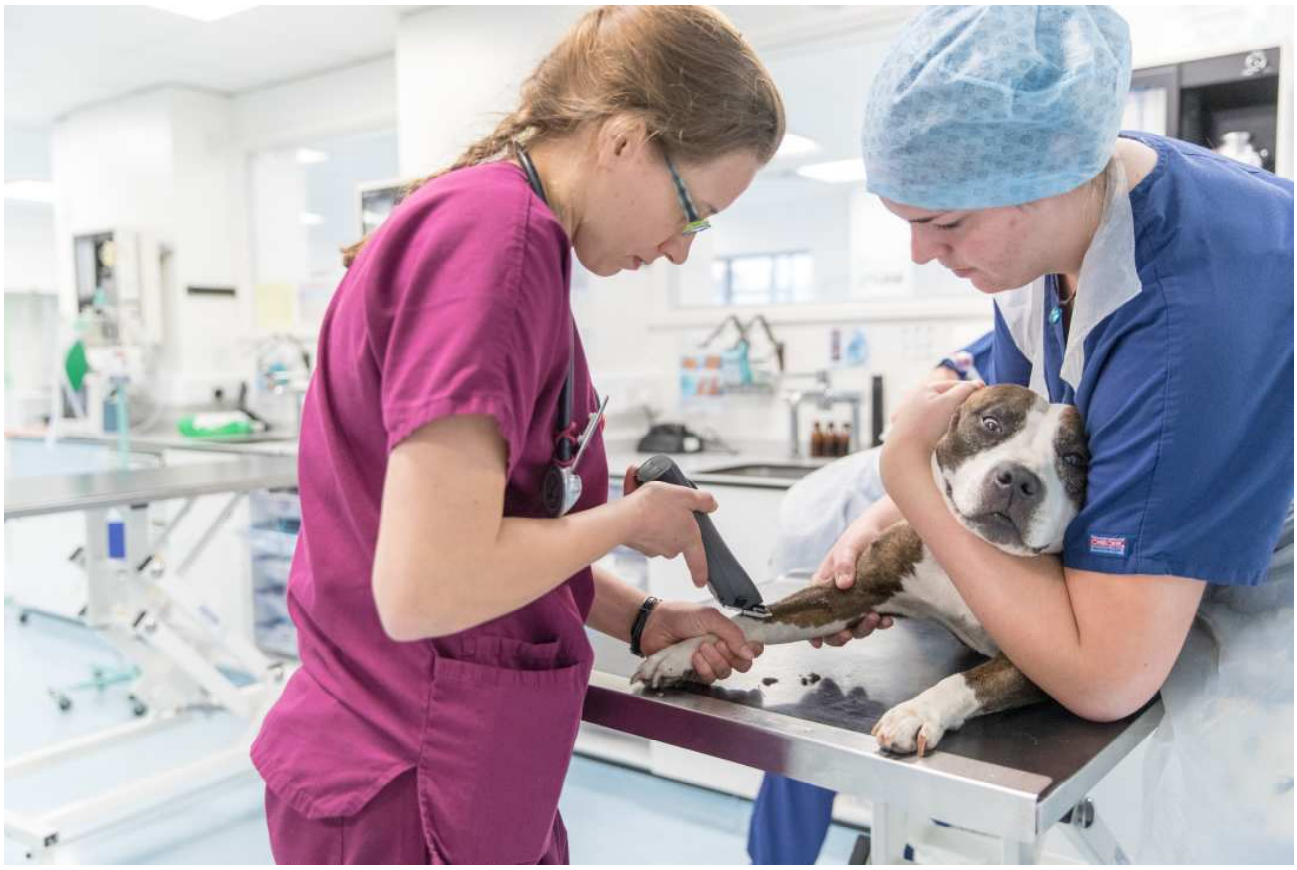
- Equine examination and trot up area
- Farm skills area
- Secure storage
- Four small group teaching rooms

The school is currently investing in the creation of a Centre for Veterinary Innovation and Design, equipped with facilities and resources for the design and manufacture of veterinary clinical task trainers and teaching aids.

The school is increasing its fleet of vehicles by purchasing two electric powered cars for use by students travelling to Clinical Associate practices, along with two estate type cars for use on Farm Animal rotations

Research facilities have been expanded through the transfer of ownership of laboratories from the School of Bioscience, to the Veterinary School. The university has also recently invested £1.2m in the refurbishment of an on-site CL3 laboratory for infectious disease research. This investment forms part of larger plans to refurbish vacant laboratory space previously occupied by AHPA, to create a centre for global virus research.

From 2022, clinical rotations we will also use RSPCA Leicester, RSPCA Bolton and the new PDSA Nottingham hospital (to which we are making a financial contribution). The new Nottingham PDSA Pet Hospital is a £3.7m building of almost 900 m^2 (which is twice the size of the existing facility). It comprises reception area with 2 separate waiting zones, 10 consulting rooms (8 major and 2 minor), pharmacy, 2 diagnostic rooms, laboratory, significant multi-table induction/preparation area, 2 large teaching operating theatres, separate kennels for dogs and cats, large meeting room, and rest area with associated facilities.



Standard 4: Clinical Resources

4.1 Complete Tables A, B, C, D, E, F, and G, if applicable, for the past five years and analyze trends for each species (category). Include only those patients, farm call, and animals examined that have direct student involvement

Caseload data are compiled across core Clinical Associates and are shown in Appendices 4.1 to 4.4. These numbers only include core rotations due to the variability in student numbers for track rotations; also no track rotation is attended by more than 20% of any cohort.

There is a significant and increasing canine and feline caseload, particularly due to growth in the caseload at Pride Veterinary Hospital, the addition of Pinfold and the addition of Blue Cross and Cats Protection League charity work undertaken at Shelton Lock branch practice (Scarsdale) and RSPCA Radcliffe respectively. In addition, there has been growth in small animal and exotics caseload due to increased focus on this area by Pride Veterinary Hospital.

There has been a reduction in farm animal caseload, further details and mitigation are in section 4.8.

Our teaching strategy is to ensure that students meet RCVS Day 1 and AVMA competences through exposure to an appropriate caseload. We feel that our community-based teaching model provides an excellent balance between first opinion and referral cases, with students being involved in the clinical management of both types of cases.

Appendices 4.5-4.7 show details of Clinical Associate placements, including contractual obligations

4.2 Describe and analyze the adequacy of normal and clinically diseased animals (hospitalized, outpatient, field service/ambulatory and production medicine) used by students in the course of their learning experience

Students have significant access to animals and animal materials throughout all 5 years of the course. All major species of farmed animals and companion animals are available on Campus. In addition, contractual links have been made with local organisations and Clinical Associates to ensure a wide availability of a variety of animals for teaching basic sciences, animal husbandry and clinical subjects.

Fresh and preserved complete and part cadavers of the major domestic species are used for practical teaching of anatomy in Years 1 and 2. Specifically, students work in groups of 3 or 4 to dissect the body regions of the dog relevant to the systems studied in specific modules throughout Years 1 and 2. These dissections are supplemented with material from other species as required. Further use of cadavers is made in the teaching of surgical techniques in Years 3, 4 and 5.

Live animals are used in a variety of classes during years 1 to 4 and resources comprise:

- School, faculty, staff and student owned animals (horses, dogs, cats, rabbits, birds, hamsters, lizards, tortoises, etc) are used for a wide variety of classes (e.g. ophthalmology, cardiology, animal handling). The School has a register of normal and clinical case teaching animals that belong to students, faculty, staff and the local public that are available to be used in teaching. Students can livery their horses at the School, and the School holds its own collection of children's pets and common exotic species
- All the major farmed species are available for teaching animal health and welfare on site. The 1000-acre University farm comprises dairy cows and sheep. The School has a dedicated smallholding comprising cows, pigs, sheep, chickens and bees. All Year 1 students (in groups of 4 or 5) are required to care for the animals for 2 weeks each
- Visits to the Guide Dogs Breeding Centre for basic animal handling, dog care, dog behaviour, drug administration and reproduction
- Laboratory animals are provided on site or handling and animal health and welfare teaching
- Clients of local practitioners visit with animals for practical and client communication sessions
- Ante-mortem inspection to butchering of pigs at the School abattoir and visits to a number of local abattoirs (red and white meat)

In addition, students will see a range of production animals during the 38 weeks of Extra Mural Studies throughout their course.

There is substantial use of exposure to necropsy material throughout the Year 3 and 4 modules in which pathology teaching is embedded; here materials are harvested and presented to students rather than being full necropsy examinations (necropsy being delivered within the Pathology rotation in year 5). This additional necropsy material derives from the formal necropsies as well as local abattoirs and slaughterhouses particularly in relation to the teaching of public health and food hygiene. Recently the School has entered into a contract

with DEFRA to provide post-mortem examination services for the surveillance of farm animals, which will further increase caseload.

The average number of post-mortems undertaken by an individual student is around 6 per student based on the ratio calculated, however students on the pathology rotation work in small groups, and so would see a higher caseload.

As shown in Appendices 4.1-4.4, students have access to a wide range of clinically diseased animals whilst on year 5 rotations. In addition, students will see a range of normal and diseased animals during the 38 weeks of Extra Mural Studies throughout their course.

4.3 Describe unique clinical educational resources or programs that enhance the educational mission

There are many examples of unique educational resources developed by the School, for example:

In early years facilitated Clinical Relevance scenarios are delivered three times per week as a lynchpin to the core curriculum. Each scenario has been triangulated to ensure it delivers relevant basic science material with a clinical context whilst allowing the development of core personal and professional skills. The professional skills training itself also provides a unique resource for students, in early years, focussing on reflective ability, communication skills training (including the use of specialist medical actors), and peaking in year 3 with teaching of business management and entrepreneurship; one particular aspect (the Business Game where students develop a business plan for a veterinary practice and the pitch their ideas in a Dragon's Den [Shark's Tank]) has received attention from the national veterinary press.

Integrating clinical skills into the early years of teaching, and developing clinical skills in later years before entrance into the clinical final year, combined with the explicit assessment of these clinical skills provides the students with a unique resource of Objective Structured Practical and Clinical Examinations (OSPEs and OSCEs) that link to final year Directly Observed Procedural Skills (DOPS), and to RCVS Day 1 Competences; this array of resources functions to guide student learning and demonstrates a roadmap of clinical skills development throughout the programme to post-graduation.

Within Year 3, students undertake a substantial research module, enabling the student to develop knowledge and skills in a range of disciplines as determined by the interest and needs of the student. This programme is underpinned by on-line resources in research planning, evaluation and critical appraisal.

Key to the delivery of the School Intra-Mural Rotations (IMR) has been the identification of clinical situations in a community-based model that provide an appropriate and authentic learning and assessment opportunities for our students. Whilst our species-based hospital and ambulatory clinical services are second to none, we have also taken the opportunity to be creative and provide a similar level of excellence for all aspects of IMR. For example, in Veterinary Public Health we include practical teaching of bee husbandry and health on campus, and conduct site visits to local markets and food producing units.

There are a range of clinical resources such as part task trainers that the School has developed and are housed in an extensive Clinical Skills Centre; these can be used as part of teaching, or in open use sessions run for students. However, perhaps most important as an educational resource that enhances the educational mission is the fact that the entire body of curriculum materials are delivered electronically via the electronic learning environment, Moodle, which the students access by laptops provided by the school. It is unusual, if not unique, for the entire curriculum to be delivered in this manner, and to be supplemented by additional learning resources for example the video bank (Media Space), an online anatomy museum, and virtual patients (using Xerte toolkits).

4.4 If off-campus clinical instruction sites are used regularly by multiple students, complete Table H and describe the planning, supervision, and monitoring of students; and contracting arrangements for non-institutional based faculty (Table I)

Intra Mural rotations are planned overall and assigned by the Clinical Director, supported by a senior administrator. The Clinical Director is aided by 4 species leads (Farm, Small Animal, Equine and Pathology/VPH) and by Rotation Leaders, who are responsible for developing and overseeing the delivery of learning outcomes and the overall organisation and student experience for each rotation, including evaluation of caseload.

The rotation planning process for year 5 begins for students in Year 3, where students can define preferred tracks, and the colleagues with whom they would like to undertake rotations. Final year rotation groups are

always 10 students or less, typically divided into smaller groups at the rotation site; for most rotations students are taught by School or Clinical Associate clinicians in groups of 3 or less and often are taught around a case on a 1:1 basis which provides an excellent student clinical learning experience.

Year 5 students on rotation at Clinical Associates and at the School, use a commercial piece of software My Progress. The My Progress system is the main interface through which students review the practical skills on which they are summatively assessed through DOPS on rotations. My Progress is also one of the many ways in which students communicate with the School and each other, for example providing feedback from rotation leaders on performance to students and feedback from students about their experience whilst on rotation.

The School and its Clinical Associate practices employ significant numbers of American, European and RCVS specialists. School Specialist veterinarians deliver across the clinically integrated curriculum, with predominant focus on year 5 (see section 4.6)

Appendix 4.6 describes the supervision and monitoring of students and the contractual arrangements at each Clinical Associate. At Clinical Associates, core rotation teaching is predominantly delivered, overseen and monitored by School personnel; exceptions are Scarsdale Farm, where students are predominantly supervised by trained Scarsdale clinicians and School Residents with visits by the Rotation Leader or Clinical Sub-Dean at least fortnightly. Assessment of DOPS is undertaken by School clinicians, Residents and trained Clinical Associate veterinarians. Students on rotation undertake case management and have full access to School and Clinical Associate subject Specialists as appropriate to the rotation. Safety management in Clinical Associate practices is under their local safety management process and is detailed in section 3.4.

Appropriate training is provided to clinicians and staff at all levels in the Clinical Associate Institutions. Clinical Associate veterinarians are trained as necessary, usually at the beginning of a relationship, with ongoing training provided as necessary on an ad hoc basis by placed clinicians. We are developing videos for Clinical Associates to use on induction of their employees. Clinical Associate clinicians have been also supervised by School Specialists to undertake residencies.

Working relationships with Clinical Associates are good, and as School clinicians are embedded within Clinical Associates, there is ongoing dialogue regarding all aspects of rotation teaching and support. Formal review meetings held yearly with Clinical Associates, and student feedback is reviewed and acted on as necessary by the Rotation Leader and Clinical Director. There is detailed systematic review and reflection on the effectiveness of the clinical educational experience, which includes normal TLA Committee quality assurance and control mechanisms such as 6 monthly rotation review and annual module review process and graduate outcomes analysis. In addition, there are monthly meetings of Clinical Sub-Deans and twice-yearly Clinicians Meetings to review common themes and issues across rotations.

4.5 Describe the involvement and responsibilities of professional students in the healthcare management of patients (and clients) in clinical programs of the college)

Year 5 students are fully engaged in all aspects of the healthcare management of all species, under the supervision of a qualified veterinary surgeon in order to develop Day 1 competences. They will normally undertake rounds, and have considerable responsibility in all aspects of case investigation, management, treatment, care of patients and interaction with clients including at our core rotations:

- Oakham Equine Hospital and Ambulatory– first and second opinion consulting and investigations (blood sampling, radiography, ultrasound, MRI) including admission and discharging of patients, in-patient care. Includes case presentation at twice daily rounds
- Pinfold / Shelton Lock Primary Care – first opinion consulting and medicine and first opinion anaesthesia and surgeries and investigations (blood sampling, radiography, ultrasound) including admission and discharging of patients and managing clinical records. Students are also involved in admissions/reception desk duties, in order to also understand finance and insurance aspects of primary care including taking payment for services
- Pride Referral – consulting, clinical reasoning, case management planning, assisting with case investigation, communicating with owners and referring veterinary surgeons, and in-patient care. This includes verbal case presentation at rounds of cases for which the student is responsible and a single complete case report on last day of the rotation. Regular morbidity and mortality rounds take place with results published in the hospital
- PDSA Nottingham/Derby and RSPCA Radcliffe – first opinion consulting (including telephone consultations) and first opinion surgeries, anaesthesia and investigations (blood sampling, radiography, ultrasound) including admission and discharging of patients in a charity clinic
- Pride Out of Hours– out of hours (emergency) consulting, emergency triage, critical care and case management, in-patient care, communicating with clients

- Equine skills – first opinion skills using cadaver material/models/teaching horses (including physical examination, ophthalmology on teaching horses, blood sampling, radiography and colic rectal exam on models, and nerve blocks, dentistry and suturing on cadavers)
- Scarsdale Farm Practice – all aspects of busy ambulatory farm practice, history taking, clinical assessment of stock, managing clinical records, routine procedures including surgery, plan generation and communication of plan to farmer. Rounds at the end of the two weeks with all farm rotation groups
- Farm skills – mostly farm skills acquisition/refinement and coverage of minor farm species. Rounds at the end of the two weeks with all farm rotation groups
- Veterinary Public Health One Health, One Welfare - abattoir visits including ante-mortem inspection and passport reviews, and Food Business Operator (FBO) visits – discussion with FBO around raw materials, manufacture, relevant legislation, quality control and pathogen surveillance and kennel and cattery visits.
- Anatomic and clinical pathology – performing gross necropsies, contacting submitting veterinary surgeon with initial verbal report, completion of formal written report under supervision. Elements of pathogen surveillance are also covered. This rotation is also dedicated to clinical pathology in the second week

On track rotations students will experience:

- Pride Exotics – first opinion consulting and first opinion surgeries, anaesthesia and investigations (blood sampling, radiography, ultrasound) with a high (40-50%) proportion of exotic pets
- Your Vets – first opinion consulting and medicine and first opinion anaesthesia and surgeries and investigations (blood sampling, radiography, ultrasound)
- Dick White Referrals – second opinion consulting and investigations (e.g. advanced imaging), in-patient care, assisting with second opinion medicine and surgery, clinical reasoning, case management planning. Students are able to choose the service they wish to join during this track rotation
- Dovecote Veterinary Hospital - first and second opinion consulting and investigations (e.g. advanced imaging), in-patient care, assisting with second opinion medicine and surgery, clinical reasoning, case management planning. This is a track rotation with a neurology/surgery/primary care emphasis
- Oakham Small Animal Primary Care – first opinion consulting and first opinion surgeries and investigations (blood sampling, radiography, ultrasound, MRI) including admission and discharging of patients, managing client records, in-patient care
- Twycross Zoo - Students are involved in all aspects of veterinary care of the zoo's collection, including husbandry and nutritional assessments, anaesthesia, case investigation and management and post-mortems
- Defence Animal Training Regiment – first and second opinion equine consulting and investigations (blood sampling, radiography, ultrasound) including admission and discharging of patients, in-patient care, work-up of all cases
- Pool House Equine first and second opinion consulting and investigations (blood sampling, radiography, ultrasound) including admission and discharging of patients, in-patient care, work-up of all cases, and ambulatory visits
- Advanced Herd health – data driven population medicine. Visit to farm, discussion of problem and assessment of stock with owner, data review and plan generation – delivery of plan to stock owner at the end of the rotation. Sheep flock health planning. Rounds at the end of the two weeks with all farm rotation groups
- Advanced Farm Skills – high level farm skills acquisition aimed at those intending to work in clinical farm practice. Rounds at the end of the two weeks with all farm rotation groups
- Advanced Farm Practice – provided in conjunction with 4 farm practices. (Tyndale, Wright and Morten, Paragon Farm, Bishopton Veterinary Group)

As discussed above, in the lecture-free final year students spend 2 weeks in each of a total of 10 core Intra-Mural Rotations during which they are fully engaged in all aspects of the healthcare management of all species, also including to veterinary business, client communication, ethics and professional practice. Students spend a further 6 weeks on track rotations in small animal, mixed, farm, exotics or One Health One Welfare. All students undertake a one-week introduction week prior to rotations starting. The educational experience is delivered by School clinicians placed in the Associate organisation and by Associate clinicians who have been trained as educators, all of whom are experienced primary care or specialist clinicians. The placement of School veterinarians in the clinical facilities and the provision of on-site dedicated student facilities provides the opportunities for students to investigate cases in sufficient depth with the help and support of School and Associate clinicians. The provision of referral rotations in small animal and equine practice and the farm Herd Health rotation ensure that students are exposed to cases which require extended diagnostic work up and problem solving that go beyond those typically encountered in primary care practice; these case discussions would typically include discussion of all treatment options. All Associate and School veterinarians are encouraged to deliver evidence- and research-based clinical practice; this helps to formalise year 5 student engagement with evidence-based practice (section 5.5). Clinical and procedural skills are assessed formatively throughout the final year, and summatively through the requirement for students to certify 6 DOPS, 2 from

each species area and at least one per skills area. At least 4 DOPS must be graded as reactive supervision or higher on the entrustability scale. There is no maximum number of DOPS that can be attempted.

4.6 Describe how subject matter experts and clinical resources are integrated into clinical instruction

The School and its Clinical Associate practices employ significant numbers of American, European and RCVS specialists (24.3FTE at the School and, for example, 33 at Dick White Referrals). School Specialists deliver across the clinically integrated curriculum, with predominant focus on year 5. If necessary, and particularly for niche areas, the School either utilises external clinicians who possess Honorary Lecturer status with the School or procures external teaching clinicians for teaching delivery.

In the final year students are exposed to veterinary generalists and subject-matter experts as follows:

- Pride Veterinary Hospital – exposure to full range of specialist services staffed by 21 RCVS, European or American Board-certified practice and SVMS clinicians. In wards students are supervised by experienced qualified veterinary nurses
- PDSA – experienced primary care clinicians and SVMS clinicians
- RSPCA Radcliffe – experienced primary care clinicians and SVMS clinicians
- Pinfold - experienced primary care clinicians and SVMS clinicians
- Oakham primary care - experienced primary care clinicians and SVMS clinicians
- Dick White Referrals – exposure to full range of specialist services staffed by European or American Board-certified diplomats (319 employees, 91 vets, 93 nurses)
- Dovecote - exposure to neurology, orthopaedic and soft tissue surgery and dermatology specialist services staffed by European Board-certified diplomats or certificate-holding veterinary surgeons and first opinion small animal practice
- Twycross Zoo – student activities are supervised by the Veterinary Services Manager who is an experienced, certificate-holding zoo vet and an SVMS DVetMed student
- Oakham Equine Hospital and Ambulatory services – 4 Board-certified SVMS clinicians oversee the rotations (DACVIM, Dip ACVIM-LAIM, DipACVS-LA, DipECVAA, DipECVSMR), exposure to primary and referral work staffed by experienced equine clinicians and specialists (DipECVS)
- Defence Animal Training Regiment – 2 Diploma-holding SVMS clinicians are involved in this rotation (DipACVIM, DipACVECC, DipECEIM)
- Equine skills rotation – 6 Diploma-holding school veterinarians are involved in delivering this rotation (DipACVIM, DipACVECC, DipECVCP, DipECVS, DipECEIM, DipACT, DipECAR, DipECVAA)
- Pool House Equine - experienced primary care clinicians and diplomats in surgery and dentistry, and internal medicine diplomats from SVMS (DipECEIM and DipACVIM)
- Farm Animal practice – The rotation is supervised by a European Diplomate. Along with the experienced primary care clinicians, farm visits are conducted with two European College Residents who under the supervision of RCVS and European diplomats in Cattle Health and Production. Two European diplomats in total are involved in this rotation (DipECBHM)
- Farm skills – this rotation is led by a European Diplomat. In total 6 Diploma holding faculty are involved in delivering this rotation (DCHP, DipECBHM, DipECRSHM)
- Advanced herd health, advanced farm practice and advanced farm skills – all rotations overseen by European diplomats (DipECBHM)
- Anatomic and Clinical pathology – supervised by 3 Diploma holding School clinicians, (DipECVP, DipECVCP)
- One Health, One Welfare rotation – supervised by 1 diploma holding School clinician (DipECVPH)

4.7 Describe the adequacy of the medical records system used for the hospital(s), including field service and/or ambulatory and population medicine. Records must be comprehensive and maintained in an effective retrieval system to efficiently support the teaching, research, and service programs of the college

Computerised records stored in veterinary-specific practice management software are available at sites delivering intramural rotations; students have generic student log-ins which allow them access to the patient records. In some cases, there are dedicated computers available to the students in the student accommodation giving them access to patient records. A range of systems are used allowing students to gain familiarity with systems they will use on graduation:

- AT Veterinary Systems: Scarsdale Veterinary Group – all practices
- RxWorks: Oakham Veterinary Hospital
- Vet IT: Pinfold,
- VetSpace: PDSA Derby, PDSA Nottingham
- ZIMS: Twycross Zoo

In addition, the Herd Health rotation uses dairy analytics software such as TotalVet and DairyComp 305, alongside a variety of other health planning tools.

Pathology case records are held on paper and the University IT system.

4.8 Describe how the School has responded to increasing/decreasing clinical resources

The Pathology team has developed a pathology service, charged at commercial rates to local veterinary practices and others (e.g. Police, RSPCA) and undertakes cases free from Clinical Associates to ensure that small animal and equine caseload requirements are met. There is also a regular but small number of farm animals coming from the sheep flocks owned by the University and few teaching cases from our Scarsdale Farm partner. Since February 2021 the School has been the third-party pathology provider for government surveillance in the East Midlands. This is a large geographic area with a diverse livestock sector, which enables final year students to see a variety of farm cases whilst on their pathology rotation. This omni-species, in-house, pathology service ensures that every pathology rotation has exposure to small animal, equine, poultry and farm caseload and occasionally exotics and wildlife.

Economic pressures on UK livestock sectors (especially dairy) have contributed to a reduction in farm animal caseload, as the number of dairy farms visited for routine work has declined (largely due to economic pressure on the UK industry). Other farm species caseload remains low with year-to-year variation, however it is currently adequate for teaching purposes. In order to secure teaching for the future in a milk pricing climate which is likely to remain volatile, the School will use the caseload of Farm Vet Solutions and Wright and Morten on an ambulatory basis[5]. In the short to medium term, UK milk prices are recovering, and the industry is likely to be entering a period of increased price where it is anticipated that caseload will increase. Significantly restrictions associated with Covid have reduced the number of production animals seen over the last 2 years.

There is a large caseload at Pride Veterinary Hospital and the referral service has grown such that we have been able to switch the compulsory referral rotation previously held at Dick White Referrals (DWR) to Pride.

4.9 Describe the means used to maximise the teaching value of each case across the curriculum

Our clinicians, most of whom teach across the curriculum, are well positioned to utilise consented case material from our clinics in developing material and resources available to all students. Case material is shared with rotation groups at clinical rounds, clinical case examples are placed on year 5 discussion pages as specific to the rotation requirements. Clinical relevance cases are also a good example of this where cases seen in clinic become the teaching material in a problem based case. Additionally, we have numerous on-line case-based Xerte Toolkits which utilise case material to assist in the development of clinical reasoning skills).

Students (particularly during year 4) will often undertake anatomy/pathology based teaching scenarios using specimens e.g. whole organs, that have been preserved from post mortem cases that were accepted to and reported upon by the School's Pathology Service Unit, along with histological slides from those consented cases.

On occasion, Clinical Associates submit consented cadaver material of anatomical/pathological interest to the anatomy lab, where the specimen along with anonymised case notes, radiographs, etc can be used during anatomy practicals. Specimens of osteological interest, from previous anatomy practicals or clinical cases, are also prepared to be handled in a dry state for use in small group teaching, clinical skills practicals, or placed at Clinical Associates for use during year 5 rotations.

[5] Discussions have also recently been initiated with a third farm practice, LLM Bakewell, these are early stage

Standard 5: Information Resources

5.1 Describe and comment on the adequacy of information retrieval and learning resources

The University of Nottingham promotes a high quality teaching and learning, and research environment by investing significantly in its libraries, IT infrastructure and support teams. The School embraces the opportunities offered by IT to meet the expectations, and better support and enhance the educational experience, by harnessing the abilities of today's IT-literate undergraduate generation. The School uses IT in all aspects of its interactions with students, from admission, pre-registration through to computer-assisted learning and assessment.

School information resources
Students have 24 hour access to a range of learning resources in their small group teaching room mini-libraries. This facility is valued by students and has resulted in extensive use of the rooms with students working together outside of normal teaching hours. The resources include all course textbooks, all British Small Animal Veterinary Association (BSAVA) Manuals, various other specialist and reference textbooks, skeletons, models and posters. Mini-libraries have been set up at each of the Clinical Associates used for placement in Year 5, together with the Year 5 teaching hub and Clinical Skills Centre. In addition to hard copy material, the Virtual Learning Environment, Moodle, hosts a range of learning resources including embedded image and video resource hyperlinks to other sites and reusable resources. The number of videos of procedures has greatly increased in the first lockdown of Covid-19 and enhances this facility. Videos are stored and accessed by students on MediaSpace, there are over 1000 videos on this platform which are tagged and can be searched using keywords.

Virtual Learning Environment
All teaching materials are delivered online and supported through the Virtual Learning Environment (VLE), Moodle. Moodle is used to organise and distribute course materials and schedules from a central location, as well as enhance students learning through interactive activities and resources. No paper handouts are provided to students; all relevant resources are available online, including presentations, briefing notes, and links to relevant videos, databases and web resources. Students, faculty and staff can access Moodle on and off campus through the internet. The School also uses audio recording (podcasting) and video recording (vodcasting), including Echo360 lecture capture, and video resource libraries to support the learning experience and disseminate information. The live stream function within Echo360 is used to enable students to access lectures synchronously and remotely; in addition the School makes extensive use of Microsoft Teams for communication.

The Library
The James Cameron Gifford (JCG) Library based at Sutton Bonington occupies 1,126m^2 floor space, and offers seating for 324. Opening hours are: Monday to Thursday 8am – 2am; Friday 8am – 9.45pm; Saturday 9am – 4.45pm; Sunday 9.30am – 2am. The library is open 24 hours at key points of the year, including during examination periods. Self-service printing and photocopying facilities are available. Library users can use Click and Collect to borrow physical resources and can easily return items via self-service machines or book boxes stationed outside the library. Individual and group study spaces can be booked in advance using the Click and Study service. Libraries allows the creation of online reading lists specific to each module, with online material accessible directly through the reading list (https://notts.rl.talis.com/index.html). The JCG holds a wide range of resources associated with animal biology, animal welfare and care, veterinary sciences and allied subjects such as food production and agriculture etc. The JCG holds at least one copy of all the books on student reading lists, and multiple copies of key textbooks, together with veterinary journals and access to veterinary eBooks, eJournals and databases.

Staff and students can access an extensive range of library resources using the NUsearch library discovery system that allows students to search for books, reports and journals that are held across all eight University of Nottingham libraries. NUsearch provides a single interface through which all members of the University can access not only material held in the University libraries but also electronic resources available globally and relevant to their subject (including access to databases such as Web of Science, Scopus, Medline, CAB Abstracts and Vetstream). Remote access to subscription-based journals is enabled through a browser plug-in.

IT facilities
Within the School, students can access a PC and smartboard within in each of the 28 small group teaching rooms; the School Computer room (A28) provides access to 30 desktop PCs. Lecture theatres across campus are fully equipped with the high-quality audio-visual facilities including lecture capture facilities (Echo360) and audio capture for podcasting etc. Investment in state-of-the-art audio-visual facilities has been made throughout the teaching rooms of the School. Additional facilities include teaching microscopes, and overhead high-definition visualisers. Teaching rooms at Clinical Associates include computing facilities and, in some

cases, electronic whiteboards or LCD screens for presentations. Teaching rooms at Clinical Associates are equipped as per small group rooms or lecture theatres as required.

Faculty are also supported with IT to enhance their teaching and student assessment with 58 iPads (18 support student clinical reasoning sessions, 40 used in assessments. All students on the 5 year course are currently provided with a £400 voucher for purchase of a laptop for their own use at all times; recommended device specification requirements are communicated to students before they start their studies to ensure devices are fit for purpose. Postgraduate students are provided with a desktop or laptop computer, as required for their research. Faculty and staff are provided with a laptop or desktop computer as requested, replaced on a 3 year cycle.

There are high quality high speed wired and wireless Eduroam networks across the campus. The School has established a dedicated high-speed data network between the School and Clinical Associates, which mirrors the learning environment of the School to the Clinical Associates, such that students (and faculty/staff) have access to the same support and resources offered when on the campus; where this has not been possible students are provided with BT wi-fi dongles or access to the practice wi-fi.

Learning aids
The clinically integrated nature of our curriculum necessitates extensive use of part task trainers and simulation-based learning. Our Clinical Skills Centre and Laboratory are equipped with a range of models for developing various techniques (e.g. venepuncture, rectal examination, ophthalmological examination, CPR) which are a mix of commercially available and school produced. We also utilise simulated clients (professional actors) extensively throughout our communication skills curriculum. Models are available on an ad-hoc basis for students to continue the development of their skills during Clinical Skills Centre drop-in sessions outside the formal timetable.

However, perhaps most important as an educational resource that enhances our educational mission is the fact that the entire body of curriculum materials are delivered electronically via the virtual learning environment, Moodle. It is unusual for the entire curriculum to be delivered in this manner, and to be supplemented by additional learning resources for example the extensive video bank (MediaSpace), an online anatomy museum, virtual patients and cases (using digital toolkits) and the clinical image repository.

The development and management of digital assets within the school is led by our Digital Innovations and Media Officer (DIMO). A catalogue of videos is integrated within and complements the core curriculum, and is accessible to any student, on any device able to access the internet, at any time. This video library currently holds 1052 videos.

Our Clinical Skills Lab space is provided with 12 iMac computers enabling student access to online and software resources, during their teaching sessions. A range of software resources are available to students e.g., CLIVE Pre-Clinical and Clinical, VetStream, Digital Slide box (virtual histology), and various statistical analysis packages. In addition, we utilise virtual reality – recreations of environments across the curriculum. These resources are integrated in our recruitment, teaching and assessment. The School leads and manages the "DigiVetTools" catalogue, which collects and organises free online tools to support student learning. This resource has been shared with veterinary educators, students, clinicians, internationally to very positive feedback. The University has also developed a Moodle module "The digital student" as a source of support for students.

The School has a number of 'Kahoot' licenses to allow all teaching faculty access to audience response software which enhances interactive learning and student engagement.

5.2 Briefly describe the availability of learning and information technology resources support for faculty and students, including personnel and their qualifications

The School has an active and effective relationship with the central university, with School personnel contributing to Faculty wide committees and steering groups e.g. University wide curriculum and e-assessment planning. The School is actively supported by teams from central libraries, IT and e-learning enabling us to adapt, evolve and improve the resources we provide for students. The School benefits from an internal Digital Learning Group committee comprised of our Digital Innovations and Media Officer (DIMO), eLearning manager, and academics. This group liaises between student and academic bodies to assess, address and anticipate needs of both.

The JCG Library is staffed by 6.1 FTE customer services staff who are available during core hours. The staff comprise of one full time supervisor plus a team of Library Advisors who offer the front-line service to students,

each with extensive experience in library provision. Further support is offered from Senior Librarians from the STEM libraries. Funding for library materials is held by the library and is based on the number of staff and students. The School liaises closely (via the Teaching, Learning and Assessment Team and an academic Libraries Liaison Officer) with the Library team leader for the JCG Library. On a quarterly basis, the TLA work with Module Convenors to collate a list of resource requirements for the library, which are then procured by the Library. Any feedback from the various School Committees (e.g. Learning Community Forum, Postgraduate Committee etc) is considered when formulating a list of requirements.

A Libraries, Teaching and Learning Resources team has a specific responsibility for delivery of Information Skills, which is a series of in person and online teaching sessions designed to help students develop their learning techniques and access resources; these are mapped against key points in the student lifecycle. Staff and postgraduates can access advice direct from Librarians and IT Services (as can undergraduates), but can also attend a wide range of courses run by University of Nottingham Libraries and by Staff Development (https://training.nottingham.ac.uk/cbs-notts/Portal/DesktopDefault.aspx).

The School Teaching, Learning and Assessment (TLA) team supports all academics, including providing specialist advice on development of new learning technologies and techniques. TLA liaise closely with a University of Nottingham Libraries (UNL) specialist Learning Technologies team who provide a systems, content and special projects function. The remit of the Learning Technology department is to support faculty, staff and students in the area of technology enabled learning. This includes: developing, maintaining and upgrading the core University teaching and learning systems and providing multi-media and video production services for Schools to develop creative and interactive learning resources. The 1.0FTE Digital Innovations and Media officer, liaises with TLA, DLG, student bodies, and central University teams to identify current and future needs and provide solutions for these. The DIMO also supports public engagement for example via social media. School Faculty and the DIMO are members of the MHS Faculty E-learning Special Interest Group (FELSIG) that provides support for development and innovation in digital learning.

The School's Student Academic Skills (SAS) Team also offers study skills sessions to support students with study strategies. This pro-active approach equips veterinary students with different ways of learning, enabling them to find a learning style that suits their individual traits. The SAS Team liaises with TLA on ways to make the curriculum accessible to all students. The team has developed and delivered over 30 study skills sessions to support students with their study strategies with over 1200 students attending these sessions. Further support resources developed for students by the SAS team are available on Moodle.

The School is actively supported by Digital and Technology Services (DTS), enabling us to adapt, evolve and improve the IT resources we provide for students. DTS operates an email and telephone helpline, which is manned 24 hours. The local campus-based DTS team provide support for a wide range of equipment and system software and operate an open-door policy for students, faculty and staff to visit for assistance. The local team comprises 5 staff – a Group Leader and four IT technicians, one of which has a speciality in Audio Visual systems. The Head of Operations is the IT Representative for the School and has regular meetings with the IT Group Leader.

The Libraries structure is available at https://www.nottingham.ac.uk/library/about/about.aspx. The Director of Libraries is Sue Ackerman, with Sue Storey leading Customer Services. The Libraries Teaching and Learning team is led by Ruth Curtis. All librarians possess a Professional Library and Information Studies degree or postgraduate degree and are Associate or Fellow of Advance HE.

5.3 Describe the reliability and methods of access to library information resources, as well as security considerations for faculty and students when they are on and off campus

Staff and students have access to all eight University libraries (https://www.nottingham.ac.uk/library). Entry to libraries is by university ID card and the University Security service provides 24-hour uniformed presence on all campuses.

All university accounts are linked with Multi-Factor Authentication which provides extra security provisions when accessing a number of remote services.

The DTS website pages detail advice on how best to protect University systems and data, what to look for when identifying technical threats and how to report incidents of data breaches and phishing emails (https://www.nottingham.ac.uk/dts/security/it-security.aspx). Information security awareness training is compulsory for all University faculty and staff members. Compulsory training fosters a strong information security culture across the University.

Antivirus software is automatically installed on all university-owned devices. Users working away from campus are advised to regularly connect to the Virtual Private Network (VPN) so necessary updates can be installed. Antivirus software (Sophos) is available for all faculty, staff and students to download on their personal devices free of charge.

Responsibility for the cyber security of the School of Veterinary Medicine and Science falls to the DTS Service Delivery team. The team monitor the global enterprise campus network for malicious activity, misconduct or abuse, as well as managing security incidents and endpoint compliance. Also part of DTS, the IT Operations team are responsible for daily operations, preventative maintenance, support and upgrades necessary to manage and protect the IT Infrastructure and major business applications, both on-premise and cloud based. The Application Support team undertake key activities to maintain the operation of business applications, databases and business processes. They monitor utilisation and look to identify trends which could affect service performance.

5.4 Describe the resources (training, support) provided and available to students for improving their skills in accessing and evaluating information from sources in any media relevant to veterinary medicine

and

5.5 Describe assessment of students' skills in retrieving, evaluating, and applying information pertinent to veterinary medical science including clinical case management as preparation for lifelong learning

Student training and assessment

A Libraries Teaching and Learning team has a specific responsibility for delivery of Information Skills, which is a series of teaching sessions designed to help students develop their learning techniques and access resources; these are mapped against key points in the student lifecycle. In addition, the UNL website offers detailed online support tools within its "Studying Effectively" pages. Undergraduate students undertake an introduction to using the Library collections in year 1, run by the Library team.

In addition there is School teaching on assessing and evaluating information and subsequent assessment as appropriate to modules as follows:

- Year 1, using the library, using Microsoft software, accessing Moodle
- Year 2, teaching on evidence based research including literature searching and review
- Year 3, 6 week research module, students develop skills in literature searching, critique of literature, data analysis and interpretation
- Year 5, teaching in Evidence Based Veterinary Medicine

Specifically, the School has incorporated a significant 30 credit Research module into Year 3 for all students. This research-based learning experience enables students to acquire research skills and develop professional independence and resilience that will benefit them throughout their careers. We embed in students the value of critical evaluation of evidence and guide them as they use these skills to embrace a passion for lifelong learning.

Students are provided with an introductory week of didactic and practical sessions covering diverse aspects of literature search, research methods, EndNote, study design, research ethics and data analysis. Students then complete three research rotations in areas of their choice and are assessed on an individual written research proposal. This comprehensive teaching and assessment of students' ability to retrieve, evaluate and apply pertinent information clearly aligns with, and is signposted to students as the fundamental skills required in their development as evidence based veterinary medicine practitioners.

The School has an emphasis on the development and assessment of professionalism and this is carried out through a longitudinal portfolio tool. ePortfolio software 'PebblePad' is used by all students throughout the course, and the content is submitted at the end of each year as part of the assessment for the Veterinary Professional Skills (VPS) modules. The portfolio is discussed with Personal Tutors and regular formative feedback is given. Annual qualitative feedback is provided to ensure the development of reflective writing skills.

Portfolios are a must pass component of VPS. The portfolio is a collection of evidence demonstrating student learning, experiences and reflection from teaching sessions, on EMS placements and from other activities. Importantly it should contain critical reflection on the learning activities and experiences described and should be completed regularly throughout the year. Formative feedback is provided by the Personal Tutor through sharing of assets within PebblePad; in addition, students can attend regular drop-in sessions and seek advice from student mentors. At the end of year 3 and 5 students are given a viva where they must defend their

portfolio pieces. In year 3 this is done as a formative group assessment with individual feedback, in year 5 each student has an individual summative viva.

During year 4 and 5 students map their learning in relation to the RCVS Day One Competencies including, for example, "Demonstrate the ability to critically review and evaluate evidence, in support of practising evidence based veterinary medicine." and they must submit at least 4 clinical case studies. Often as part of their analysis students relate cases to contemporary research papers, discussing the presence or absence of evidence based veterinary medicine in the clinical decision-making process.

In addition, during the final year rotation in Veterinary Public Health, students undertake an ungraded Evidence Based Veterinary medicine assignment. Students build a PICO (Patient, Intervention, Comparator, Outcome) question and submit an evidence summary including critical appraisal based on a clinical scenario from a range of species. While not a credit bearing assessment, students receive verbal and written feedback from faculty on the assignment and their engagement and performance can be part of the formal rotation assessment and feedback.

Faculty and postgraduate training
Faculty and postgraduates can access advice direct from Librarians and IT Services (as can undergraduates), but can also attend a wide range of courses run by UNL and by Professional Development (https://training.nottingham.ac.uk/cbs-notts/Portal/DesktopDefault.aspx).

5.6 Describe current plans for improvement

The School uses IT extensively to support learning and horizon scans to identify ideas, packages and applications both with the veterinary and medical sector and wider afield. New technologies are identified by both faculty and staff, such as the DIMO, and students and piloted on a small scale with feedback sought from teachers and learners. Benefits to learning are evaluated and if a large-scale purchase is required for implementation, a business case produced for Management Team approval of financial spend. Training is then provided by either TLA staff, relevant academics or the central UNL Learning Technologies team. Faculty and staff in the School have been recognised both internally in the University and externally in their promotion and use of new technology.

The School has historically provided a £400 voucher for a laptop, at the University and students request this will turn into a scholarship which will support either the provision of a laptop or go towards funding of EMS travel costs.

Standard 6: Students

6.1 Complete Tables A, B, C and D, and analyse trends

Undergraduate students
The School offers 2 undergraduate BVM BVS veterinary programmes, (1) a 5-year course (with September and April entry each of 150 students) and (2) a 6-year 25-intake course including a Preliminary Year (for widening participation and also high achieving non-science students) (Appendix 6.1). The majority of students are from the UK, with normally <10 from EU countries and <5 from other international countries in each year group.

The School has decreased the cohort sizes for the 5 year intakes to 150 each; there are no plans to increase student numbers above this level to ensure that resources are effectively used and the student experience is maximised. The 6 year course will remain at an intake of 25 to ensure quality applicants for the course. There are small fluctuations to these numbers year to year, dependant on grade achievement of students, however there was a larger intake in 2020 due to last minute changes, during and post results by the UK Government on how to award grades during COVID-19.

All students graduate with a BVMedSci degree in year 3. Students who do not meet the BVM BVS progression requirements in years 1 and 2, but meet the lower University progression requirements can continue but are required to exit with a BVMedSci degree at year 3. Students are able to intercalate degrees, most commonly after year 3, but occasionally after year 4. The School has funded students to intercalate PhDs, MRes and PGCertificate in Veterinary Education degrees. Students are also able to intercalate at other universities, albeit they need to self-fund or be successful in gaining other funding.

The School was established with a remit to increase diversity in the veterinary profession in the UK, and we are successful in attracting a wider range of applicants to the School (Appendix 6.3), particularly via the Preliminary/Gateway Year route, however there are historically low numbers of ethnic minorities participating in the veterinary profession due to wider cultural influences. Male student numbers are consistently low and reflect low application numbers nationally. Details on activities to increase and support diversity are shown in 7.2.

Postgraduate students
The School offers opportunities to study on an academic track for MRes and PhD degrees, in a wide range of veterinary, biomedical, biological, educational and statistical research fields (Appendix 6.2). In addition, the School offers a PG Certificate course in Veterinary Education and in Veterinary Medicine and Surgery. Studentships are available through University and externally-funded sources. The School currently offers taught MSc programmes in Veterinary Physiotherapy and degree apprenticeships in Bioinformatics and Advanced Clinical Practice (Veterinary). The School has also developed a clinical track which comprises a PG Certificate course aimed at new or recent veterinary graduates to develop further clinical experience through a PGCert Internship, and clinical residents undertaking MVM / MVS and DVetMed / DVetSurg degrees which are commonly combined with a clinical Certificate or Diploma (awarded by a European Specialty College). These are usually based at one or more of the Schools' Clinical Associates or with the School's pathology team.

The School funds intercalated places for PGCert Veterinary Education (3), MRes (2), PhD (1) per year. The school also commits to match funding up to 10 PhD positions a year. In addition it funds PGCert Veterinary Medicine and Science (Intern) and MVM and DVetMed (Resident) positions as required by contracts at Clinical Associates. In general there have only been small fluctuations in numbers on programmes as a response to external funding, including in relation to success with funding and grant applications.

6.2 Provide a listing of student services. These services must include, but are not limited to, registration, testing, mentoring (advising), counseling, tutoring, peer assistance, financial aid counseling programs, and clubs and organizations. Demonstrate that students are informed of and have ready access to academic counseling, personal wellness, financial aid, debt management, and career planning services

The School, the University centrally and other students provide both conventional and specialist academic and pastoral support to the students. Student support is provided immediately from pre-acceptance and throughout the course.

Registration and Welcome
Students undertake registration online prior to arrival, once qualifications have been confirmed by the University Admissions Office. All modules are compulsory for veterinary students.

A wide variety of materials are provided before and during Welcome Week (Fresher's Week) see section 6.6. for further detail.

Academic support
The School employs a number of measures to ensure that students experiencing difficulties with their studies or with any non-academic problems are identified and supported. In addition, students are directed to establish and maintain individual Portfolios and Skills Diaries for self-support both during and after their studies. Alignment of support processes, school philosophy and teaching reinforces our core School values (including professionalism and equality and inclusiveness in all we do).

Academic support is provided predominantly by the School, and provides support to learning utilising:
- Pre-registration information packs and online registration
- Pre-term animal husbandry training for international students
- School-based identification of dyslexia and other learning difficulties
- Induction and orientation weeks at the beginning of each year, including a Day 1 meeting with the Personal Tutor[6], followed by timetabled Tutorials to review academic progress
- Student handbook
- Portfolio and Skills Diary
- Provision of web-based learning environment that incorporates core curricular material and details, and facilities for learning support (e.g. self-assessment, learning objectives) and student feedback
- Provision of Employment Tutors for specialised career pathway advice
- Student Academic Skills[7] for support of students with academic difficulties
- Students in higher years (via the veterinary family[8] and Vet Soc run Big Vet, Little Vet peer mentor scheme)
- Extensive faculty contact in practical classes
- Small group case studies with dedicated group facilitators
- Dedicated Student Placement team to facilitate EMS
- Student Experience focussed administrative staff
- One-to-one access to a Year 3 project supervisor
- Library facilities (paper-based and electronic) and Twitter resources
- Provision of a £400 computer voucher to all 5 year course students
- Computing facilities, and basic IT skills training with access to computer-based self-learning packages
- 24 hour access to study room and museum with extensive teaching resources
- An open door policy providing access to all teaching and administrative support staff
- Access to University support services (e.g. study support, dyslexia support, disability support)

Pastoral and Welfare support
Pastoral and welfare support is currently provided by the following means:
- Personal Tutor, and tutor veterinary family, supported by Senior Tutors providing pastoral support and advice, and Senior tutors for Professionalism
- Dedicated Student Welfare Manager with the role to advise and support students, liaising as necessary with other University support agencies
- Disability Liaison Officer to provide a point of reference, advice and guidance for faculty, staff and students in the School about disability issues and support
- Pre-arrival Health Declaration questionnaire, reviewed by the University's Occupational Health team, identifies support requirements for each student and assures fitness to study
- Veterinary family and Vet Soc-run Big Vet, Little Vet schemes with trained older students providing mentoring for younger students
- Personal and Professional Skills module covering aspects of work-life balance

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[6] Students are assigned a Personal Tutor for the entire 5 years of a course. The Personal Tutor's role is to review academic progress, provide pastoral support, and to support specific academic requirements of the course, including the review of the Portfolio, Skills Diary and planning and reviewing placement activities. Personal Tutors provide examination marks for degrees, and help failing students understand their weaknesses. The School has timetabled tutorials within the curriculum. Tutorials are structured with a formal agenda so that a high quality of tutoring is provided and that all students receive the same tutorial experience.

[7] The Student Academic Skills (SAS) vet team comprising of 5 academic staff, 1 University SAS member and 6 students, delivers whole year group support sessions in their development of academic skills (i.e. note-making, revision and exam strategies). They typically deliver 20-25 sessions over the academic year with peer-support from students being integral to these sessions. The SAS-vet team also offers individual meetings to any student who feels they are academically struggling. The SAS team will invite any student who has failed or just-passed a module to have an individual discussion on their study approach and strategy. Their tutor will be invited to along as well. In typical year, we will have 30-40 individual meetings.

[8] All new veterinary students in Nottingham are allocated to a 'Veterinary Family' for the whole of their course. The main aim of the Family is to provide a framework for pastoral support of students both horizontally in each year and vertically between years. The family comprises all of the tutees from two Personal Tutors.

- Welfare Week to promote support available across the School and University
- Access to University support and advice services (e.g. disability support, confidential counselling, mental health advisors, career development, advice and support on financial matters, accommodation advice, legal advice, visa advice to international students)
- The VetSoc, Student Guild and Student Union offers an extensive range of social and sporting activities together with various support services including 24-hour telephone help lines (https://www.su.nottingham.ac.uk/)
- International student global café
- Chaplains and prayer rooms for various faiths
- Sutton Bonington Hall tutors
- University Warden for off-campus affairs
- Outside agencies, e.g. local Doctor, Samaritans, VetLife, Vet helpline

During term, the Student Welfare Team (Senior Tutors and Student Welfare Manager) meet weekly to discuss and action general matters in terms of professionalism, pastoral and academic progress across the student body. Members of this meeting are also interlinked with external bodies such as VetLife.

The School complies with the Faculty's dual 'Expression of Concern' process, which is divided into welfare and behaviour/professionalism issues. Any concern raised relating to a student is reviewed by Senior Tutors (there are two arms to the Senior Tutor team (a) 5 Senior Tutors providing pastoral and welfare support and (b) 2 Senior Tutors providing professionalism support) and is acted on as appropriate to the circumstances (e.g. welfare/pastoral support, disciplinary proceedings, Fitness to Practise enquiry etc).

In addition to the University Support mechanisms available for undergraduates, postgraduates are able to access the support of the on-site Graduate Centre, Graduate School as well as campus Postgraduate Society (these activities are also badged at University-level as the 'Researcher Academy' https://www.nottingham.ac.uk/researcher-academy). Complementary to the support provided by the two Postgraduate Sub-Deans, the School has appointed two Senior Tutors, dedicated to postgraduate pastoral and welfare support. Student elected Postgraduate Representatives attend Postgraduate Committee meetings, raising any issues and receiving advice or feedback on resolutions.

Support for ill and disabled applicants and students

We expect all students to declare any requirements for disability support (including dyslexia) early in the admissions process, in order that the School can evaluate and implement support needs throughout the admissions process and/or as soon as the student commences the courses. The School also meets students prior to admission to provide review and advice on potential reasonable adjustments that can be made to the course.

Applicants who declare a disability on their UCAS form are reviewed by the University Disability Support Team. The team, together with a Senior Tutor and Welfare Manager will meet students at, or prior to Assessment Centres if needed for further discussion, particularly around the potential demands of the veterinary course.

All students are required to complete a medical assessment form which is reviewed by the University Occupational Health Team prior to joining the course. This may result in referral to Occupational Health prior to admission or assessment by University of Nottingham Academic or Disability Support staff. Occupational Health will provide recommendations on the suitability of the applicant to study on the course. These assessments may result on preparation of either an Academic or Disability Referral Form. These will provide for reasonable adjustments to be put in place for teaching or examinations, which will be discussed with the School to determine whether providing these adjustments is feasible. The assessment may suggest reasonable adjustments required and in extreme cases, has required students to undertake a gap year in order to improve their health prior to joining the course. The Occupational Health team assesses students against national Higher Education Occupational Physicians guidance (http://www.heops.org.uk/guide.php) to ensure that students are able to meet RCVS Day 1 competences.

All students undertake a mandatory online dyslexia assessment during year one.

The School provides a session during welcome week for students to register with the local NHS Medical practice. In addition there are a number of other initiatives in the School that deliver support and information to students, e.g Mental health Awareness workshops, trained Mental Health First Aiders, "Meet ME" talks.

Students who become ill or disabled during the course are supported in school by the Student Welfare Team or out of school by the University Student Service Centres. These teams can provide guidance and signposting to appropriate support services either within the University, including counselling, mental health, academic

support and disability support services, or external to the University. Students may be referred to the University Academic or Disability Support staff who may suggest reasonable adjustments so that the student is able to manage their illness or disability (for example additional time in exams, rest breaks etc). Students with long term illnesses or disabilities who engage with the School Welfare Team are offered regular reviews appropriate to their condition, especially prior to starting clinical rotations.

Students who believe that their performance in examinations or during teaching has been impaired can apply online for extenuating circumstances. These applications are considered against University of Nottingham procedures by a committee within the school which can make recommendations to the relevant Exam Board that the student should be allowed a further attempt at the affected assessment.

Testing and methods used to identify and remediate failing students
Assessment is detailed in section 9.8. All students gain feedback for all forms of summative assessment. Students who fail examinations are offered individual feedback from the module leader (in years 1-4) and are also contacted by the Student Academic Skills team. Year 5 students who fail a Rotation Professional Assessment are required to meet with the Clinical Review Group to understand reasons for failure and ways to improve, and also whether further assessment is required (which may include repeating a rotation). Students who fail end of year assessments in year 5, may be able to repeat rotations prior to reassessment

Students recognised as struggling with the course, mentally or physically by a concerned faculty, staff member or peer may be raised formally via the 'Expression of Concern' process or directly to the Welfare Manager or Senior Tutors who may informally meet with a student.

Financial and debt management support
The School delivers a session on Personal Finance in the year 3 Business module. Students have access to high levels of advice and support through the University Support Services financial teams who provide information and expert support on every aspect of student finance, including tuition fees, student loans, university scholarships and bursaries (https://www.nottingham.ac.uk/studentservices/index.aspx). Both the School and University offer bursaries or scholarships according to need.

Careers and employment support to graduates
Careers and employment support is provided both by the School and by the University. See section 6.5 for further information.

Student Clubs and Extracurricular Activities
The main student club is VetSoc, a club that is part of the Sutton Bonington Guild, which oversees and supports all campus clubs and societies. Almost all vet students are part of VetSoc, and its component Species based Sub-Groups. VetSoc provides social, welfare and academic activities for the students, including the Big Vet Little Vet peer mentorship scheme, speaking events and practical events, together with facilitating attendance at National Association of Veterinary Student Congress and Sports Weekends. VetSoc is part of the International Vet Student Association and will normally organise a yearly exchange event with another European Vet School. The School funds VetSoc an amount per year and also provides funds if requested and a strong case can be made; they also receive an amount from the University Student Union (via the Guild) and also from sponsorship from e.g. corporate vet organisations, pet food manufacturers, drugs companies etc. Other Vet specific clubs are VetCoach (providing peer advice), Vet Pathology, Vet Surgery Soc, Shelter Medicine, Vets in the Community and Vets Zoo Soc

There are a wide variety of clubs and societies on campus https://su.nottingham.ac.uk/activities/list/sb/societies, and at University Park.

In addition to student-led activities and events, the School organises a number of events including faculty/staff-student sports, Deans Cocktail Party, quizzes, competitions and giveaways. Furthermore the University Residential Experience team, situated in the onsite Halls of Residence, provide support and leadership to weekly/daily events. Nottingham is the 2021 UK Sports University of the Year and the campus has its own Sports Centre, and students also have access to sports facilities at University Park. Representational sport exists both for SB Campus and the University (https://www.nottingham.ac.uk/sport/sport.aspx)

6.3 Provide a list of tuition-related information available for prospective students. This information, as consistent with applicable law, must include estimated total educational cost, cost of living, considerations, and a description of financial aid programs. Make collected data on salaries, employment rates, and educational debt available to the public, as consistent with applicable law

An online University prospectus and School specific brochure are available to prospective students detailing the aims of the programme, admission criteria and procedures, fee information, accreditation and course cost information (https://www.nottingham.ac.uk/ugstudy/course/Veterinary-Medicine-and-Surgery-BVM+BVS+with+BVMedSci)

Data on salaries and employment rates are published nationally by the Government and are available at https://discoveruni.gov.uk/

6.4 Describe how conflicts of interest regarding academic assessment of students are avoided with individuals who provide student counselling

Support and advice for students is initially provided by their Personal Tutor or a Senior Tutor with failing students also having access to individual feedback from Module Convenors. The majority of end of year assessment is online and is either automatically marked or marked anonymously. Students may be assessed by Faculty on rotations, however this assessment compiles input from all clinicians that have interacted with the student. Individual OSPE/OSCE stations are marked by single individuals, however these are very structured assessments with clear rubrics. Students are able to request to change Personal Tutors.

Students with specific concerns about individual components of an examination (eg typographic errors or misleading questions) are encouraged to provide timely feedback to the TLA team individually or through their year representative. Students who are concerned about decisions from Examination Boards have access to an academic appeal process (https://www.nottingham.ac.uk/qualitymanual/concerns-complaints-and-appeals/pol-academic-appeals.aspx). Students wishing to pursue an academic appeal will be signposted by their Personal Tutor, Senior Tutor or Module Convenor to the Students' Union academic advisors who will provide independent support and guidance through this process (https://su.nottingham.ac.uk/advice/help-with-your-course/academic-appeals).

6.5 Provide a summary of college activities in support of placement of graduates

Career development and job selection and application techniques are taught within the Year 3 Clinical Professional Skills module, topics include CV writing, and interview techniques; students can also access the University careers team for advice and training. A "Careers Day" is held yearly for all students but especially year 4 students. This exposes students to a range of careers in the veterinary profession and hosts a job fair and talks from practitioners from across the profession. We also provide links, presentation opportunities and marketing materials from large veterinary employment organisations, such as British Veterinary Association (BVA) regularly.

Students work with their Personal Tutor to plan a variety of experience during their EMS study appropriate to their career and personal interests; students commonly build up strong relationships with hosts, which lead to job offers before graduation. Students can also work with species or areas focussed Employability tutors who provide guidance and advice for specific career paths.

A member of our faculty is also a dedicated "Careers link" who can support students but is also responsible for the creation and delivery of a dedicated Careers area in our Virtual Learning Environment, a regular careers newsletter for time sensitive information dissemination to students, and liaison with the central University Careers Service and industry. They also lead the innovative #VetCareers posts via the School's Instagram account, sharing positive role models with our student body, students in other vet schools, and the public. The school regularly works with and supports student groups eg VetSoc in offering social and evening events hosting career role models.

The School has developed an optional Nottingham Advantage Award[9] module "Careers skills for vet students". This module aims to provide students with knowledge and skills that will allow them to reflect upon issues surrounding personal development and professional aims in relation to a career in the veterinary profession.

Both Undergraduate and Postgraduate students can access support from the University Careers Service. The Central Careers team provide a wide range of both veterinary focussed and alternative careers support for all students, with an excellent website, 1:1 appointments and CV reviews offered year-round to any student.

[9] The Nottingham Advantage Award allows students to gain recognition and additional credits for extra-curricular activities. A completion certificate is awarded when 30 credits are completed.

6.6 Provide academic catalogue (or an electronic address for this resource) and Freshman orientation materials

An online University prospectus and School-specific brochure are available to prospective students detailing the aims of the programme, admission criteria and procedures, fee information, accreditation and course cost information (https://www.nottingham.ac.uk/ugstudy/course/Veterinary-Medicine-and-Surgery-BVM+BVS+with+BVMedSci). Hidden costs to students and the RCVS-requirement of undertaking EMS in vacation time are signposted to students from the time of application.

All programme and module information (including aims, learning outcomes, assessment criteria) is available online (http://modulecatalogue.nottingham.ac.uk/nottingham), and is also provided to students in summary form at the start of each module, with detailed learning objectives provided for every teaching session – this information is held on Moodle. Information on term dates, examination timetables, regulations, assessment details are provided in the student handbook and in an assessment addendum provided by the School in November yearly. University regulations are detailed in the Quality Manual (http://www.nottingham.ac.uk/AcademicServices/QualityManual/AbouttheQualityManual.aspx).

Students are provided with a wide range of information to help induction and enculturation into the School (e.g. campus map, clothing and equipment brochure, congratulations card, Guild brochure, equine livery reservation form, new student information guide, student entry agreement, student handbook, study skills booklet, survival leaflet, Vet Society information, module details). Students are telephoned by their Personal Tutor to welcome them to the School.

A welcome week (Fresher's Week) provides a wide variety of induction events including an Opening Ceremony, School tour, initial animal handling practical on Day 1, Tutorials, Social events, Tutor group social events, a visit to Twycross Zoo, together with introductory talks on safety, School structure, the curriculum, assessment, student support and EMS. In addition, students receive profiles of all faculty and staff members, their equipment and clothing.

6.7 Describe the system used on an ongoing basis to collect student suggestions, comments, and complaints related to the standards for accreditation

Students are involved in quality assurance at national, University and School level. The University student engagement policy covers the University of Nottingham's arrangements to ensure that students are fully involved and represented in all aspects of their learning experience and have a range of opportunities to engage in the University's quality assurance systems, at University level, at programme and academic level. As detailed in section 1.5 students are able to influence the School's direction and decision-making processes by a number of means, including making comments as to compliance with RCVS/EAEVE standards. Students are involved in influencing the School's direction, providing suggestions, comments and complaints by the following methods, with consideration and action as appropriate:

- Attendance at faculty recruitment interviews
- National Student Survey (NSS) to provide opinion and feedback on the student experience completed by all UK final year students, considered on a detailed basis by both the School and University
- Association of Veterinary Students Survey on teaching, learning and student support completed by all students
- Student Evaluation of Module questionnaires (SEM) completed on every module to provide feedback on overall delivery and learning, with outcomes considered in module reviews
- Student Evaluation of Teaching questionnaires (SET) completed on all academic staff teaching to provide feedback on teaching by individual, scores are considered by the Dean and also in promotion
- Student Evaluation of Year questionnaire is structured as per the NSS and is run by the School to gather feedback from students on their experience of the year of programme as a whole
- Rotation feedback questionnaires are compulsory for year 5 students and are completed at the end of every 2 week clinical rotation, reviewed by the Clinical Director
- Learning Community Forum (LCF) meetings, are held termly and discuss any matters (academic, welfare or social) that are raised by either students, faculty or staff, matters are referred to an appropriate committee if the LCF feels that a referral is necessary. In practice the majority of operational issues raised at this meeting are resolved at the meeting
- Committee meetings including Teaching, Learning and Assessment and Postgraduate Committee
- Yearly student survey conducted by the University
- Undergraduate and postgraduate student membership of other relevant Committees and Sub-Committees at Faculty, Campus and University level
- Year representatives meet the TLA Sub-Dean and Head of Operations regularly to discuss various topics and provide feedback

- Veterinary students are highly engaged and motivated and individual students also commonly directly contact relevant Sub-Deans, the Clinical Director, the Head of Operations or the Examinations Officer with feedback on an ongoing basis
- Ad-hoc focus groups convened around particular topics
- The School also has an open door policy providing access at any time during the working day to all teaching and support staff; any student feedback is either directed to the appropriate review mechanism or addressed and actioned if appropriate
- Anonymous suggestion boxes
- For our April cohort we established weekly meetings between Year Reps and Senior School Staff
- Student representatives sit on faculty appointment panels

Undergraduate students elect a School Educational Representative, who is the lead representative for the students. Each undergraduate year and each postgraduate programme also elects 2 representatives, who represent student views at Committees including:

- Learning Community Forum meetings
- TLA Committee meetings
- Postgraduate Committee
- Student membership of other relevant Committees and Sub-Committees at Faculty, Campus and University level

In addition, the School funded Veterinary Education interns act as Student Liaison Officers, liaising between faculty, staff and students to help improve teaching and pastoral support.

In all routes of student feedback the relevant School Committee consider information and implement any required actions, with the exception of any negative feedback received as a result of SET (which is personal to an individual academic), in which case the Dean, the Director of Education, and member of faculty would consider required improvements and/or development needs, in conjunction with the Divisional Head. Feedback on student feedback is provided, (e.g. as part of the examination feedback process). In addition, at the start of each academic year, a dedicated session is held so that the students are provided with a summary of their feedback and how issues raised have been addressed for the prior year and also details changes in their forthcoming year based on student feedback raised by students in the year above them. Examples of actions taken following student feedback range from providing students with funding to support bar facilities (request to Head of Operations), adding a week's holiday in the curriculum prior to the start of year 4 teaching following year 3 exams (Year rep request to TLA Committee), through to improving assessment feedback with attainment mapped to learning outcomes (NSS feedback) and travel allowance payments to final year students.

The School follows University regulations on student complaints. It is desirable that complaints are resolved informally and quickly between the relevant parties, and the formal University process is only started if that fails (https://www.nottingham.ac.uk/academicservices/currentstudents/complaints.aspx).

The School follows University regulations on harassment, abuse and discrimination which provides access to clear mechanisms for report and support (https://reportandsupport.nottingham.ac.uk/). In addition the School provides specific guidance for students on AHEMS and CEMS placements.

6.8 For student services that the college does not provide directly, described how students have reasonable access to such services from the parent institution or from other sources that are relevant to the specific needs of students, and describe current plans for improvement in resources for students

University Student Services ensure that support is delivered locally on the SB Campus through a pre-booking appointment system. Where students are required to access health or other services outside the University students are able to request absence from studies to either the Rotation Lead in year 5 or the Personal Tutor in other years if necessary.

There are various initiatives underway to improve the student experience and resources at a Campus level, including a Campus Development Plan, and a separate group to look at Student Experience Strategy on SB.

Standard 7: Admission

7.1 State the minimum requirements for admission

The School has a formal Admissions policy, approved by the Admissions Committee, which comprises School and University faculty and staff, external veterinary professionals and local secondary school teachers (https://www.nottingham.ac.uk/vet/study-with-us/undergraduate/how-to-apply.aspx). The policy defines requirements and processes, including training of assessors. The Committee reviews annual data relating to the prior admissions cycle and proposed changes.

A number of modifications were put into the normal admissions process during Covid-19, a number of these were very successful. As such an Admissions working group has been established to review and propose any required amendments to our Admissions process.

Academic requirements
The minimum academic requirements for undergraduate admission are detailed in school brochures, the University website and through the Universities and Colleges Admissions Services (www.ucas.com) and are higher than the University minimum.

GCSES:
- Minimum of 5 grade 7s (A) to include Chemistry and Biology (or Double Science), one of Physics or Maths must be passed to grade 7 (A)
- Minimum of grade 6 (B) in Maths and 4 (C) in English Language

A levels:
- Minimum of grades AAB, in Chemistry, Biology (or Human Biology) and any third subject (excluding Citizenship Studies, Critical Thinking, General Studies and Global Perspectives). Chemistry and Biology must be passed at grade A.
- A pass in science practical tests will be required, where these are assessed separately.

Scottish qualifications:
- Minimum of 5 Grade As at National level to include Chemistry and Biology (or Double Science), one of Physics or Maths must be passed to Grade A
- Minimum of Grade B in Maths and C in English Language at National level
- Minimum of Grades AABBB at Higher level in any order, to include Biology and Chemistry
- Minimum of Grades AA in Advanced Higher in Biology and Chemistry

International Baccalaureate:
- Minimum total score of 34 overall with grade 6 in Higher Level Chemistry and Biology and grade 5 in a third subject at Higher Level, with supporting level 2 qualifications

Other qualifications, including alternative routes into education are considered. The School offers a 6 year programme (which includes a Preliminary Year) to widen participation by accepting students who may have been disadvantaged during their education (and often enter with vocational qualifications or poorer grades)[10] and also for high achieving non science students.

Degree:
- First undergraduate degree, or a postgraduate degree such as a Masters or PhD in a science-related subject. Supported by GCSE grade 6 (B) in maths and 4 (C) in English language

Or
- 2:1 undergraduate degree in a science-related subject
- A level biology and chemistry grade B
- GCSE grade 6 (B) in maths and 4 (C) in English language

Or
- 2:2 undergraduate degree in a science-related subject
- A level biology and chemistry grade A and grade B in a third subject*
- GCSE grade 6 (B) in maths and grade 4 (C) in English language

International Qualifications:

[10] This course is only open to students who are living in the UK and have UK home status, indefinite leave to remain or refugee status (with a letter from the home office as evidence) at the time of application. Applicants must also meet the University's contextual admissions criteria, or two of (1) First in the family to enter higher education, (2) Have disadvantaging circumstances which the exam board(s) has not already taken into consideration or (3) Be a carer

- The School will consider on an individual basis qualifications taken by international students. These qualifications will need to be equivalent to our A level and GCSE requirements

Other qualifications, including alternative routes into education are considered. The School offers a 6 year programme (which includes a Gateway or Preliminary Year) to widen participation by accepting students who may have been disadvantaged during their education (and often enter with vocational qualifications or poorer grades) and also for high achieving non science students; the A level offer is BBB and AAB respectively. The course provides a thorough grounding in biology, chemistry, maths together with animal care.

7.2 Describe the student recruitment and selection process, including measures to increase diversity

and

7.3 List factors other than academic achievement used as admissions criteria

Widening Participation and Diversity

The admissions policy for the veterinary courses aims to encourage a more diverse range of people to study veterinary medicine. The School particularly wants to encourage people with ability and commitment, but whose circumstances might make such study difficult, or who would be less likely to apply to the University of Nottingham. Enrolling a diverse group of students enriches the learning environment for all students, and facilitates a veterinary profession that better reflects the communities it serves.

The School was established with a remit to increase diversity in the veterinary profession in the UK, and as detailed previously implements a range of measures (e.g. summer workshops, School visits, contextual offers, Preliminary Year course) to enhance diversity.

We are particularly successful in attracting a wide range of applicants to the School, especially via the Preliminary Year route, however, male student numbers are consistently low and reflect low application numbers nationally. There are also, historically low numbers of ethnic minorities participating in the veterinary profession due to wider factors including cultural influences. We have now a BAME student group that is working with School Equality Diversity and Inclusion committee to develop initiatives to enhance ethnic diversity.

We have led the development of a successful MOOC for virtual work experience, over 12,000 applicants have registered on this; this aims to increase diversity by providing an online mechanism to understand the UK veterinary profession to those that may lack the social capital and networks to gain placements. We count study on the Work Experience MOOC as 2 weeks toward entry requirements (https://www.futurelearn.com/courses/vet-school-application-support). In addition, we have developed a cross-Nottingham MOOC to provide a refresher of Biology and Chemistry for offer holders prior to joining Nottingham, this is important to mitigate the disruption to education by Covid, but post-Covid will provide a careers resource and support to widening participation students through demonstration of courses that can be undertaken with Biology and Chemistry A'levels.

The School provides a range of information to pre-applicants: detailed information is available on the School website, and the School normally holds 4 interactive Open Days for pre-applicants per year. In addition, the School visits secondary schools across the UK on request to provide admissions talks or demonstrations, and attends local country and career fairs. The School hosts a summer workshop for students from disadvantaging backgrounds, and supports a number of local lower achieving schools through faculty teaching and student visits.

Admissions Process

The admissions process has been designed to assess a range of personal and practical skills including animal orientation, communication, enthusiasm and professional potential as well as academic ability for our courses. The admissions process has been developed with consideration of attributes and qualities required of a new veterinarian as articulated in the RCVS 'Day One Competencies' and 'Code of Professional Conduct for Veterinary Surgeons'.

Phase 1 – Academic Review
All Students must apply through UCAS. All applications are initially reviewed to check that applications meet minimum academic standards. The School does not consider predicted grades.

Phase 2 – Non Academic Personal Qualities Review
Personal and Referees Statements on the UCAS form are reviewed to assess understanding of the profession, motivation, interests.

Phase 3 – Widening Participation and Work Experience Detail Collection (via online survey)
Applicants are requested to complete an on-line further information paper in order to supply further information for Widening Participation criteria and work experience.

Phase 4 – Motivation, ability, attitude and attribute assessment
The on-line questionnaire also provides an opportunity to provide further evidence that the applicant has the motivation, ability, attitudes and attributes for a career in the veterinary profession; this includes considering an individual's other experiences or achievements (e.g. sporting achievements, expeditions, music etc). The questionnaire is marked by clinicians and is based on elements from the RCVS Guide to Professional Conduct.

Phase 5 - Situational Judgement Test
The Situational Judgement Test (SJT) assesses key attributes that have been identified as important for veterinary students. Applicants are presented with a set of hypothetical but relevant scenarios associated with the veterinary profession and asked to make judgements about possible responses. The competency framework consists of four attributes; empathy and building client relationships, professional integrity and trust, resilience and team work. The SJT builds on UK medical doctor selection methodologies and was developed in conjunction with psychologists.

Phase 6 - Assessment Centre
Candidates are ranked on their scores and the top applicants are invited to attend our Assessment Centre. The aim of this final phase of the selection process is to assess and select candidates who are academically able enough to cope with the course, who are motivated towards a career in veterinary medicine and science, who have insight into the implications of this career choice and who have, or appear to have, the potential to acquire the personal and practical skills expected of veterinary practitioners.

The interview will normally be conducted by a faculty or staff member and either Nottingham alumni or an associate vet. Usually, at least one will be a vet and one a member of academic staff. The interview uses a scoring scheme to evaluate the depth of: motivation, insight into a veterinary career and interest in veterinary topics together with communication skills, animal orientation and personal attitudes and attributes.

A practical aptitude assessment is undertaken by all applicants. During the assessment, applicants deal with animal material and clinical information and are scored using a scheme that assesses enthusiasm and aptitude including observational and analytical skills and animal orientation.

Staff receive initial training, are offered refresher training yearly and are briefed in detail at every ahead of every session.

Phase 7 – Offers
All Assessment Centre data is compiled and standardised to reduce any differences in marking between assessors. Students are then ranked. The information is reviewed by the Admissions Team and Admissions Sub-Deans. Applicants are considered solely based on their merits, abilities and potential, regardless of gender, ethnic or national origin, age (subject to the University regulations on minimum age), disability, religion, sexual orientation or any other characteristic. Decisions on offers are made by comparison with the candidate pool, rather than by individual. Applicants are then telephoned by one of their interviewers and made a conditional or unconditional offer, or are rejected and informed of alternative course options within the University by email correspondence. Any offer is made subject to an Occupational Health assessment. All students offered a place on the course are required to accept the Veterinary School Code of Practice by signing a Student Entry Agreement; this ensures that the student is aware of the specific objectives and standards for professional attitudes and behaviour required by the School and the profession.

For international students, the applicant may be telephone interviewed, and some leniency may be given regarding the full 4 weeks work experience, dependent on local conditions. International applicants must also meet English language criteria (British Council IELTS test with a minimum score of 7.5).

Work experience
All applicants are required to have a minimum of 4 weeks animal-related work experience prior to application. 2 weeks of this can be from attending the virtual work experience MOOC.

Disabilities

We expect all students to declare any requirements for disability support (including dyslexia) early in the admissions process, in order that the School can evaluate and implement support needs throughout the admissions process and /or as soon as the student commences the courses. The School also meets students prior to admission to provide review and advice on potential reasonable adjustments that can be made to the course.

All students are required to complete a medical assessment form which is reviewed by the University Occupational Health Team prior to joining the course. This may result in referral to Occupational Health prior to admission or assessment by University of Nottingham Academic or Disability Support staff. Occupational Health will provide recommendations on the suitability of the applicant to study on the course. These assessments may result on preparation of either an Academic or Disability Referral Form. These will provide for reasonable adjustments to be put in place for teaching or examinations. The Occupational Health team assesses students against national Higher Education Occupational Physicians guidance (http://www.heops.org.uk/guide.php) to ensure that students are able to meet RCVS Day 1 competences.

Covid impact to the admissions process

Over the last 2 years a modified admissions process has been undertaken. In order to manage faculty and staff workloads, assess remotely and ensure fairness to all students we omitted Stages 2 and 4 (UCAS form and online questionnaire review) and selected the top 50% of applicants for interview based on the SJT. The Stage 6 Assessment Centre was held online, with 6 short video-based observational tasks replacing the practical assessment.

7.4 Complete Table A

See Appendix 7.1

7.5 Describe current plans for assessing the success of the selection process to meet the mission of the School

The Admissions process for undergraduate students is overseen by the Admissions Sub-Dean and reviewed annually by the Admissions Committee, which considers information such as demographics and admissions performance. In this way, the School monitors the Admissions process and ensure that there is no discrimination

Admissions policies and procedures are validated through feedback on the performance of students on the course and reviewed at Admissions Committee. Analysis is undertaken on cohorts of students admitted to the course. Data are cross checked against the admissions process for that cohort to highlight whether the admissions process has impacted on success in the course. This process is ongoing and informs decisions on the admissions process, via the Admissions Committee, to ensure it is identifying students who will perform to the standards and values required in the School's mission statement.

We believe that the admissions process is very successful; we have recruited students from a wide range of backgrounds, with normally over a third of any year being 'widening participation', and commonly put emphasis on the performance at Assessment Day over academic ability (for example a personable, capable, communicative student who has achieved highly at Assessment Centre but fails to meet the academic offer is likely to still be accepted at ABB through "Clearing"). The student attrition rate is low and we are content that we are selecting students academically capable of qualifying as veterinary surgeons; our high emphasis on personal qualities and communication selects students that are able to conduct themselves professionally as veterinary surgeons. We believe the diversity of our students will in future add significantly to the profession.

Following the success of elements of the admissions process during covid (e.g. online interviews), and the overly onerous completion and subsequent marking of questionnaire, an Admissions working group is currently working to review the admissions process, with any changes due for in implementation in 2023.

7.6 Describe your policies and procedures for admitting transfer students who will receive a degree from your institution, and state the number of transfer students admitted per year for the last five years

Due to the integrated nature of the course, the School does not accept transfer students.

Standard 8: Faculty

8.1 Complete Tables A and B. Assess the strengths of the faculty and support staff in fulfilling the college mission

Individuals are not allocated to the School, rather they are recruited to it. The School has an ongoing recruitment programme phased in relation to the development of the School; academic staff work within Strategic Research Areas well as contributing to or leading teaching modules. The allocation of additional faculty and staff to the School is based on incremental growth (and replacement of any leavers) associated with the dual intake and apprenticeship business cases. Any additional recruitment above these plans would be considered through further business cases and/or agreement with our Faculty PVC. Recruitment in relation to non-budgeted posts is determined by the requirements of the research grant or external contract.

There are currently 203.0 FTE faculty and staff in the School, of which 80.8FTE are vets (24.3FTE Specialists). Faculty and staff demographic data are shown in Appendices 8.1 and 8.2.

Academic staff are recruited to one of three main career paths within the Research and Teaching job family dependent on the focus of the role:

- A combination of research and teaching (R&T)
- Wholly or mainly involved in research (R)
- Wholly or mainly involved in teaching and learning (T&L)

Clinical track staff may be either on the R&T or the T&L track where their clinical activity is part of their teaching activity. Within the school they may be designated R&T(C) or T(C)&L.

Levels of academic appointments as follows:

- Professor (level 7)
- Associate Professor and Clinical Associate Professors (level 6)
- Assistant Professor and Clinical Assistant Professor (level 5)
- Teaching/Research Associate/Fellow (level 4)

Research staff are recruited to the relevant category dependent on the needs of the research grant or external contract.

Honorary staff (staff that are not employed by the university; elsewhere termed Adjunct staff) may only be appointed using criteria of standing that is equivalent to normal University appointments. They have particular contractual rights and responsibilities and deliver some teaching at Clinical Associates, or on the course.

Technical staff are either entirely dedicated to supporting teaching (e.g. the preparation of material for dissection, organising and demonstrating clinical equipment, looking after animals etc) or in a combined research/teaching role, where the majority of focus is on supporting staff with research and also providing input and guidance to postgraduate students and Year 3 project students. There are 5 levels of technical staff recruited in the School.

The administrative staff in the School undertake a range of activities, including those more traditionally undertaken by academics (e.g. assessment management, admissions, quality assurance). There are 6 levels of administrative staff in the School.

The strength of the School's faculty and staff is in their dedication to delivering an exceptional student experience, as exemplified in the NSS results. We feel that the community-based teaching model, whereby our clinical staff, supplemented by trained Clinical Associates, Residents and Interns, facilitated by a wide and appropriate caseload sets our students apart from other Schools to enhance their employability. In relation to research, our focused recruitment to Strategic Research Areas, ensures cohesion and excellence in research (evidenced by our success in the 2014 Research Excellence Framework). Staff have large amounts of autonomy and are supported to develop new initiatives, research collaborations etc.

Technical and administrative staff have extensive experience and are engaged and dedicated to the School, and have also been recognised with a variety of University teaching awards (e.g. Lord Dearing awards, Vice-Chancellors Medal).

8.2 State the current number of academic faculty (head count) who possess credentials as listed in Tables C and D

See Appendix 8.3.

8.3 Assess the challenges for your college in maintaining academic staff numbers and quality
and
8.10 Describe measures taken to attract and retain a diverse workforce

A moderate challenge to the School, as is common at all UK Veterinary Schools, is the recruitment and retention of suitably qualified clinical staff; there is little difficulty in recruiting non-clinical or support staff with an aptitude and interest in teaching. The pool of suitable candidates for clinical positions is small, because of the expansion of Veterinary Schools and commercial competition from private practice for diplomate level staff. Although there has not been significant difficulty in attracting applications for positions in the School, the School has maintained its approach of only appointing those candidates who understand and meet the School ethos and culture, as well as being able to demonstrate the appropriate capabilities and potential for the role.

The School has put in place financial incentives to attract clinical staff including a consolidated and pensionable 10% or 15% market supplement. In addition, a further clinical supplement is available for clinicians based at Clinical Associates undertaking clinical work and out of hour's activities, this supplement is 15% or 20% of salary after addition of the market supplement. These clinical supplements do go some way to meeting the difference between academic and commercial salaries, however there are a number of additional tangible and intangible benefits associated with employment in an academic institution (e.g. pension scheme, sports facilities etc), as well as the academic environment generally and the ability to impart knowledge and skills to a new generation of the profession.

Specifically, in relation to clinical staff, the School has been able to retain excellent undergraduates, postgraduates and residents and recruit them to positions in the School. There are strong benefits in this approach, including cultural understanding and fit; currently there are 13 ex-students who have joined the faculty. In addition, the School (supported by the Faculty PVC) have provided guidelines that supplement the University's promotion criteria for clinical staff.

To attract the highest calibre individuals (both clinical and non-clinical) and also to reflect the fact that most academics cannot bring research funding with them, the School has made available funding for every academic staff member to have a pump-prime fund on joining the School, and has also allocated strategic money to fund postgraduate students and postdoctoral workers.

All faculty involved in the recruitment of new members of the School are required to be appropriately trained including training for Unconscious Bias, and Bystander Training.

More broadly, the School has put in place a number of measures to embed the principles of EDI into our culture and these are overseen by the EDI and Athena Swan committees. For example, we have created an EDI induction for all faculty, staff and students alongside mandatory Bystander Training. We have an EDI website, that provides information on support for various protected characteristics, and useful contacts within and outside the SVMS for support. To attract and retain a diverse faculty, we internationally advertise all academic positions, and our adverts highlight our commitment to EDI.

The School was awarded the Athena Swan Bronze status in 2018 (http://www.ecu.ac.uk/equality-charters/athena-swan), and continues to implement various measures and interventions to enhance gender equality with an ambition to progress to Silver status.

Several School members are employed on part -time contracts, 0.2 FTE roles are available for staff facilitating clinical relevance sessions – these roles are especially attractive to parents who wish to balance childcare / family commitments. All part-time individuals are fully integrated and treated as any other member of University faculty or staff.

There are a variety of policies designed to maintain a stable cohort of academic and support staff. The School complies with university policies on parental leave and flexible working and encourages part-time working to all faculty and staff to improve work-life balance. As an example, all administrative staff have at some point opted to undertake "flexible" working of some description. Divisional Heads recognise the importance of personal development in maintaining a stable cohort of faculty, and are good at developing bespoke programmes for individuals.

Short-term gaps in filling appointments are normally covered within the workload of current faculty, for example maternity cover, however for clinical post maternity cover the School will either employ a locum, offer a fixed-term position or provide a payment to Clinical Associates to cover their additional staff effort. Longer term gaps in appointments have historically occurred in times of a recruitment 'freeze' by the University, in light of financial pressures. When these have occurred the School has been able to successfully argue a case

for appointment for academic and clinical staff on the basis of the requirements of accreditation; for technical and support staff the School employs temporary members of staff. Longer term gaps have also occurred in relation to clinical appointments, where the School has not been able to select appropriate candidates; in this case we would employ locum veterinarians or make payments to Clinical Associates.

8.4 Provide information on the loss (what discipline/speciality) and recruitment of faculty (Table A)

See Appendix 8.1.

8.5 Provide a concise summary of promotion and tenure policies, and the policy to assure stability for non-tenured, long-term faculty

and

8.6 Provide an estimate of the weight assigned to promotion/tenure and or compensation for teaching, research, service, or other scholarly activities

Tenure does not exist at the University of Nottingham, and faculty are appointed to permanent or fixed term contracts. The majority of academics are appointed on open ended permanent contracts, with core funding (essentially from the Office for Students and Student Fees). No clinicians are appointed in relation to Clinical income (as this is retained by the Clinical Associate). Individuals on fixed term contracts are predominantly recruited to Research Associate/Fellow positions on research grants, or recruited to provide cover, e.g., maternity leave.

The University has a robust Nottingham Recognition Scheme (NRS) process to enable the School to manage salary progression in a way which ensures that individuals are appropriately rewarded, based on the contribution they make, clearly linked to the objectives of the School, Faculty and University. The NRS ensures reward above that of normal annual increases in salary; additional increments can be awarded resulting in accelerated progression within a band, or fixed value awards.

Progress, achievements and delivery are reviewed as part of the Appraisal and Development Conversation (ADC) process and faculty and staff are assessed on how they have contributed to the faculty/school/department in the relevant balanced framework of:

- Teaching and learning / Strategic and operational objectives
- Research and knowledge exchange (Academic only)
- Contribution
- Culture and climate

Contribution is measured in a variety of ways and includes

- Clinical teaching and assessment responsibilities and achievements
- Research grants applied for and awarded
- Publications
- Supervision of research students, interns, residents and postdoctoral research fellows
- Administrative duties and other contributions to the School, University, and external bodies

The ADC process enables the School to identify and respond to the development needs of all faculty and staff, including both short-term and more long-term career aspirations. Furthermore, the process sets goals for the coming year. Appraisals are held with the direct line manager, which for all academics is the Head or deputy Head of Division, Heads of Division and the Deputy Head of School are appraised by the Dean; Research Associates/Fellows are appraised by the Principal Investigator of the grant on which they are employed. Support staff are appraised by their line manager, who will be a team leader, or a Head of Operations. Poor performance results in a review of development and support needs within the context of University guidance on managing underperforming individuals.

The University has instigated a workload planning (WLP) system. The underlying ethos driving WLP framework is to allow effective planning of academic time and to enable a more open and transparent view of planned workload. It is assumed that all academic staff will have time allocated to undertake each of the following: teaching – including preparation, delivery and assessment - research, citizenship and academic service. The workload plan is populated in the School and faculty can comment on their assignment to correct inaccuracies. An individual's workload is discussed at ADC, with changes made as necessary for the subsequent year.

The University's promotion process for academic staff recognises a high level of achievement in 3 broad areas of activity:

- Research and scholarship: research activity (including research income and publications), and standing within the UK and international research community
- Teaching and curriculum leadership: teaching quality, teaching leadership, educational research, teaching innovation and good citizenship, including PhD supervision, outreach etc. For clinical staff, clinical activity is also considered within teaching
- University/Academic service and good citizenship: e.g. leadership, management, administration, collegiality, knowledge transfer or pastoral care within the University, or by engaging with the wider community on behalf of the University

Academic staff are encouraged via annual workshops to self-reflect and consider making a promotion application. Progress towards promotion/progression is discussed with all faculty and support staff at their ADC. Academic staff may put themselves forward for promotion if they consider they match the relevant criteria as detailed in the relevant Academic Staff Promotion Criteria and Career Pathway Framework provided by the University. The School provides support through the promotion process with workshops and mentoring. Each individual case is judged on its merits with weight given to teaching, clinical work, research and other activities according to the individuals desired career track; there is no set weighting, however a summary of expectations is at https://www.nottingham.ac.uk/hr/guidesandsupport/promotionandregrading/promotion/index.aspx. The School Promotions Panel considers each application (presented by an Advocate) against the University's promotion criteria prior to submission to the Faculty Promotions Committee. Following discussion at that committee, chaired by the Faculty PVC and including Heads of Schools, a decision is made, and the outcome is provided to each individual. For promotions to level 7 (Professor), applications are subsequently submitted to the University Promotions Committee and if supported at that Committee are sent for external review prior to a second meeting of the University Promotions Committee. Feedback and further support is given to unsuccessful individuals. There is no financial or numerical limit within the promotion process.

There are no promotion opportunities for support staff, instead they can move to a higher grade role or the role is regraded (rather than the individual).

8.7 Briefly describe faculty professional development opportunities available in the college/university, including, but not limited to learning theory and instructional practices

ADCs ensure personal development is a key action. The University Professional Development Unit provides development advice and courses for all job families though a varied programme of short courses and accredited qualifications. Themes such as professional and personal development, managing people and projects and equal opportunities are delivered through a variety of methods, such as e-learning, forums and traditional courses (https://www.nottingham.ac.uk/hr/services/professional-development.aspx). All faculty and staff are encouraged to attend courses, and most are offered free of charge. In addition, the University's Leadership and Management Academy (LMA) supports and develops leaders and managers at every level of the University either within their current role or to support growth in leadership or management skills for the future. The LMA provides a plethora of learning opportunities and resources, including coaching and mentoring opportunities, and a wide range of development programmes (https://www.nottingham.ac.uk/hr/services/leadership-and-management-academy.aspx).

The University requires that all newly appointed academic staff undertake the Postgraduate Certificate in Higher Education (PGCHE); 39 faculty possess at least a PGCHE and 78% of faculty have a teaching qualification (compared to 68% in the wider University). The School actively encourages staff to seek recognition as Fellows of the Higher Education Academy (HEA): 1 member of staff (the Dean) is a Principal Fellow of the HEA, with a further 48 staff Fellows/Senior Fellows; 79 faculty and staff have received the prestigious University Lord Dearing award for teaching.

The School organises a number of relevant initial or refresher courses or workshops in-house on a regular basis, covering all aspects of teaching, learning and assessment, (e.g. facilitation skills, MCQ/EMQ writing, use of YouTube for teaching and learning, admissions, personal tutoring). There are strong links with several other veterinary schools, where there is collaboration in development of teaching skills and curricular activities, School staff have attended relevant external training courses such as EMQ training and assessment in clinical rotations.

Appropriate training is provided to clinicians and staff at all levels in the Clinical Associate institutions. Clinical Associate veterinarians and staff are trained as necessary, usually at the beginning of a relationship, with ongoing training provided as necessary on an ad hoc basis by placed clinicians. We are developing videos for Clinical Associates to use for induction of their new employees. Clinical Associate veterinarians have also registered to undertake educational Masters programmes and been supervised by School clinical staff to undertake specialist clinical training.

The University of Nottingham also offers faculty who teach the opportunity to be observed by an experienced academic from outside their school via the Teaching and Learning Observation College (TLOC). TLOC aims to support colleagues who wish to improve their teaching through observation of their teaching and learning practice. The TLOC has recruited experienced academics from across the University who will provide professional and independent feedback.

Each academic has a yearly fund to attend scientific meetings or professional development. There is also a centrally held training budget, which is used to subsidise additional attendance at relevant professional development opportunities where there is justification that attendance would aid an individual's personal development. The School also supports faculty and staff to undertake academic and clinical qualifications. Support staff also access this funding, and support has been provided for a variety of courses – from day courses through to MBAs.

The School has joined the School of Medicine Mentoring Scheme and contributes financial support and mentors to the programme. The programme matches the skills, interests, and requirement of mentees with mentors and will allow cross-school pairing from across the three job families.

8.8 Describe the college's processes to annually monitor equity in compensation and advancement

There are 3 separate levels to monitor equity in compensation and advancement.

- At School level whilst the University onus is on individuals and line managers to submit nominations through the NRS, the School Executive Team will also review all members of the School to ensure there have been no omissions. The proforma that is completed to review nominations also displays % splits by differing demographics.
- Larger value awards and increments are reviewed, post-School review, by a cross-Faculty Committee which also includes HR representation; again the same demographic data is presented.
- At University level there is oversight of award levels, progression and pay grades per job family, gender, disability and other characteristics for academics.

As mentioned previously the School have strong Athena Swan and EDI Committees that monitor data and have developed and enacted various interventions to ensure equality, diversity and inclusivity.

8.9 Describe current plans or major changes in program direction that would be affected by faculty retirements, recruitment and retention

The School has a manpower plan that forecasts recruitment requirements in relation to strategy, for example, in relation to increasing student numbers, and retirements can be somewhat forecast, albeit there is no longer a compulsory retirement age in the UK. As such we can plan and implement recruitment on a timely basis.

8.11 Describe programs for on-campus delivery of curricular content by individuals not employed full time by the institution (other than occasional guest lecturers), including subjects taught. Estimate the percentage of core curricular content delivered in this way

There is some supplemental delivery by other University and external teachers, when appropriate or niche expertise does not reside within the School; these individuals may be paid as consultants or are Honorary staff (see above). All external deliverers are appropriately briefed and monitored by the Module Convenor, including pre-appointment and pre-delivery briefings and a post-delivery review. In 2020/21, they delivered 98 hours of teaching (4% of the total in years 1-4).

8.12 Describe the role of Interns, Residents and graduate students in teaching and evaluating veterinary students

Residents, Interns and DVetMed students are integrally involved with year 5 clinical teaching. They may work closely with the students on an informal daily basis, and may be involved in scheduling activities, and feedback, with academic staff and other members of Clinical Associates about student performance to Rotation Leaders. Residents may be involved in assessing DOPS, however otherwise no students are involved in assessment. Other non-clinical postgraduates (e.g. PGCertificate, MRes, PhD) act as demonstrators in practical sessions in years 1-4. It is normally expected that students undertake university courses in teaching and demonstrating and school teaching induction courses. Some students may undertake the Associate Teacher Program and gain HEA status.

Standard 9: Curriculum

9.1 State the overall objectives of the curriculum and describe how those objectives are integrated into individual courses

Our key aim is to educate and train veterinary students, providing them with the knowledge, intellectual, practical and professional skills to fulfil the demands required of them to succeed and develop as accomplished veterinary professionals. Specifically, the aims of the programme are that students should have, on graduation:

- Broad knowledge of the basic sciences on which the activities of veterinary surgeons are based
- Broad knowledge of the structure and functions of healthy animals in relation to husbandry, health, welfare, housing, reproduction, behaviour, nutrition and hygiene
- Knowledge of animal health and its promotion and of disease and its causes, diagnosis, management, treatment and prevention
- Practical competences allowing accurate, safe and practical handling, examination, diagnosis and sample collection and analysis
- Knowledge of clinical pharmacology, medical and surgical skills and techniques
- Knowledge of veterinary public and animal health standards, processes and issues including animal foodstuffs, transmittable and notifiable zoonotic diseases and animal welfare
- Problem solving and clinical reasoning ability, including knowledge, understanding and skills in contemporary research
- Professional skills and attributes ensuring effective communication, liaison and team working with clients, colleagues and other stakeholders
- Understanding of the professional, legal and ethical responsibilities of the veterinary surgeon with regard to RCVS guidelines and in the wider society
- Ability to demonstrate personal and professional limits and understand the obligation for a commitment to continuing professional development
- Skills and attributes for further professional development including self-audit and continual lifelong learning as a veterinary surgeon

Our programme is mapped to RCVS Day One competences, AVMA clinical competences and EAEVE Subject Areas (Appendix 11.2).

The curriculum review and development at Nottingham is driven by the learning outcomes that students are required to display at graduation, and is the culmination of extensive consultation and planning. The curriculum has thus been designed to meet the RCVS Day One competences, AVMA Clinical competences and EAEVE Subject Areas. The dual intake initiative has enabled us to review and refine curriculum content, whilst maintaining a student-centred approach which ensures our graduates have excellent employment prospects and excel in practice and other roles both within the veterinary profession and beyond. The clinically integrated nature of our curriculum ensures students are engaged, motivated and enjoy their learning, whilst developing problem solving, team working and communication skills.

The 5-year veterinary curriculum at the School of Veterinary Medicine and Science, is unique in culminating in the award of two degrees:

- Bachelor of Veterinary Medical Sciences (BVMedSci) at the end of Year 3
- Bachelor of Veterinary Medicine (BVM) and Bachelor of Veterinary Surgery (BVS) at the end of Year 5 (awarded jointly)

The curriculum is delivered in a vertically (clinically) and horizontally (subject) integrated programme using a range of innovative teaching methods. Each major body system is delivered within Years 1 and 2 in the following modules (Appendices 9.1-9.4):

- The neuromuscular system
- The circulatory and respiratory systems
- The gastrointestinal system
- The endocrine and integument systems
- The urogenital system

These systems-based clinical science modules cover structure and function in the normal animal. Currently, each of these systems-based modules is repeated in Year 4, when the clinical aspects of disease, diagnostics and treatment are delivered. Within the dual intake curriculum, these systems will be revisited within three species based clinical modules.

A problem-oriented approach ensures integration is emphasised appropriately. Delivery methods are diverse and include core 'signposting' lectures and practical classes, alongside facilitated small group problem-based

learning sessions. The development of lifelong learning skills is supported through the inclusion of self-directed and group work.

In addition to 'block' system-based modules, there are also 'long' modules running throughout the year. Long modules cover some of the key skills and knowledge required across the veterinary field (for example Animal Health and Welfare in Year 1, and Veterinary Professional Skills in years 1 and 2). Integration between these long modules and the body system modules ensures relevance and engagement.

In a typical problem-orientated curriculum, matrices of subject and topic are mapped into the individual cases that are delivered throughout the course. When doing this there is the potential for particular topics to become 'hidden' to teachers and learners. To avoid this we identify and map learning outcomes of "embedded" modules, a process overseen by dedicated module convenors for these areas. Examples include traditional subjects such as biochemistry, ethics, and anatomy and embryology, recently we have added topics such as wellbeing, EDI and sustainability to our embedded module list.

Year 3 acts as a transition year between clinical science and clinical modules. A six week research module at the start of year 3 allows students to develop scientific curiosity and research skills of literature searching, experimental design, analysis of data and scientific writing technique. The students also study veterinary public health, the fundamentals of clinical practice and veterinary professional skills, which builds on skills already delivered within the systems-based teaching and prepares students for learning in the clinical workplace.

Year 5 is lecture free and students undertake a series of Intra-Mural Clinical Practice Rotations that comprise small-group clinical teaching in the hospital / practice / laboratory situation (Appendix 98). The year allows students to further develop clinical skills, reasoning, knowledge and professionalism in the context of the workplace. Teaching and learning is based upon practical experience, observation and discussion and may also include seminars, case rounds, practical classes and self-directed learning; students are normally under the supervision of University academic staff placed at, and working within, the institution. The 26 weeks of rotations are delivered over a period of 50 weeks and include:

- 8 weeks of core small animal rotations
- 4 weeks of core equine rotations
- 4 weeks of core farm animal rotations
- 2 weeks of veterinary public health
- 2 weeks of pathology
- 6 weeks of track rotations

Rotation locations are shown in Appendix 9.5.

During year 5, students also undertake up to 20 weeks of Clinical Extramural Studies.

The September and April cohorts follow identical curricula. The schematic in Appendix 9.1 shows that when each year cohort starts, the opposite cohort in the year are much reduced in number in the School ensuring that there is adequate teaching space and resources for all students. e.g. when the April cohort start, the September cohort are undertaking EMS, revision or smaller group teaching prior to exams.

Students meet RCVS requirements to undertake Animal Husbandry and Clinical Extra-Mural Studies (EMS) in vacation periods.

- A minimum of 12 weeks Animal Husbandry EMS (AHEMS) is scheduled in Years 1, 2 and 3
- A total of 26 weeks Clinical EMS (CEMS) is scheduled from the end of Summer of Year 2
- The temporary requirements for EMS due to the COVID-19 pandemic are currently being followed for each cohort.

There are many examples of unusual and innovative aspects of the curriculum:

- A true clinically vertically integrated curriculum that both demonstrates the clinical relevance and application of the basic sciences from the start of the course and reinforces the importance of basic sciences during the clinical modules, through a spiral curriculum. Much of Years 1 and 2 learning is emphasised and supported by clinical cases using the principle of contextual learning. Discipline based subjects are embedded within the systems modules and are assured by a group of Module Convenors, with responsibility for embedded modules within the curriculum
- The emphasis on professionalism, that is embedded throughout the course, provides a unique opportunity for students, in early years, focussing on reflective ability, communication skills training, mental health awareness, development of resilience and business management and entrepreneurship. Assessment of professional behaviour is a core component of student evaluation in Year 5

- Integrating clinical skills into the early years of teaching, and developing clinical skills in later years before entrance into the clinical final year, combined with the explicit assessment of these clinical skills through Objective Structured Practical and Clinical Examinations (OSPEs and OSCEs) that align with final year Directly Observed Procedural Skills (DOPS), and to RCVS Day 1 and AVMA Competencies, functions to guide student learning and demonstrates a roadmap of clinical skills development throughout the programme to post-graduation. Students' individual development of clinical skills is captured through a self-audit within the professional portfolio.
- Key to the delivery of the School Intra-Mural Rotations (IMR) has been the identification of clinical situations in a community-based model that provide an appropriate and authentic learning and assessment opportunities for our students.
- Students are able to attend our Vets in the Community Clinic, providing free healthcare for the pets of homeless and vulnerably housed people. Students carry out the clinical work, supported by SVMS clinicians and also working alongside academics and veterinary nurse students from Nottingham Trent University. The mobile clinic is managed by a student committee responsible for outreach, fundraising, stock control and publicity.
- Peer assisted learning (PAL) provides essential support within the curriculum. Students participating in teaching EMS, the Nottingham Advantage Award, teaching interns and Vet Coaches contribute to PAL sessions, including facilitation of problem-based learning, practical demonstration and providing support within the Clinical Skills Centre.
- As part of digital innovation within the curriculum a series of 360° video tours have been produced to support students with the transition to vet school, in preparation for rotations and practical exams and to help familiarise staff and students with Covid restrictions in the move back to face-to-face teaching during the COVID-19 pandemic.
- The blended approach to the curriculum includes all curriculum content and resources being available on Moodle, whilst the use of Microsoft Teams allows interactive delivery to be maintained in online teaching off site as well as in face-to-face sessions on campus.

9.2 Describe major curricular changes that have occurred since the last visitation

This is Nottingham's first AVMA visitation. There are always ongoing changes to the curriculum to improve both the student experience and student outcomes, however currently we are undertaking an extensive curriculum review to ensure delivery of the dual intake. At the time of accreditation years one to three are following the new dual intake curriculum and years four and five are following the pre 2019 curriculum. The September and April cohorts follow identical curricula.

9.3 Describe the process used for curriculum assessment (including course/instructor evaluation) and the process used to assess curricular overlaps, redundancies and omissions

The School has put in place significant mechanisms for ongoing curriculum review and assessment:

- Weekly debriefing of facilitators reviewing material delivered in Clinical Relevance sessions
- Biannual module and rotation reviews (e.g. student feedback, external review, focus groups etc)
- 'Embedded' Module Convenors who review subject areas across the curriculum (see Appendix 9.6)
- Evaluation of individual teachers by student evaluation of teaching and peer observation
- External Examiner reports on each assessment
- Annual programme reviews, including student feedback on their experience of the year
- Annual School Enhancement Plan as required by the University of Nottingham
- Periodic Education Enhancement and Assurance Review as required by the University of Nottingham
- Periodic review and accreditation by the RCVS and EAEVE

Annual Module reviews are the primary mechanism to identify good practice, overlaps, redundancies and omissions and are undertaken annually by the Module Convenor with the aid of contributors to the module. A Module review meeting is chaired by the Module Convenor and comprises:

- Consideration as to whether delivery matched published learning objectives: why were there differences, what may have impeded success, what may be improved, what worked well etc
- Review of feedback and comments from the multiple inputs collated for the meeting
- Plan for modification of both learning outcomes and proposed delivery strategies
- Review of performance data for both September and April cohorts

A Module Review document is subsequently presented to TLA Committee for discussion. The document compiles information from the following sources:

- Informal comments received during delivery
- Output from meetings with technicians and key administrative support staff, observation of teaching delivery by Module Convenor, de-briefing of facilitators

- Feedback from external deliverers on the course
- Student Evaluation of Module (SEM) and rotation feedback [11]
- Student Evaluation of Teaching, where appropriate
- Student focus group
- Review of assessments

Thus, any ongoing required changes to outcomes on a module basis are proposed by the Module Convenor prior to review and approval by the Schools TLA Committee, to ensure the overall curriculum content is maintained. Learning objectives developed for each teaching session, link to RCVS, EAEVE and AVMA criteria and overall module learning outcomes. Changes in specific learning outcomes are reviewed in the module review process; when new learning objectives are proposed they are reviewed by the TLA Committee to ensure that they are relevant to clinical outcomes. Programme and module specifications, defining aims, delivery methods, assessment and learning outcomes for a programme are reviewed annually as an output of the component module review process. Delivery format across the April and September cohorts is monitored through this process to ensure student experience is comparable. The School is also required to submit a report as part of the University's Annual Monitoring process for all degrees.

During Examination Boards, performance data are considered by both internal and External Examiners. Figures from the previous five years of examinations and from both cohorts are available for comparison during this process. External examiners report annually to the school, and these reports are responded to, and changes implemented as required through the TLA committee.

There is a strong ongoing commitment to monitor delivery by individual teachers. Methods include:
- Evaluation of individual teachers by a School-managed Student Evaluation of Teaching (SET) [12]
- Peer observation – both internally and through the university wide Peer Observation College
- Module Convenor observation of external deliverers
- Module Review
- Informal Student feedback

In addition to School mechanisms, the University conducts Educational Enhancement and Assurance Reviews (EEARs) to ensure high quality, competitive, and well managed academic programmes are maintained. Reviews are constructive and holistic exercises, covering quality assurance and quality enhancement. They operate according to a 3-year schedule (http://www.nottingham.ac.uk/academicservices/qualitymanual/curriculum/teaching-and-learning-review.aspx).

The recent review and development of the dual intake curriculum has involved all teaching staff, support staff and students. Programme meetings have been held annually to ensure alignment and integration between years and modules. More frequent meetings have been held at the year and module level, with regular updates provided to the University Programme and Operational working groups. Timetable and learning outcome documents have been developed by the module convenors and made available to all teaching staff via Microsoft Teams for comment. Learning outcome documents include tracking where content has moved between modules and years. External Examiners have been updated with the changes to the curriculum and assessment as a result of the new curriculum.

9.4 Describe the strengths and weaknesses of the curriculum as a whole

Strengths
- Our outcome based student-centred curriculum encourages students to learn in an independent fashion, and they have responsibility for their own education. It encourages a more active approach to learning, building on prior knowledge, and learning by doing, in order to assimilate and accommodate their own learning
- By combining a clinically focussed basic science curriculum and providing clinical learning opportunities around first and second opinion cases the curriculum delivers true 'Day One' skills.

[11] Student Evaluation of Module (SEM) is completed to gather feedback from students on modules for curriculum development. A School-specific modified University standard questionnaire is used, and provided to students near the end of each module. Year 5 students are required to complete feedback on each rotation. This information is collated via a School specific standard questionnaire, and analysis of rotation evaluations is made by the Rotation Leader. A Student Evaluation of Year questionnaire is completed to gather feedback from students on their experience of the year of programme as a whole, and will be used to identify strengths and weaknesses, overlaps and deficiencies. A School-specific questionnaire based on the National Student Survey is used.

[12] Academic staff are required to gather student evaluations on their teaching (SET). The SET process is carried out by a standard questionnaire comprising School-specific questions.

- An integrated research programme produces research-literate veterinarians
- Emphasis on professional skills ensures graduates develop their own employability throughout the 5 years and are optimally prepared for their future careers.
- Utilisation of a wide range of eLearning initiatives such as online assessments, audience response software, the combination of our virtual learning environment (Moodle) and Microsoft Teams to enhance delivery, our video library within MediaSpace which now comprises over 1,000 videos within the SVMS channel and high quality visualisation equipment in the dissection laboratory
- A focus on student engagement, encouraging our students to develop beyond the boundaries of core curricular content, leading to enhanced employability skills (recognised by the ASPIRE award)
- Our position within a wider medical faculty, allowing us to learn from other clinical degree providers, and work together on a range of projects designed to enhance the student experience. For example, the faculty Inclusive Curriculum Task and Finish Group, which includes a focus on decolonisation of the curriculum
- Engaging, innovative and committed teaching staff, evidenced by a large number of local and national teaching awards
- Our community based model of final year teaching, which exposes students to the relevant caseload in order to develop professionally and practically
- The recent dual intake model has required extensive curriculum review resulting in a streamlined curriculum, reduced assessment burden and improved student experience

Weaknesses

- The implementation of Campus Solutions, a new university wide database for hosting all student records, has produced some challenges for us as a School, specifically the logistics of registering students that commence studies at a non-traditional time of year.
- Returning to face-to-face teaching has provided a recent challenge for faculty and support staff and students following the covid pandemic

9.5 Describe preceptor and externship programmes (including the evaluation process)

The School does not offer or make use of preceptor or externship programmes and as such we envisage that Extra Mural Studies (EMS) is the equivalent. Students are obliged to undertake a total of 12 weeks Animal Husbandry EMS and a total of 26 weeks Clinical EMS. The School organises EMS according to guidelines provided by the RCVS. EMS is supported by an administrative team, with academic and strategic input from the Student Placement Sub-Dean. This team aids students in selecting suitable EMS placements from an extensive database if required, and provides administrative support around booking of placements, guidance for hosts, insurance and safety information and assessment of and feedback from, and about, students.

Animal Husbandry EMS

Twelve weeks of animal husbandry EMS are required to be undertaken in Years 1 and 2 in order to progress on the BVM BVS course. Animal Husbandry EMS (AHEMS) allows students to gain experience of the management, husbandry and normal behaviour of animals in typical management systems during the early years of their course. Relevant topics in the wider curriculum prepare students for AHEMS (e.g. a lambing practical is held before Easter vacation in Year 1) and also encourage students to maximise their opportunities on placement.

Clinical EMS

Students are required by the RCVS to undertake 26 weeks of Clinical EMS (CEMS) in order to graduate with the BVM and BVS degrees. They can only undertake CEMS once AHEMS is completed, and are only able to complete up to 6 weeks before their 3rd year examination. As detailed in section 9.1 two weeks of track rotations count as CEMS.

The majority of CEMS will be carried out at a first opinion practice. Students are encouraged to experience as many clinical situations as possible and to attend a range of practices, including specialist practices. This allows students to practise a wide variety of clinical, personal and professional skills, whilst experiencing a range of management systems and processes

All hosts are sent an introductory letter ahead of each placement, giving logistical details, a commitment statement by the school and a health and safety disclosure. Students are advised to complete an Action Plan ahead of each placement, in consultation with their Personal Tutor. Whilst on EMS placement students are required to complete a Health and Safety Questionnaire and are encouraged to complete pieces for the Portfolio and entries in their Skills Diary. Students are expected to discuss their action plans, experience and learning objectives for the placement with the host on arrival. After the placement students are required to complete a Placement Feedback Form to provide general feedback about their placement. Hosts are requested to complete feedback on the student's skills, attitudes and behaviours and areas for improvement. Feedback is discussed at Personal Tutorials (or earlier if specific immediate concerns have been raised). Placement Hosts will be

contacted for more details if they have raised any specific issues or areas of concern. Experiences on Placement are thus assessed by:

- Host feedback on the student
- Review of outcomes of the Action Plan with the Personal Tutor
- Portfolio pieces reviewed by the Personal Tutor
- Review of Skills Diary by the Personal Tutor

9.6 Curriculum Digest

See Appendix 9.4

9.7 Describe current plans for curricular revisions

We are in the process of implementing our dual intake curriculum. 2022/23 will see the delivery of the new 4th year curriculum for the first time. The 3 species-based modules will replace the 8 systems-based modules in the current 4th year, (all learning objectives have been tracked for this timetabling exercise). This will reduce the assessment burden for faculty, support staff and students, as recommended by External Examiners, and better prepare students for their clinical rotations and final year clinical practice modules.

Final year will comprise the existing clinical rotations clustered into 3 clinical practice modules (farm animal and veterinary public health, equine and small animal) and a Veterinary Professional Skills module, delivered across 20 weeks of core and 6 weeks of track rotations. Students will complete their core rotations in the first half of the year, followed by a clinical reasoning exam for each clinical practice module. The remainder of the year will be spent completing their chosen track rotations and clinical EMS, enabling students to enhance their employability before completing the Veterinary Professional Skills assessment comprising the reflective portfolio and an MCQ assessment based on the RCVS Code of Professional Conduct.

9.8 Provide a description of the testing/grading system (scoring range, pass levels, pass/fail) and procedures for upholding academic standards

Assessment system

The School is fully compliant with the University's Quality guidelines and procedures, which are set in the context of external quality assurance frameworks. To this end, there are rigorous rules, regulations and processes for assessment and progression including, for example, disability requirements, e-assessment, moderation, External Examiners, etc. The School is responsible for ensuring that the rules and regulations for progressing from one stage of a programme to another and for qualifying for an award are publicised to students through appropriate channels. Any changes to regulations or arrangements for examinations are ratified by the TLA Committee and if the change is outside normal guidelines, by the University Quality and Standards Committee.

The School assessment strategy is a coordinated program of assessment designed to align the progress of the student towards overall clinical competency in order to meet RCVS Day 1 and AVMA competencies. The strategy is designed to assess knowledge and its application, clinical and practical skills and underpinning professionalism across all 5 years of the course. Assessment methods are selected based on the content to be assessed and stage of the course, optimising validity and reliability and ensuring constructive alignment within the curriculum.

All members of faculty teaching on a module or rotation are required to submit questions for the module formative and summative assessments. Faculty are advised of the number and format of questions per module or rotation based on the credit weighting of the module or time allowance of a rotation. To ensure content validity, such that a representative sample of the taught course is examined, the assessment for each module is blueprinted to the module learning objectives (and therefore inherently programme outcomes) by the Module Convenor. All faculty are trained in the relevant assessment technique prior to acting as an assessor for a summative assessment. All questions and papers are reviewed by the Module Convenor, and then by the Director of Teaching or Programme Leads before formal review and sign off with External Examiners.

Years 1 to 4

Knowledge is principally assessed in the examinations which are held online (all modules also include a formative online knowledge based assessment). All modules (except Veterinary Professional Skills) in years 1 and 2 include a single best answer (SBA) paper and a short answer paper. SBA question formats include MCQs, EMQs, drag and drop, and "fill in the blanks". In years 3 to 5 clinical reasoning is assessed in a unidirectional case based online exam in addition to the SBA format. Our online examination software allows us to include images, increasing the validity of questions.

The School has aligned assessment with teaching ensuring an appropriately blueprinted range of skills and behaviours are demonstrated via examination and uses assessment forms such as coursework, OSPEs (Objective Structured Practical Examinations), OSCEs (Objective Structured Clinical Examinations), AHDOPS (Animal Handling Directly Observed Procedural Skills), reflective Portfolios and Portfolio viva assessments. AHDOPS exams (held in years 1 to 3) assess animal handling in a realistic situation. There is no limit to the number of attempts available, however all students must have attempted the assessment and received feedback on their handling skills before completing AH EMS in the relevant species area. Students are required to demonstrate that they are competent in handling small animals (cat or dog, small mammal or exotics), horses and farm animal species (cattle, sheep or pig) before progressing into year 4 of the course.

Practical skills taught in years 1 and 2 are assessed during an OSPE at the end of year 2, a formative OSPE opportunity is provided in year 1. A range of skills including clinical exam, diagnostic skills, lab skills, communication, anaesthesia and surgical skills are tested. Year 3 skills are assessed in year 4 OSCEs and include professional practice, clinical exam, emergency situations, diagnostic skills, lab techniques, anaesthesia and pain control, surgical skills and case management.

The School has an emphasis on the development and assessment of professionalism and this is carried out through a longitudinal portfolio tool. ePortfolio software 'PebblePad' is used by all students throughout the course. The portfolio is discussed with Personal Tutors and regular formative feedback is given prior to the content being submitted at the end of each year as part of the assessment for the Veterinary Professional Skills modules. Annual qualitative feedback is provided to ensure the development of reflective writing skills.

Year 5

End of Year 5 examinations (Finals) evaluate knowledge through an on-line SBA examination. This tests higher order learning outcomes through a series of cases scenarios or vignettes. These skills are further examined via an online clinical reasoning (written) exam, which is delivered uni-directionally, with additional information becoming available on each subsequent screen, enhancing validity of the cased based scenarios.

Core clinical skills are assessed through Directly Observed Procedural Skills (DOPS) using case material in the performance of normal duties and activities and assessed by an appropriate clinician. There are 49 skills each representing core skills defined by the RCVS day one competencies (Appendix 9.7). The students drive the assessment process for their DOPS examinations by indicating when they feel they are ready to be assessed and receive feedback on their performance. To qualify to sit the Finals examination, students must have all skills set to ready (i.e. the student is ready to be assessed in all areas) and have completed 6 DOPS assessments at the appropriate standard, one from each skill area and 2 from each species area.

Each DOPS is rated on an entrustability scale and carries no marks towards Finals. To be eligible to sit finals students must demonstrate their performance at the level of 'reactive supervision' in 6 DOPS assessments.

At each clinical rotation a Rotational Professionalism Assessment assesses the professional skills and behaviours of each student. It is undertaken by all staff working with the student (including academic, Clinical Associate clinician and support staff), with reference to the RCVS Code of Professional Conduct. The outcomes are that the student either passes (exemplary, good or borderline) or fails that assessment (in need of improvement or poor). Failure results in a referral to a clinical review panel, where an action plan is developed which may or may not entail repeating that rotation. The professionalism of students is also assessed through the Portfolio viva which is based on 5 portfolio pieces, and assessment of the written content which consists of case studies, action plans and reflective pieces.

Grading system

We ensure assessment is appropriately embedded and aligned to our curriculum so that as well as benchmarking performance, students can use assessment to inform their learning and map their progression to competency. Regular formative assessments, both in class (often utilising voting software) and as assessments in their own right, provide students with feedback which is then discussed in wrap up sessions and with tutors. Students are able to identify areas of strength and weakness, and plan accordingly assisted by tutors and module convenors. Summative assessments are also supported with timely individual feedback mapped to learning objectives, ensuring results feed forward into future study plans. Students who are struggling to achieve the learning outcomes of the programme are offered support from the Student Academic Support Committee if additional support is required. All assessments are mapped to session and subsequently module outcomes, ensuring students can benchmark their achievements and map their attainment of the Day One Competencies. The ePortfolio further supports this process through a compulsory academic progression action plan in years 1 – 3 and a clinical progression and employability action plans in years 4 and 5.

Assessment underpins decisions on progression; students are unable to progress if they do not pass examinations (it is not possible to 'carry' a failed module). Standard progression is a 50% pass mark per module, with one resit allowable, with the exception of students with Extenuating Circumstances. Additional must pass assessments required for progression are OSPE/OSCE exams and AH DOPS.

A Final Exam Board for each year of the programme, attended by External Examiners confirms the marks and/or any extenuating circumstances and the progression decision for each individual student. Appendix 9.8 shows the average range of marks and pass levels per module and by degree.

The pass mark for modules in the Preliminary/Gateway Year is 60%, and 50% on the 5 year course. Students have to pass all examinations before they enter later years of the course, and also gain at least a 2.2 BVMedSci degree in order to progress to year 4. Students must complete the veterinary course within 10 years and cannot take more than 3 years to complete 1 year. Students are allowed only one retake opportunity for a module. Students are required to pass 70% of year 2 OSPEs and year 4 OSCEs stations.

Development, implementation and review of the assessment strategy and upholding of standards
The assessment strategy within the veterinary course has been devised and kept under constant review by an Assessment Working Group of the TLA Committee. It is a coordinated program of assessment designed to align the progress of the student towards overall clinical competency in order to meet RCVS Day 1 competencies.

All assessments are implemented, coordinated and delivered by the TLA Team and Examinations Officer, in conjunction with academic and other staff as required, for example, the Clinical Skills Sub-Dean for OSPEs. Various contingency plans are in place to deal with any problems if they arise (e.g. queries over questions, loss of electrical power, injury, computer failure etc).

SBA questions are standard set, using Ebel's method which assigns an examination question to one of the nine categories based on its relevance and difficulty. Judgements are then made about the percentages of items in each category that borderline test-takers would have answered correctly, and a pass mark is calculated based on these percentages (such that an 'easy and essential' question contributes more to a pass mark than a 'hard, nice to know' question). A small working group specific to each module assesses all questions for the end-of-year examinations. The assessment marks and the standard set pass mark for a module are normalised to the required 50% pass mark.

Other assessments, for example OSPEs, OSCEs and short answer papers are trialled against marking criteria, ahead of the assessment being delivered. OSPEs and OSCEs are subsequently standard set using a borderline regression method.

The end-of-year SBA, short answer and clinical reasoning exams are delivered online using bespoke eAssessment software (Rogo); this allows access pre- and post-examination and review of questions by External Examiners, and tracking of question modification and performance over time. The University has developed a system to track assessment of learning objectives which is integrated with Rogo, and provides increased feedback to students on the basis of their exam performance.

Post assessment delivery, all marks are moderated by someone other than the first marker. Methods of moderation utilised in the School include:

- A standardisation process ensures consistent use of mark schemes and interrater reliability; this process is applied to portfolios and coursework. A sample of scripts are marked by all assessors, this is followed by a standardisation meeting where allocation of marks is discussed in each of the sample scripts and the mark scheme is amended so that its interpretation is consistent between examiners. The remaining scripts are then marked using the amended mark scheme
- Sampling, either by an External Examiner or by an internal second marker
- Review of scripts of borderline students, high marks and fails
- Review of scripts where there is significant disparity between the different elements of assessment for an individual student, in a unit or across the programme
- Review of scripts or standardisation where there is significant disparity between the marks of different markers in a particular unit or programme

There is a thorough internal quality assurance and control process associated with the marks for modules and rotations. This involves:

- Initial data input and review by the TLA Team
- Marks collation and calculation by the Examinations Officer
- Students being able to feedback on any assessment queries or issues directly to the Examinations Officer

- Review of the performance of each summative question for the module against available data (e.g. performance of cohort for each question against the standard or mark assigned, review of cohort performance against previous cohorts) by the Module Convenor, and further review by the Director of Education or Programme Leads
- Review meeting between Director of Education, Programme Leads, Examinations Officer and Module Convenor, at which any potential changes where problems have been identified (such as removal of poorly performing questions, student comments) are discussed in detail
- Verification checks of module marks and year marks by the TLA team
- Internal Exam Board review of marks and discussion of any changes
- Exam Board, with the attendance of External Examiners to review and confirm marks and progression

The University's Charter requires that all assessments for courses and modules must involve one or more independent External Examiners. The role of the External Examiner is to ensure that degrees and other awards are comparable in standard to those in similar subjects in universities throughout the UK, and that marking and classifications are of an appropriate standard in comparison with other universities. The School appoints 2 or 3 External Examiners for each year of the 5-year course. The External Examiners contribute significantly to the assessment process and are key to ensuring a robust and appropriate assessment of the course. Comments from External Examiners are considered and responded to by the Director of Education or Programme Leads and reported at Exam Boards. The role of the External Examiner includes:

- Reviewing and approving draft examination questions
- Reviewing marking schemes to determine if they are of an appropriate standard
- Discussion of any post-assessment changes with individual Module Convenors
- Attending the relevant Examinations Board
- Considering failures at resit if a student is leaving the course
- Providing an annual written report
- A review of a sample of scripts, with other scripts available to an External Examiner on request

Examination guidelines are provided to all students in their Student Handbook, available online and in hard copy and is supplemented by information available online in the University's Quality Manual. In addition, the assessment type (and progression requirements) for the programme overall and each module is published on MyNottingham (the University's student administration system), and is further reinforced at the start of each module. Students also receive a detailed Assessment Addendum detailing times and dates of examinations, information on formats, extenuating circumstances, regulations and frequently asked questions. Mark schemes and criteria for non-online assessments are also provided to all students. The Student Handbook details clear criteria and expectations across the full range of available marks (i.e. 0 - 100%).

Staff training in assessments

Assessment training is a core component of general teacher training. Staff undertaking the PGCHE qualification (a university requirement) will cover general principles of assessment during this training. Specific school courses are then delivered throughout the year e.g. OSCE training, MCQ writing. Ad hoc training is also delivered as required, e.g. Clinical Associate clincians assessing DOPS. In addition, generic and introductory courses are available through the University's Professional Development Unit. Many faculty and staff participate in intra-University cooperation to share and learn from best practice elsewhere in the University, for example through the Faculty Education Research Group. The School also has strong links with a number of other veterinary schools, where there is collaboration in teaching development and training. In addition, many faculty and staff present at national and international conferences on veterinary education.

Appeal process

The School abides by the University policy for appeals.

Assessment amendments due to Covid-19

The University has introduced exceptional regulations in 2019/20 and 2020/21 in response to the Covid-19 pandemic

In 2021/22, examinations for all years will be open book, invigilated and sat on campus. Students receive guidance and support in preparation for the open book format. There is a statement at the beginning of each paper which students must agree with, to say they have read the University 'Essential Guidance for Students on Academic Integrity in Online Exams' and that the answers submitted are their own and they have not collaborated with anyone else. Students are required to sign onto the exam software using their university username and password and each paper has a password sent to the students in advance.

9.9 Describe the opportunities for students to learn how different cultural and other influences (e.g., ethnic origin, socio-economic background, religious beliefs, educational level, disabilities and other factors) can impact the provision of veterinary medical services

The UK is a diverse and multicultural society; this is mirrored in the University of Nottingham's student and faculty/staff mix. Students on the veterinary course have opportunities to meet and work with a variety of cultures and other influencing factors on EMS, and throughout the course. The course includes topics and activities as diverse as religious slaughter, assistance dogs, and working with homeless people and their pets. Inclusion of charity practices as Clinical Associates ensures students are exposed to the provision of veterinary services in challenging circumstances and they are encouraged to reflect on these experiences in their portfolio. Students are able to participate in a range of experiences on EMS, both in the UK and abroad. In addition, the School was established with a remit to increase diversity in the profession and as such admits students from a wide range of socio-economic backgrounds and ethnic origins. The Preliminary Year course opens up opportunities to students from non-traditional backgrounds including non-science and those that have been disadvantaged in their prior education.

Communication skills training includes a range of scenarios with simulated clients from different backgrounds and with disabilities.

The School has developed three modules, with colleagues from the British Veterinary Ethnicity and Diversity Society (BVEDS), introducing students to race related challenges they may encounter within the profession and providing them with the skills and understanding to manage these appropriately. These are delivered within the Veterinary Professional Skills module in year 1.

We have established an embedded module for Equality, Diversity and Inclusivity (EDI) in the curriculum. Work to date has included an audit of content to identify opportunities for EDI related discussions and areas for development of additional opportunity.

9.10 Describe the opportunities for students to learn principles of business management skills in veterinary medicine, and opportunities to learn personal financial management (e.g., coursework in financial literacy in the curriculum

Business management skills are delivered in the Veterinary Professional Skills module in year 3. Teaching covers business strategy, finance and marketing from deliverers within the SVMS and external deliverers with expertise in those areas. There is a separate session on personal finance within the module. The business and finance skills are assessed through coursework where students work in teams to submit a business plan and this forms 50% of the assessment for the VPS3 module, the remainder being the reflective portfolio.

Standard 10: Research

10.1 Describe up to five programmes of research emphasis and excellence and specifically focus on how these programs integrate with and strengthen the professional program

The School of Veterinary Medicine and Science is dedicated to improving the well-being of animals and people through world-leading innovative research and technology transfer in basic, applied and clinical sciences. Our strategic mission is to enhance society by carrying out research to tackle key issues in fundamental science, animal health and global sustainability. Research is therefore central to the activities of the School, both in terms of maintaining itself at the forefront of national and international efforts in the field of veterinary medicine but also as an integral part of the training and education for undergraduate students.

The School has built a reputation as world-class in its research achievements. In the 2014 national Research Excellence Framework (REF) exercise, the School, in a joint submission with the School of Biosciences, was assessed as being second in the UK for research power; 37% of our work was assessed as world-leading and 80% was of internationally excellent quality. The School provides a vibrant environment where cutting-edge research is facilitated by state-of-the-art facilities and specialist technical support. Our community includes internationally-recognised academics and research leaders who are undertaking high quality-research that advances the understanding of their field and also has wider benefits to society and the economy.

Four major Strategic Research Areas (SRAs) have been selected as foci for research excellence; these have increased visibility of the research of the school and provide a strategic focus for growth to drive high quality discovery-led research outputs. All academics across all SRA's are encouraged to integrate latest research methods and results into teaching:

- **Diagnostics and Therapeutics** - Identification of novel diagnostic and therapeutic targets in human and companion animal disease, with a particular focus on cancer, cardiovascular, renal and neuro-degenerative diseases. The SRA integrates clinical, molecular and pathophysiological approaches to establish mechanisms of diseases in both animals and humans. By combining evidence based medicine and co-ordinated bio-banking with cutting-edge tools like next generation pathology/pharmacology and bioinformatics the SRA aims to develop advanced diagnostics for early detection of disease and to guide treatment decisions in medical practice. Students gain exposure to research work on early cancer detection during teaching throughout year 1 to 4 and also through clinical cases seen at specialist clinics on Small Animal year 5 rotation.
- **Translational Infection Biology** – Supports the development and implementation of novel methods for pathogen detection, control and treatment. Using functional genomics for identification of rational targets pathogen control by vaccinology, and control of bacterial infection using phage technology. Students are exposed to genomics research throughout the curriculum and particularly in infectious disease and disease control sessions.
- **One Virology** - One Virology brings together experts with an interest in virology from across the University of Nottingham. Working together, One Virology aims to enhance the understanding of viral diseases in order to improve diagnosis, treatment and control of viruses that affect people and animals. Given the importance of emerging infectious disease, One Virology is embedded throughout the curriculum.
- **Ruminant Population Health** - builds on the national Centre for Dairy Science Innovation, hosted at Nottingham and brings together clinicians and researchers collaborating on areas of ruminant health, welfare and production especially in cattle and sheep. The group has key strengths in areas of dairy and sheep health, farm animal epidemiology, on-farm applied research, statistical modelling, quantitative and qualitative on farm decision making and knowledge exchange. As a cohesive, collaborative group they have an international reputation for delivering high impact solutions to improve ruminant health, welfare and productivity. The research in this SRA is delivered across all years of the course and is a special focus in year 5 including integration of latest methods into herd health evaluations.

In addition, the Veterinary Education Research Group (VERG) provides a supportive group for the SVMS community interested in educational research. This community includes technical and academic staff, postgraduates, intercalating veterinary students and undergraduates. VERG fosters collaborations with educational endeavours from other vet schools, the wider university and beyond. Creating opportunities to facilitate personal development and develop sustainable educational resources and methodologies. Activities include engagement with VERG education research strategy that has identified 3 key themes: i) Teaching, learning and assessment, ii) Readiness for the profession, and iii) Staff and student experience; through focussed research projects, monthly meetings, annual research week, training workshops, support for PGCHE/teaching accreditations, contributing to organisation of education conferences within the veterinary profession and broader education initiatives.

The School also hosts or co-hosts a number of University centres of excellence whose faculty deliver research-informed teaching. These interdisciplinary centres provide reach into the wider research of the University and also provide a platform for growth externally, and include

- Centre of Bioethics https://www.nottingham.ac.uk/bioethics
- Centre for Evidence-based Veterinary Medicine https://www.nottingham.ac.uk/CEVM/Index.aspx
- Centre for Dairy Science Innovation, https://www.nottingham.ac.uk/research/groups/cdsi/index.aspx
- Advanced Data Analysis Centre https://www.nottingham.ac.uk/adac/index.aspx.

All academics are involved in research to varying extents (e.g., ranging from holding externally-funded competitive research grants, through educational research and supervision of year 3 students) with the exception of faculty on 0.2 FTE facilitator contracts. Academics are encouraged to integrate latest research findings into teaching and research-focussed faculty are expected to teach on the curriculum. Research Associates/Fellows, recruited on fixed term contracts, also contribute to teaching, for their career development. The variance in research active academics is mostly related to fluctuations in the number of Postdoctoral Research Associates/Fellows.

10.1.a Provide a description of measures of faculty research activity apart form publications and grants

In addition to measures shown in Appendices 10.1 to 10.3, and to external review through REF, research activity and excellence can be demonstrated through the contribution our faculty make within the external environment:

- External grant review, membership of the expert pools or Committees of major grant funders such as UKRI, BBSRC, MRC, Prostate Cancer UK, INCA.
- Membership of advisory boards and groups such as DEFRA EU AHR, UK Agricultural and Horticultural Development Board Cattle Health and Welfare Group, Government of Canada's external review panel for Canadian Government Research Chairs Program, UK's The Frozen Ark Project, EU TSE-Strain typing expert group, UK Department for Health Advisory Committee for Dangerous Pathogens, Prostate Cancer UK, UK Government's Elephant Welfare Group
- Journal review and editorships including Nature, Frontiers in Veterinary Science, PLoS One, Equine Veterinary Journal, BMJ Simulation & Technology Enhanced Learning, Food Quality and Safety, Scientific Reports, Pathogens, Frontiers in Veterinary Science, Frontiers in Genetics, Cancers.
- Organising, hosting of international meetings, and invited talks, plenary/keynote speakers such Emerging and Transboundary Diseases of Global Importance, European Wildlife Disease Association, UK Cattle Lameness Conference, International Society for Economics and Social Sciences of Animal Health, International Sheep Veterinary Congress, International Symposium on Canine and Feline Reproduction, Microbiology Society, British Mastitis Conference, International Colic Symposium, UK Genome Science.
- Research awards and prizes such as Fellowships e.g. FRCVS, Fellowship of the Royal College of Pathologists, Selbourne Medal for Veterinary Research, Veterinary Record Impact Award, PEXIEDER award winner, Fellow Hungarian Academy of Sciences, BBSRC Innovator of the year, Royal College of Veterinary Surgeons Impact Award.

10.1 Describe courses or portions of the curriculum where research-related topics are covered

The School believes that it is vital for undergraduate students to gain knowledge, understanding and skills in contemporary research to develop problem solving abilities and a penchant for lifelong learning (Appendix 10.1). Research related topics are taught:

- Year 1, using the library
- Year 2, writing a literature review on a research topic and planning of the year 3 project
- Year 3, conducting a substantial 6 week research project
- Year 5, conducting BestBETs
- All years, optional research-track extramural studies

Specifically, the School has incorporated a significant 30 credit Research Project module into Year 3 for all students. The aim of the Research Project is to provide students with:

- An appreciation of the value of research in modern veterinary medicine and science – particularly how research contributes to furthering veterinary knowledge and continuing professional development
- An understanding of the possibilities for a career in research whether this be pure research, governmental or commercial or other forms of applied research
- Skills in discovery and hypothesis-driven veterinary science that will be of value in practice and which forms the basis of understanding evidence-based veterinary medicine
- Acquisition of new technical skills, for example laboratory analysis

- Transferable skills relating to planning, project management, analysis, evaluation and writing of a research project from the point of inception to publication and to illustrate to students that this is something that that could be achieved while in practice
- Development of critical thinking skills
- Development of lifelong learning skills, professional independence, and resilience

The Research module requires students to construct a research programme over a maximum of a 6-week period in the Autumn term (for September cohort) or Summer term (for April cohort), with supervision and oversight by a School academic supported by the experienced Projects module convening team. Prior to starting their research projects students are provided with an introductory week of didactic and practical sessions covering diverse aspects of research methods, study design and statistics. Weekly timetabled advice sessions with module convenors are also provided to students to ensure adequate support for their research projects. It is normal for the workload to be uneven during the project, but students are expected to spend at least 30 hours per week working. Since 2017/2018 we have offered formal statistical support at the project midpoint to consolidate the material covered in the introductory week. Students conduct their research projects at a variety of locations, dependent on the choice of project:

- Placement in a research group at the SVMS, working in collaboration with existing academic, post-doctoral and post-graduate scientists
- Placement in a research group at the SVMS in a joint project with a second school e.g. Biosciences, Biomedical Sciences, Biology, Mathematics, Pharmacy or another relevant School. This will be either as a result of existing collaborations or a new collaboration set up for a specific project.
- Placement at one of the Clinical Associate Institutions
- Placement with other institutions in the UK or abroad (e.g, previously in USA, Australia, Cyprus, Spain, Gambia, India)
- Other options (after discussion with Project Supervisor), including at international centres

All academic staff at or above level 5 are expected to supervise undergraduate projects. Staff at level 4, are considered in light of their skill set and prior experience (e.g. PhD/research background) to ensure suitable supervision will be provided.

10.2.a Describe/list the current opportunities for participation in research including summer research programs, academic year programmes, student employment in research labs and projects and individually mentored research experiences

In addition to the research project there are several opportunities for undergraduate students to be formally involved in research both within and outside the School, including:

- Students are able to undertake 6 weeks of research as part of EMS
- Students are able to undertake summer research projects at the School, either unpaid or subsidised by a stipend from the supervisor. Competitive funding has been available from the University and commercial and charitable organisations such as the Wellcome Trust, BBSRC, MSD Animal Health, Academy of Medical Sciences, INspire award, The Microbiology Society, World Horse Welfare and RCVS Trust for students to undertake vacation research projects
- Students are able to volunteer to assist with research projects, for example, >10 students per year have participated in pedigree dog genetics-linked longitudinal health studies involving Irish Wolfhound, Rottweiler and Spaniel breeds coordinated by our internal medicine specialist
- The School funds 1 PhD and 2-3 MRes and 4 PGCertificate (Veterinary Education) positions for intercalating year 3 or 4 students on an ongoing basis. Where PhD candidates do not apply, an extra MRes scholarship is made available.
- The School has won substantial INspire grants from The Academy of Medical Sciences (£30,000 in the last three years) to give further opportunities for undergraduate students to attend evening research lectures and receptions, present their research at conferences, undertake paid studentships and participate in year-round research. We have also helped promote and facilitate the annual Inspire undergraduate conference with 10-25 SVMS students attending each year. Few external scholarships allow funded support of students to participate in vacation research scholarships prior to the mid-point of their degree, however we wrote an Inspire grant which included placement of 1st years from the 2020/2021 academic year. All students who applied were awarded a scholarship.
- The School is able to help students achieve recognition for their extracurricular research activities. Staff developed and run a 10 credit (non-academic) module which contributes towards achieving the 'Nottingham Advantage Award', which is formally stated on their degree paperwork and awarded at the graduation ceremonies. All students can therefore get formal recognition for organising, volunteering at, or attending, research related activities
- Students and academics are encouraged to apply for both internal and external grants to participate in widening participation activities related to research, such as the £500 Anatomical Society grant awarded to

an academic which enabled several volunteer UG students to write scientific papers for young people worldwide. Differing types of research-related widening participation and outreach opportunities are relayed to students on a regular basis.

- Support for research activities does not cease once our students have graduated. The School runs a research programme for graduates who wish to be actively involved in further research even if they are not undertaking internships/further education/research positions. For example, veterinarians in practice often contribute to the writing of papers with academics, collect samples that may contribute toward research results in a manuscript. This programme is being extended after consultation with our alumni and will include mentoring opportunities and further research activities

The involvement of research-active staff in all teaching and especially in supervising Year 3 projects ensures that this part of the course is often carried out at a level which is sufficiently high for scientific publication in peer reviewed journals and is additionally quality assured through the university quality system. To date, 193 students have been named as co-authors on peer-reviewed publications and 130 students won vacation research studentships. A number of national research awards have been won by undergraduates including prestigious British Undergraduate Research Conference awards and European and International conference awards. Our undergraduates have also presented their research at the UK Government House of Commons and additionally are encouraged to present at events for the public.

10.2.b Describe college research seminars and presentations for veterinary students including the number of internal and external speakers, endowed research, lectureships, student research seminars, student poster presentations and college research days, and awards and presentations made by students at scientific meetings or external seminars

The School funds a research seminar programme of invited speakers which is open to all members of the School including undergraduates and the wider campus, estimated as 6 University and 15 external speakers annually. The School annually hosts the high profile 'Sex in 3 Cities' pubic lecture programme, sponsored by the Society for Reproduction and Fertility.

The INspire Lecture Series was organized in cooperation with the veterinary students' own Next-Generation Scientist society and hosted evening seminars and student-led receptions for four internationally recognized veterinary-qualified research leaders. The goal of this series was to signpost the diversity of research career opportunities available to veterinary graduates. Five students were funded by the INSpire award to present their research at international conferences. Students have also had the opportunity to present their work at national/international conferences, these may be either funded by the School (either as prizes, or directly) or research grants. To date 300 students have been named on national and international conference abstracts. In addition to being given funding for conferences throughout the UK and abroad, students have been able to attend national conferences at the university for free or have been supported to acquire their own funding: these have included activities by The European Association of Veterinary Anatomists, The Society for Reproduction and Fertility, and The Nutrition Society. To date, 120 students have won funding to attend national and international conferences.

10.2.c Describe efforts by the college that facilitate the link between veterinary student research and subsequent or concurrent graduate education and that enhance the impact of college research on the veterinary professional programme

The School has taken a number of opportunities to link undergraduate and graduate education with the outcome that undergraduates are enthused into considering research as an option. Activities include:

- Exposure to postgraduate researchers (clinical (Intern and Resident) and non-clinical) through teaching and other opportunities such as embedding student research projects within research groups
- Research engaged students are able to contribute to ongoing research projects through canine breeder engagement activities. For example, >10 students per year participate in pedigree dog genetics-linked longitudinal health studies involving Irish Wolfhound, Rottweiler and Spaniel breeds coordinated by our internal medicine specialist.
- Students are able to undertake CEMS laboratory research internships within the School or elsewhere
- Undergraduate students (3rd and 4th year) who have a strong interest in research can apply for intercalation opportunities within the school (MRes, PhD, PG Cert Vet Ed).

At least 10% of alumni have undertaken PhD or Masters level study post-graduation or have undertaken Internships or Residencies.

Standard 11: Outcomes

The School uses a number of quality-related outcome assessment measures in order to achieve the following outcomes:

- To assure the quality and standard required for a veterinary degree as determined by the RCVS, EAEVE and AVMA
- To ensure the highest standards and implementation of best practice across the School's operations
- To facilitate delivery and dissemination of high quality, internationally recognised, education and research which addresses the needs of stakeholders

Decisions regarding curriculum development are driven by the exit learning outcomes that students are required to display at the end of the course. The veterinary curriculum at Nottingham has thus been designed to meet the RCVS Day One competences, EAEVE Subject Areas and AVMA competences, as well as being driven by the need for students to have a grounding in basic science, to be research literate and to develop as professionals.

Outcome assessment at School level is an ongoing activity that results in a continuous appraisal of data in order to monitor and inform curriculum development and graduate competency and associated School strategy and includes data collected from students, faculty, staff and external stakeholders. Data is collected at year, module and activity level. A number of methods are employed including:

- Surveys (School/University managed: SET, SEM, University all student survey (NSES) External: NSS, RCVS/VSC graduate and employer surveys)
- Data analysis (assessment results, admissions qualifications)
- Individual feedback (e.g. student, faculty, staff, External Examiners, EMS hosts)
- Committees (e.g. Student Academic Support, TLA, LCF)
- Ad-hoc focus groups convened around particular topics, for example sustainability
- Peer observation (e.g. teaching)

Outcome findings are considered and responded to through ongoing operations (e.g. in the case of requirements for additional resources or equipment) or through the appropriate Committee. Examples of outcome findings which have improved the educational programme include:

- Consolidation of modules to reduce the assessment burden in response to feedback from students and External Examiners. Financial support for all final year students to cover travel costs associated with IMR and EMS
- Compulsory out of hours emergency care rotation incorporated into year 5 rotations – decision informed by graduate survey
- Students are able to gain online assessment feedback based on attainment against module learning objectives – decision driven by student feedback in year survey, NSS, faculty and staff feedback
- Clinical nutrition teaching is now better incorporated into the curriculum following feedback from the graduate outcomes survey

Student educational outcomes

11.1.a Evidence of direct observations of students performing and/or having attained entry level competence in skills that demonstrate mastery of the nine competencies. Processes must be in place to provide remediation for any of the nine competencies in which students do not demonstrate competence

As detailed previously in section 9.8 the School has put in place a wide range of mechanisms to collect outcomes data around clinical competence, including an extensive assessment strategy designed to test knowledge, skills, professionalism and clinical competence.

The programme learning objectives are mapped to RCVS day one competences and also to the AVMA 9 competences (Appendices 9.2, 11.2). Appendix 11.1 provides an overview of the SVMS assessments mapped to the 9 AVMA competencies. Examples are provided for the practical assessments of the types of task performed as evidence towards that competency. In years 1 and 2 MCQ and short answer papers have elements of competences 1-7 due to the integrated nature of the course. However, the emphasis in these years is on the basic science therefore they are not included in the mapping in the table. Practical and direct observations for these years are mapped with examples.

All students gain feedback for all forms of summative assessment; this is provided individually for failing students in a discussion with the module leader. Students who fail examinations are also invited to attend a Student Academic Support meeting where reasons for failure and mechanisms for remediation are discussed. Specifically, during year 5 students who fail a rotation professional assessment are required to meet with the Clinical Review Panel to understand reasons for failure and ways to improve, and also whether further

assessment is required (which may include repeating a rotation). In addition, students who fail end of year assessments in year 5, may be able to repeat rotations prior to reassessment.

11.1.b Describe how student progress is monitored in each academic year and how each student is given formative assessment for their further development or timely remediation

Students receive a formative assessment for each module, they are encouraged to record and reflect on their performance within their portfolio and also discuss this with their Personal Tutor. Any student who is struggling academically can receive support from the SAS committee. In addition to the formative assessment, feedback on learning and progress is obtained through informal quizzes and audience polling in wrap up sessions and throughout teaching. Generic feedback is given on each module assessment, with individual 'traffic light' feedback given on learning outcomes linked to SBA papers and individual feedback meetings for any failing students.

For practical skills, students receive formative feedback on their AH (animal handling) DOPS performance, regardless of the outcome of the assessment. In year 1 students complete a formative OSPE, where 2 minutes are dedicated to verbal feedback at the end of each station. Following the OSPE in Y2 and OSCE in Y4 students receive their checklist scores to inform them of areas of strength and weakness. In year 5, students receive written and verbal feedback after each DOPS assessment and written feedback on their RPA assessments, feedback for all workplace based assessments is via the MyProgress app.

Feedback on their professional development is provided through the portfolio assessment. Students receive feedback from their Personal Tutor during the year before they submit their portfolio and also following their summative portfolio assessment. There is additional opportunity for feedback in the year 3 formative portfolio viva and in year 5 through the 'portfolio amnesty'.

Student performance is discussed each year at the internal and Exam Board meetings, Personal Tutors attend these meetings and where there are concerns over individual students, a plan for further feedback and support is made between the Personal Tutor, SAS committee and module convenor.

11.1.c NAVLE school score report data and passage rates

The School is unaware of any students that have undertaken NAVLE examination.

11.1.d Assessments of graduating seniors; and assessments of alumni at some postgraduation point (for example, three and/or five years post-graduation) assessing educational preparedness and employment satisfaction

We recognise alumni-based evaluations as an important part of the process of ongoing evaluation for our outcomes based curriculum. There has been a rolling programme of alumni assessment since the first graduating cohort in 2011 (see https://bvajournals.onlinelibrary.wiley.com/doi/10.1136/vetreco-2015-000116http://vetrecordopen.bmj.com/content/2/2/e000116). Year 1 graduates have been surveyed annually by the School and asked how well prepared they feel for different aspects of clinical practice and on their general experience post-graduation and also space for free text comments. Response rates have ranged from 21% to 37% over the last 5 years. Data are shown in Appendices 11.4 and 11.5

No clear overall trends are discernible, however there are areas of lower scores.

Since 2021, the RCVS have introduced a graduate and employer survey as part of the VetGDP phase. Each vet school within the UK receives a report on their own graduates and their employers. The response rates for these surveys in 2021 were 86% for Nottingham graduates and 63% for their employers. Due to the high response rates and close alignment of the Nottingham alumni survey, the RCVS VetGDP survey will be used to assess graduate outcomes going forwards.

In addition the Higher Education Statistics Agency (HESA) collects data annually from graduates 15 months after graduation (the most recent available data being from the 2018/19 graduating class; the next year of sta is released in May and will be available during the Visit). 96% (2017/18) and 93% (2018/19) graduates agree that their activity following graduation is "on track" with their future plans.

The RCVS VetGDP survey questions have been mapped to the AVMA nine areas of competence, and the data from 128 2021 graduates are demonstrated in Appendix 11.6.

The data from the graduate survey is considered at TLA Committee, and changes are made to the curriculum as necessary, for example:

- Increase opportunity for surgical experience: developed a relationship with RSPCA for EMS; improved surgical experience through Small Animal primary care rotation
- Clinical nutrition: working group established with Year 4 Gastrointestinal Module Convenor to identify areas for improvement
- Anaesthesia and Emergency and Critical Care: changes to anaesthesia teaching in new Year 3 Clinical and Professional Skills module; addition of anaesthesia teaching time to Year 4 Cardiorespiratory module, and specific inclusion in the year 5 Pride Referral rotation

The RCVS and VSC also survey graduates 3-5 years post-graduation. The last survey was completed in 2019, when 23 responses were received from Nottingham alumni graduating between 2013 and 2015. Of the 23 respondents, 17 were working in clinical practice, 5 within universities and 1 within the armed forces and 15 had obtained or were working towards a postgraduate qualification. All rated the quality of teaching from the Nottingham course as good or very good and all agreed that the course was very useful to their career with 17 selecting strongly agree.

11.1.e Assessments by employers of graduates to determine satisfaction with the graduates

The School receives data from the RCVS VetGDP employer survey. In 2021, 94 VetGDP advisors to Nottingham graduates responded to the survey. The most frequently rated areas of strength amongst Nottingham graduates were communication, teamwork and surgery; the most frequently rated areas for improvement were surgery and anaesthesia, timely decision making and graduate self-confidence. The data will be available during the visitation.

Program outcomes

11.2.a Student attrition rates with reasons

Student attrition rates are shown in Appendix 11.3. The average attrition rate in the University is 9.3% (transfers and leavers only), the equivalent School value is 1.5%. Students who transfer course mostly transfer to the BVMedSci only course (students who do not meet the BVM BVS progression requirements in years 1 and 2, but meet the lower University progression requirements (40% compensatable pass mark per module) can continue but are required to exit with a BVMedSci degree at year 3). Absolute attrition reasons are predominantly due to long term ill health or decisions to change career. There are ongoing reviews of reasons for attrition in order to inform admissions requirements and also welfare support.

11.2.b Employment rates of graduates

HESA collect information on the destinations of leavers (6 or 15 months post graduation). The average employment (and further study) rate is 98% over the last 5 years and ranges from 95% to 99%) (Appendix 11.4).

We recognise that the HESA data do not provide the granularity on employment sector and further study we would wish, and as such we also collect destination data on Graduation Day. Data for the 2021 graduates show 92.4% employed in veterinary practice, and 3% undertaking advanced further study (Internships/Residencies). Of the 133 respondents, 4.6% had not found jobs by Graduation. All but 2.2% are working in the UK.

Our employment rates are high, and our graduates are keenly sought by employers, reflecting the knowledge, skills and professionalism attained on the Nottingham course. We review the outcome data and feedback direct from students to inform decisions on careers support provided to graduating students. Of the 109 respondents, only 8.3% are unemployed at Graduation; all but 4.8% are working in the UK.

11.1.c Assessments by faculty (and other instructors, for example, interns and residents) related to such subjects as adequacy of clinical resources, facilities and equipment, information resources etc; and the preparedness of students entering phases of education

Staff and students can raise comments on the adequacy of resources, facilities and equipment by a number of mechanisms within the School:

- Directly to relevant technical and administrative staff to resolve operational issues, and through line managers, Module Convenors as relevant and/or ultimately to the Senior Technical and Facilities Manager or

Head of Operations for discussion regarding any development or investment requirements; approval above £5k spend requires Executive Team approval
- Through various Committees (TLA, Research, LCF, Staff Meeting, etc) with onwards decision making by Executive Team
- As part of surveys such as SEM, Year, NSS, University or School surveys
- Anonymously through a feedback box in reception

The University Director of Estates meets with the Dean and Head of Operations on a half-yearly basis to review ongoing strategy and any operational issues.

As previously mentioned in Sections 9.8 the School has stringent progression criteria, coupled with extensive quality assurance processes, both of which exceed those for other courses in the University. Any concerns regarding individuals, groups or student cohorts would be raised at the TLA meeting for discussion and action.

11.2.d Additional benchmarking

The School undertakes a wide range of activities to gain outcome information, however benchmarking is provided through 5 main mechanisms.
- National Student Survey (NSS). The NSS is carried out across all UK degree courses by Ipsos MORI on behalf of the Higher Education Funding Council. Students in their final year complete a standard set of questions, and can also provide free text feedback. Since the School's establishment it has been consistently ranked as the top UK Veterinary School for overall satisfaction (and normally every other category as well), with a 5 year average of 4.81 (out of 5.00), compared to a University average of 4.05. Appendix 11.7 shows 2020/21 data for UK veterinary schools. In 20/21 the School had the highest results of any UK University STEM School or Department. Data from the survey have resulted in a number of changes, for example an increase in feedback mechanisms and volume
- The Association of Veterinary Students survey is conducted every 3 years and evaluates various aspects such as teaching, learning and support. Again the School has been top of this survey, with data feeding into teaching and welfare reviews
- The Nottingham Student Experience Survey is run every year (with the exception of the Covid period). Data have just been released and is not yet analysed with the exception of the overall satisfaction score, where the School tops the University Schools by some margin (Appendix 11.8).
- External Examiners provide benchmarking and assurance that the programme outcomes are of a comparable level to other Veterinary Schools. The School acts on any feedback received as part of the report provided by Examiners
- The University undertakes Educational Enhancement and Assurance Reviews (EEARs) to ensure high quality, competitive, and well managed academic programmes are maintained; these 3-yearly reviews include external representation to ensure benchmarking.
- The University provides benchmark data to support strategy and plan development, this includes, degree classifications and entry tariff data

Less formal feedback is obtained from School Faculty and Staff acting as External Examiners and members of accrediting teams at other institutions, and having membership of cross-University and Veterinary School Committees.

The University provides benchmark data to support strategy and plan development, this includes, degree classifications and entry tariff data.

Institutional outcomes

11.3.a Dean's comment on the adequacy of resources and organisational structure to meet the educational purposes

The School continues to be ambitious in its educational programme and believes that it is well resourced to deliver a comprehensive and quality assured curriculum. There is good evidence of recent and substantial Faculty and University support for new capital and operational projects, within the School (e.g. extension of the Dissection facilities, Clinical Skills facilities, Centre for Veterinary Innovation), on the Sutton Bonington campus (e.g. the new Teaching Laboratory), and at our Clinical Associates (e.g. new PDSA Nottingham hospital); substantial investment has also been made to support our research endeavours (e.g. the new Dairy Centre redevelopment and extension, and renovation of the Category 3 Laboratories). The University resource allocation model also recognises the significant investment that has been required particularly in clinical teaching staff and for clinical teaching within the School, and the level of costs required to deliver a clinical course.

The School organizational structures have been purposefully designed by the School Executive Team to meet the needs of the School. Organizationally the School is positioned within the Faculty of Medicine and Health Sciences; this is the ideal situation for a clinical school. The School is integrated well within, represented upon, and derives excellent support from relevant Faculty committees. The Dean reports to the Faculty Pro-Vice-Chancellor which allows direct communication to University Executive Board. Management structures allow the Dean direct and immediate access when required to the relevant other Pro-Vice-Chancellors (e.g. for Teaching and Research), and Professional Service Heads (e.g. the University Chief Finance Officer, Director of HR).

11.3.b Describe how the college evaluates progress in meeting its mission (for example, benchmarking with other institutions, scholarly activity of the faculty, faculty awards, faculty and staff perception of teaching resources, student satisfaction with the educational program, teaching improvement benchmarks, and others, etc.)

The University is reviewed through the Teaching Excellence Framework (highest award – gold – awarded in 2017) and periodically by the Quality Assurance Agency. The team of QAA reviewers visited the University in April 2016, as part of its remit to safeguard the public interest in the quality and standards of UK higher education. The review was carried out by experts from other universities and a student reviewer; the University was recognised as a provider of high quality and standards with the award of the Quality Mark and several areas of best practice highlighted (http://www.qaa.ac.uk/en).

The School has yearly performance targets in common with all University Schools which relate to NSS overall satisfaction, University student surveys, faculty and staff engagement, Athena Swan, research awards, REF and HESA qualified academics. The School is progressing well against its targets. In addition, there are quarterly meetings with Faculty Management to consider progress against the Faculty action plan. The School also has a risk register that is reviewed on a quarterly basis.

The School undertakes a wide range of activities to gain outcome information as detailed previously.

11.3.c If your program assess other outcomes, briefly describe the results

A number of other indicators of outcomes have been made internally and externally, we would use this outcomes in assessment that the School is delivering on strategy:

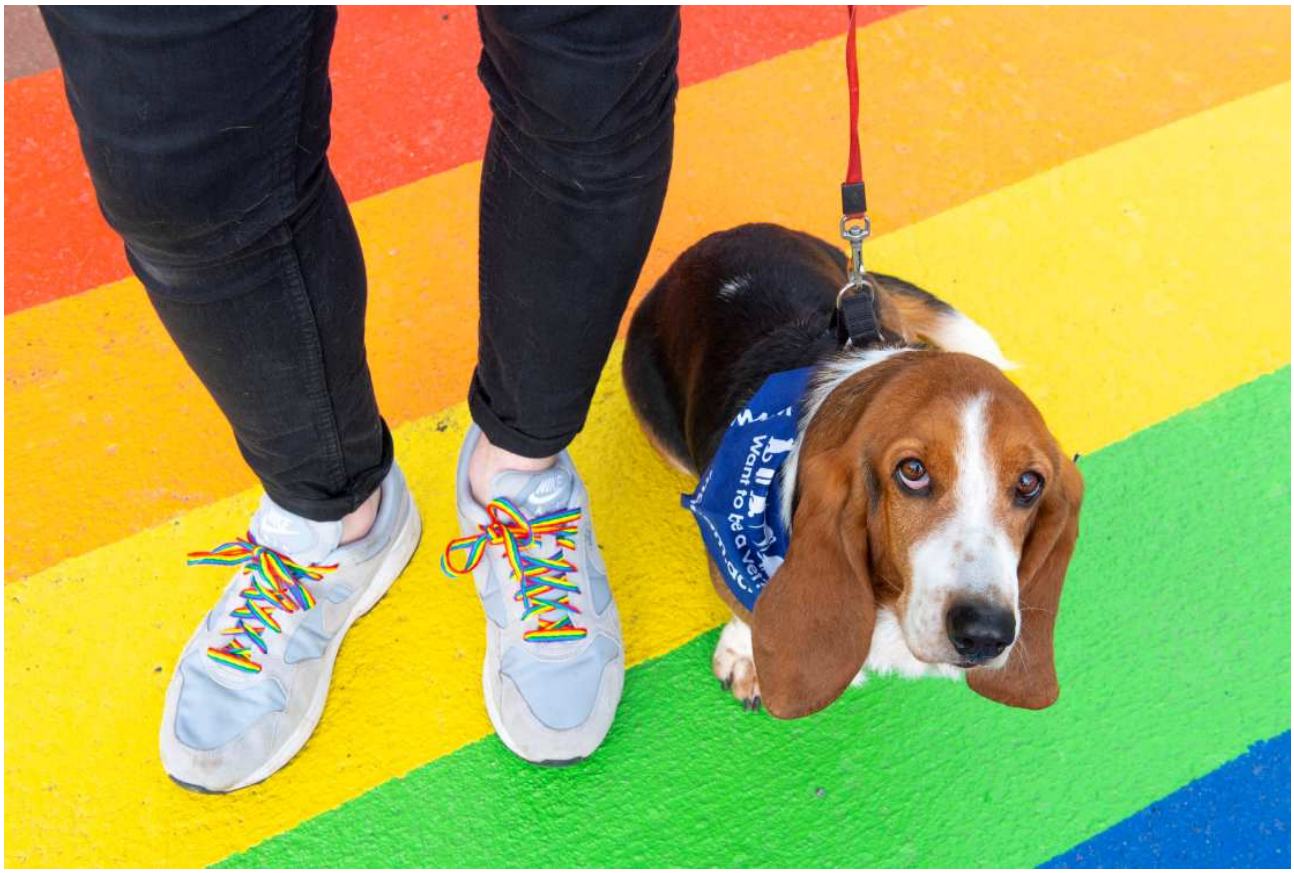
- The School has received a number of teaching awards including the ASPIRE award for student engagement, the Guardian Award for Employability. School of the Year 2021 and Runner-up in the National Times Higher education Widening Participation/Outreach initiative 2021.
- 79 Faculty and Staff have received the prestigious University Lord Dearing award for teaching excellence.
- 1 Faculty is a Principle Fellow of the Higher Education Academy, with a further 44 faculty and staff Fellows/Senior Fellows
- Research Excellence Framework (4 yearly review), the School together with the School of Biosciences, was 2nd in the Agriculture, Veterinary and Food Science Unit of Assessment for research power, and top for research environment
- Staff serve as Presidents, Members of Council or on Committees of e.g. RCVS, BEVA, BCVA, Society of Reproduction and Fertility, UK Government Advisory Committee - the Elephant Welfare Group, Society for Veterinary Epidemiology and Preventive Medicine
- Professional recognition and awards such as FRCVS, CEVA Animal Welfare Vet of the Year, BBSRC Innovator of the Year, Selbourne Medal

Data are also collected through educational research in the School. Several in-depth projects, for example on communications skills, outcomes based assessment and anatomy teaching, have been conducted to evaluate and inform the curriculum. The Veterinary Education Research Group (VERG) meets regularly and has developed a strategy to prioritise research within the School under three main themes: teaching learning and assessment; readiness for the profession and the faculty/staff and student experience. Within the theme of student experience, research has been conducted on mental health and wellbeing. This has resulted in the integration of mental health awareness within the curriculum, for example mental health first aid sessions within the veterinary professional skills module, and the addition of mental health and wellbeing as an embedded module.

11.4.a Describe how outcomes findings at student, programmatic and institutional level are used by the college to improve the educational program

Outcome findings are considered and responded to through ongoing operations (e.g. in the case of requirements for additional resources or equipment) or through the appropriate Committee. Examples of outcome findings which have improved the educational programme include:

- Veterinary Public Health has been moved from year 4 to year 3 and delivered as a block module rather than a long module – decision informed by lower assessment attainment compared to other courses, student SEM feedback
- Bedroom accommodation provided for students by the School for the Oakham Veterinary Hospital rotations – decision informed by student NSS and rotation feedback
- Compulsory out of hours emergency care rotation incorporated into year 5 rotations – decision informed by graduate survey
- Students are now able to access increased grants from the Student Loans Company to reflect the increased length of course compared to other courses – decision informed by student NSS feedback
- Students receive travel bursary from the school in final year to help with the cost of transport to and from IMR and EMS placements – decision informed by student NSS feedback
- Students are able to gain online assessment feedback based on attainment against module learning objectives – decision driven by student feedback in year survey, NSS, faculty and staff feedback
- Clinical nutrition teaching is now better incorporated into the curriculum with a RVN as embedded module convenor following feedback from the graduate outcomes survey
- Increased opportunity for surgical experience on final year rotations, through PDSA and RSPCA sites, driven by graduate outcomes survey and SEM
- Reorganisation of 4th year content in the new curriculum, from 8 systems based modules to 3 species modules to reduce student assessment burden, faculty and staff workload – decision informed from student survey and external examiner comments



Standard 11: Appendices

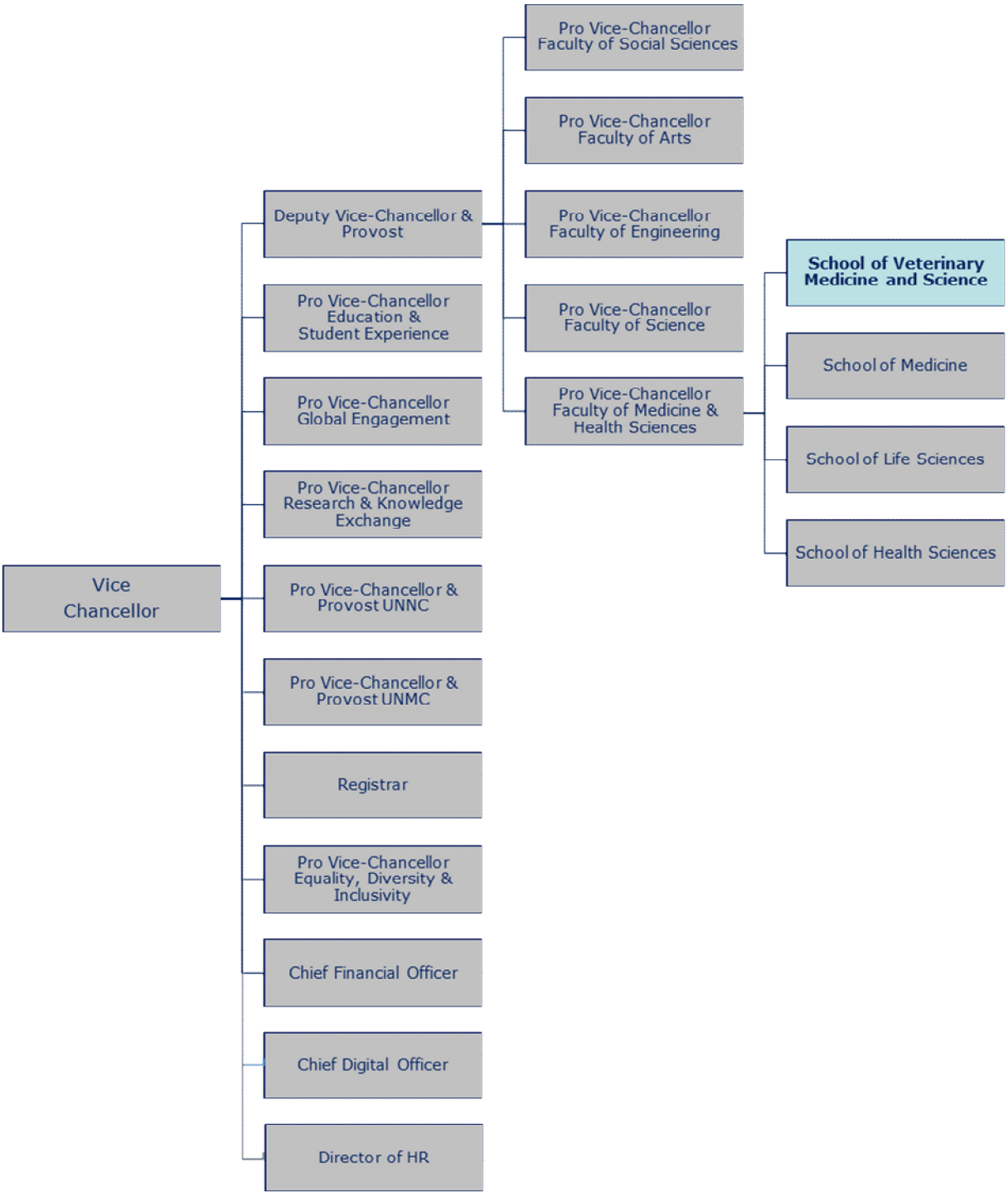
Appendix 1.1. Faculty and Staff Charter

Our people are our greatest asset; everyone has a crucial part of play in making our School a success. Our charter sets out how we put our shared values into practice and create an environment that is

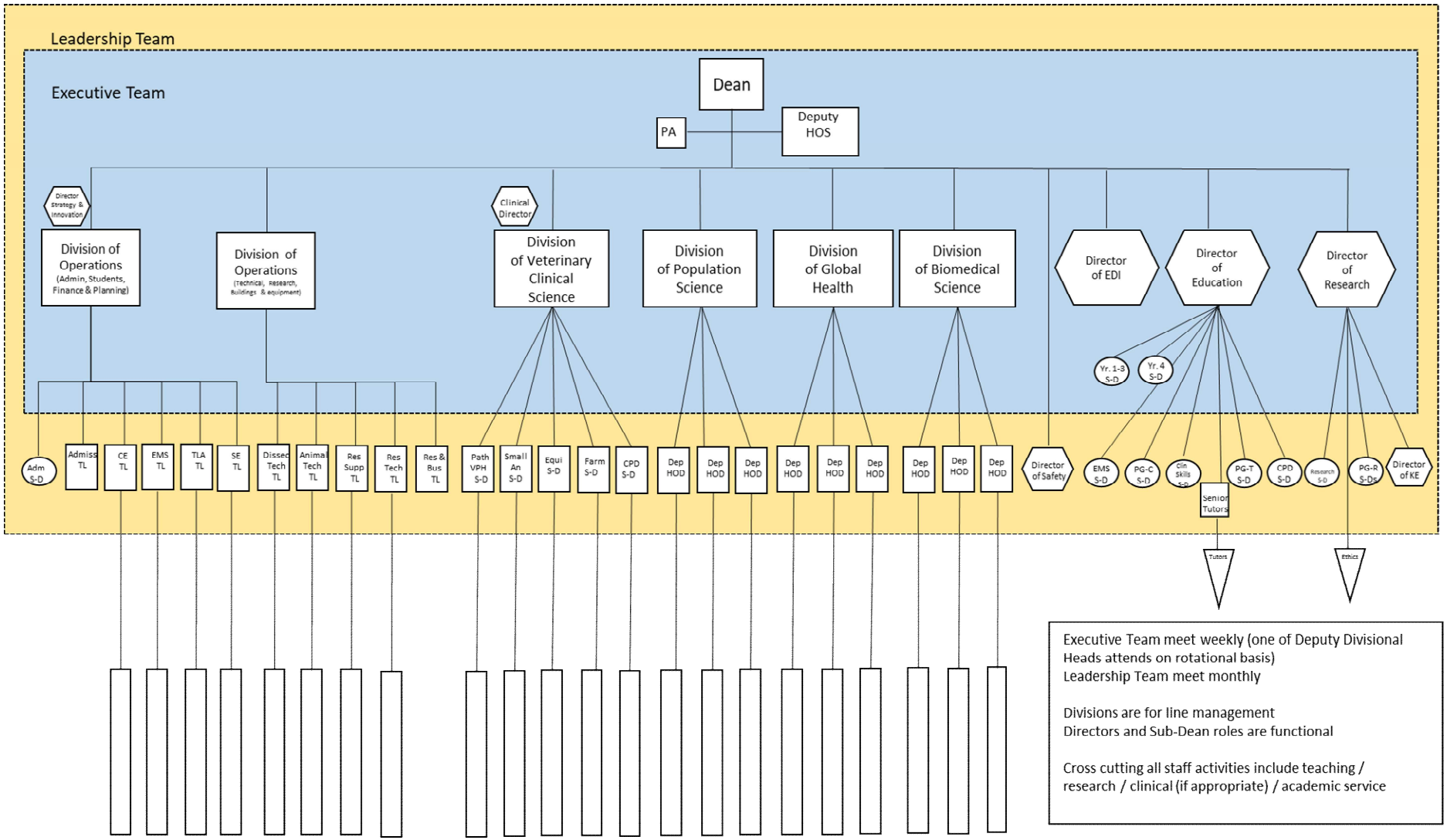
- Based on trust, collaboration and openness
- Where we all have a sense of belonging
- Were staff health, safety and wellbeing are incorporated into daily practice
- Where personal development is encouraged and supported
- Where we strive to be the best we can be as individuals, as teams and as a School

Our expectations	This is what we are	This is how we behave
Valuing people	• We are honest, kind and respectful to others. • We all value each other and will support individuals and teams	• We communicate with each other in a respectful way and consider how our language and behaviors may affect others • Contributions are encouraged, recognized and valued and we celebrate our individual and collective achievements
Taking ownership	• We are all accountable and responsible for our actions • We are problem-solvers, we lead by example and are not afraid to challenge the status quo.	• We take ownership of our responsibilities as individuals and teams to fulfill our roles to the best of our abilities • We engage, make a contribution and we make our voices heard, having the opportunity to influence decisions and have a collective responsibility to challenge behaviors and attitudes which do not uphold our values
Forward thinking	• Together we are ambitious, innovative, inquisitive and forward-thinking. • We are pioneering and strive to make a difference.	• We embrace challenge and change in the pursuit of excellence and job satisfaction • We will take calculated risks but we learn from our mistakes and are not be afraid to own up and act on the things we could do better.
Professional pride	• We are always professional. • We are proud of our colleagues, our students and our School	• We enjoy our work and each play a part in making the School a safe, caring and successful place to work and sustaining the School's community spirit. • Individually and in teams we will understand, anticipate and strive to surpass the expectations of our students, colleagues and peers.
Always inclusive	• We are dedicated, inclusive and supportive. • We expect to achieve a healthy work-life balance	• We value differences and individuality, and treat individuals equally • We recognize each other as people who also have priorities outside work

Appendix 1.2 Position of the school in the University structure



Appendix 1.3 School Organisation Chart



Appendix 1.4 Senior roles and responsibilities in the School

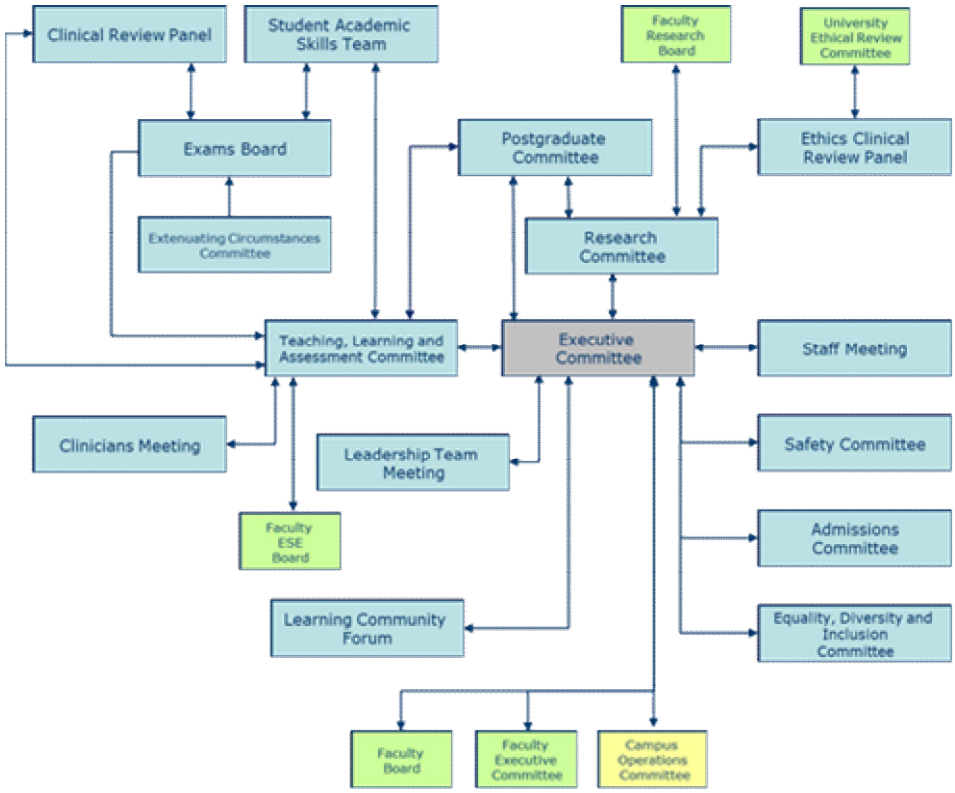
Management Team

Foundation Dean and Head of School: Prof G C W England *BVetMed*, *PhD, DVetMed, CertVA, DVR, DipVRep, DipECAR, DipACT, PFHEA, FRCVS*
Deputy Head of School: Prof M A Cobb *MA, VetMB, DVC, PhD, MBA, FHEA MRCVS*
Clinical Director: Prof K White *MA, VetMB, PhD, DVA, DipECVAA, FRCVS*
Head of Division of Biomedical Science: Prof N Mongan *BSc, PhD, FRCPath*
Head of Division of Global Health: Prof M Bennett *BVSc PhD MRCVS FRCPath*
Head of Division of Population Science: Prof T Coffey *BSc, PhD*
Head of Division of Biomedical Science: Prof N Mongan *BSc, PhD, FRCPath*
Head of Division of Veterinary Clinical Science: Prof K White *MA, VetMB, PhD, DVA, DipECVAA, FRCVS*
Head of Operations (Students, Finance and Administration): Dr K Braithwaite *BSc, PhD, MBA*
Head of Operations (Facilities, Research, HR and Technical Suppport): S Clifford *MBA*
Director of Education: Prof K Cobb, *BVetMed, MMedSci, PGCE, PhD, SFHEA, MRCVS*
Programme Lead BVMedSci (TLA Sub-Dean): Dr E Gummery*, PhD, SFHEA*
Programme Lead BVM BVS* (TLA Sub-Dean): Dr J Remnant *BVSc, PGCHE, CertAVP, PhD, DipECBHM, SFHEA, MRCVS*
Director of Research: Prof R Emes, *BSc, PhD, FHEA, FLS, FRSB*
Director of Equality, Diversity and Inclusivity: Prof J Kaler, *BVSc & AH, MSc, PhD*
Research and Business Sub-Dean: Dr C Allegrucci, *PharmD, PhD, FHEA*

Other Senior Roles

Clinical Skills Sub-Dean: Dr S Cripps, *BVetMed, MScVetEd, SFHEA, MRCVS*
Research Postgraduate Sub-Deans: Prof D Gardner *BSc, PhD,* DSc and Dr C Rutland *BSc, MSc, PhD, MMedSci (MedEd), PGCHE*
Taught Postgraduate Sub-Dean: Dr R Atterbury, *BSc, PhD, CBiol, MRSB, PGCHE FHEA*
Clinical Taught Postgraduate Sub-Dean: Dr J Burford *MA, VetMB, PhD, CertVA, CertES, MRCVS*
Clinical Sub-Dean (Equine): Prof S L Freeman *BVetMed, PhD, CertVA, CertVR, CertES(Soft Tissue), DipECVS, FHEA, MRCVS*
Clinical Sub-Dean (Farm): Dr C Hudson *BVSc, PGCHE, PhD, DCHP, FHEA, MRCVS*
Clinical Sub-Dean (Small Animal): Prof M A Cobb *MA, VetMB, DVC, PhD, MBA, FHEA MRCVS*
Clinical Sub-Dean (Pathology): Dr Mike Clarke *MA, Vet MB, MBA, FHEA, MRCVS*
Director of Veterinary Postgraduate Education: Prof R White *BSc, BVetMed, CertVA, DipECVS, DSAS(Soft Tissue), FRCVS*
Director of Knowledge Exchange: Dr M Brennan *BSc(VB), BVMS, PhD, PGCHE, FHEA, DipECVPH(PM), MRCVS*
Student Placement Sub-Dean: Dr S Brogden *BVSc, MRCVS*
Admissions Sub-Dean: Dr K Braithwaite *BSc, PhD, MBA*
Deputy Admissions Sub-Dean: Dr N Kendall *BSc, PhD,*
Director of Strategy and Innovation: Dr K Braithwaite *BSc, PhD, MBA*
Director of Safety: Dr M Jones BSc, PhD MSc, PGCHE, MA, SFHEA
Senior Tutors (Undergraduate): Dr M Targett *MA, VetMB, PhD, DipECVN, SFHEA, MRCVS,* Mrs M Hunter *GIBiol, FHEA*, Dr R Sumner *BSc PhD PGCAP FHEA*, Dr I Richens *BVetMed, PhD, FHEA, MRCVS*, Dr G Bladon *BVSc, PGCert(VetEd), PGCHE, SFHEA,MRCVS,* Dr M Clarke *MA, Vet MB, MBA, FHEA, MRCVS*
Senior Tutors (Postgraduates): Dr M Duz *MedVet MVM(Res), DipECEIM, PhD, SFHEA* and Dr K Woad *BSc, MSc, PhD, FHEA*
Exams Officer: Mrs K Millward

Appendix 1.5 School Committees



- Executive Committee, meeting weekly, comprises the Dean, Deputy Head of School, Heads of Divisions, Director of Education, Director of Research, Director of EDI, Research Sub-Dean. Meetings consider strategic and operational issues
- Leadership Team, meeting every two months, comprises the Executive Team and their direct reports, together with Sub-Deans/Directors. Meetings consider strategic and operational issues
- Teaching, Learning and Assessment (TLA) Committee, meets monthly and considers strategic and operational issues relating to teaching, learning and assessment including quality and assurance. Associated with TLA Committee are the School Exam Board, the Extenuating Circumstances Committee, Clinicians Meeting, Clinical Review Group and Student Academic Skills Team
- The Research Committee meets monthly and considers all strategic and operational issues relating to the School's research and business policies. Associated with this Committee is the Research Strategy Group
- The Committee for Animal Research and Ethics conducts business by circulation and meets as needed to review and approve all clinical research activities which involve either direct contact with animals, or indirect contact through their owners or keepers. It also considers all social and education research undertaken within the School from the perspective of ensuring compliance with data handling legislation
- Postgraduate (Research) Committee meets every 2 months and considers all strategic and operational aspects relating to postgraduate research students in the School
- Postgraduate (Taught) Committee meets every 3 months and considers all strategic and operational aspects relating to postgraduate students taught in the School
- Admissions Committee meets once per year to review the preceding year's admissions and the process for the forthcoming session is discussed and agreed
- Learning Community Forum (LCF) meets termly, and discusses any matters (academic, welfare or social) that are raised by either students, faculty or staff. LCF recommendations are considered by other Committees
- Safety Committee meets 3 times per year and is responsible for managing, formulating and monitoring the School's health and safety policy in light of legislation, accepted University policy and good practice
- Equality, Diversity and Inclusion Committee meets monthly and considers all School strategic and operational aspects associated with equality, diversity and inclusion, and Athena Swan status
- Monthly School Meetings are open to all faculty and staff from the School and Clinical Associates. It allows an open forum for presentation and discussion of issues pertinent to the School as a whole

A number of project groups have been formed to address identified issues. Progress on these projects is reported to Management Team or to the respective Committee. In addition, scheduled meetings exist e.g. between Clinical Sub-Deans to discuss and progress operational issues.

Appendix 2.1 Table A School expenditures for the immediate past 5 fiscal years

£k	2020/21	2019/20	2018/19	2017/18	2016/17	% change
Instruction, academic support, and student services	**8,980**	**7,622**	**7,316**	**7,522**	**6,949**	**29%**
Manpower costs	7,210	6,436	6,094	5,854	5,616	**28%**
Other costs	1,770	1,186	1,222	1,668	1,333	**33%**
Research expenditure	**4,902**	**4,321**	**4,265**	**4,657**	**4,160**	**18%**
Manpower costs	3,022	2,929	2,881	2,766	2,674	**13%**
Other costs	1,880	1,393	1,384	1,891	1,486	**27%**
Outreach and Continuing Education	**410**	**358**	**233**	**201**	**130**	**216%**
Teaching hospital	**-**	**-**	**-**	**-**	**-**	
Diagnostic and other labs	**136**	**127**	**121**	**154**	**76**	**80%**
Facilities, maintenance, and utilities	**2**	**12**	**21**	**64**	**53**	**-96%**
Capital expenditure (School)	**130**	**-**	**-**	**46**	**323**	**-60%**
Extramural student aid	**32**	**26**	**25**	**28**	**28**	**14%**
University student aid	**477**	**459**	**458**	**454**	**422**	**13%**
Other expenditure	**1,804**	**1,911**	**2,283**	**1,071**	**1,352**	**33%**
Postgraduate costs	1,249	1,379	1,376	764	784	**59%**
Other miscellaneous	555	532	907	307	568	**-2%**
Central Overhead costs	**8,978**	**8,197**	**7,521**	**6,946**	**7,116**	**26%**
Total expenditure	**25,852**	**23,035**	**22,243**	**21,142**	**20,608**	**25%**

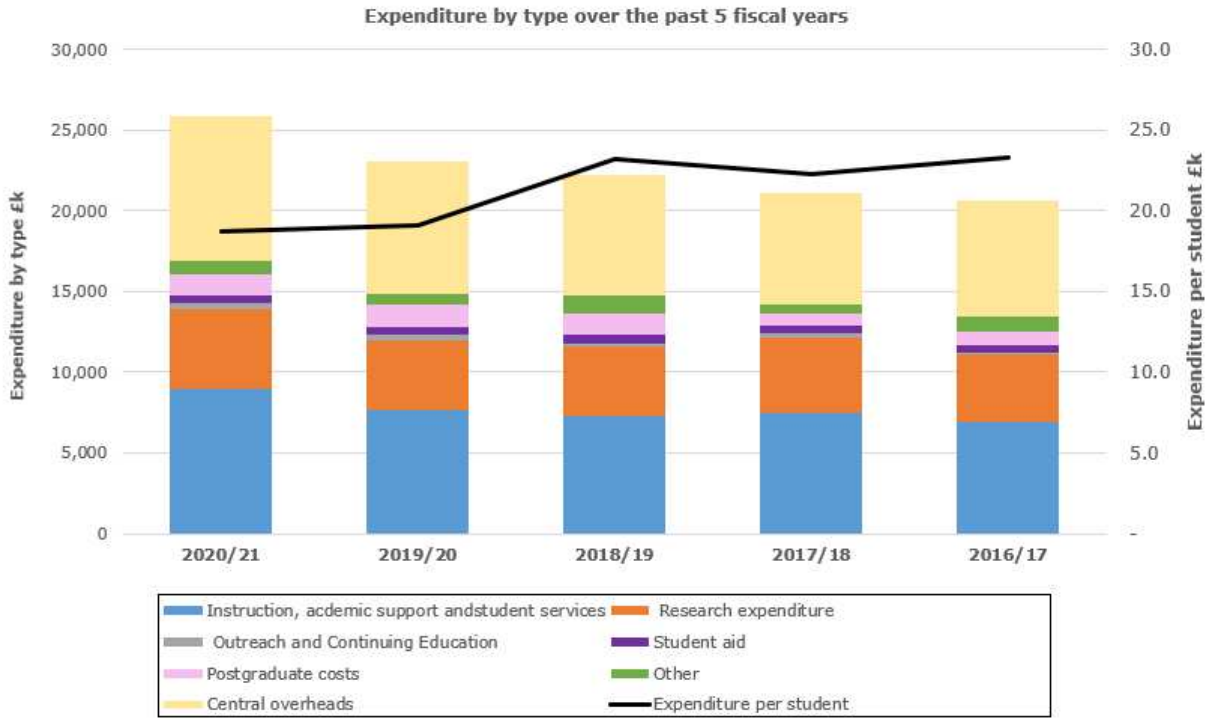
Notes: Data has been compiled from analysis of cost categories for over 300 project codes. There is probably some minor element of miscoding in the financial data such that a small proportion of costs assigned to 'Other miscellaneous' are likely to be related to teaching or research. Manpower costs are attributed according to the contract type (where Faculty are on a R&T contract, an average work load planning percentage is applied: 58% research, 42% teaching).

A detailed analysis of central costs has been undertaken and apportioned to the Vet School, e.g., on the basis of student headcount; in addition the central costs include capital investment in order to give an indicative total spend by the University in support of the Veterinary School.

Appendix 2.2 Central overhead costs breakdown

£k	2020/21	2019/20	2018/19	2017/18	2016/17
IS costs	1,679	1,602	1,478	1,047	932
Central Support costs	3,558	3,395	2,874	2,786	2,489
Utilities, Repairs and Maintenance	1,902	1,591	1,764	1,894	2,531
Reinvestment	1,687	1,610	1,404	1,218	1,164
Faculty Leadership costs	152	-	-	-	-
Total Overhead costs	**8,978**	**8,197**	**7,521**	**6,946**	**7,116**

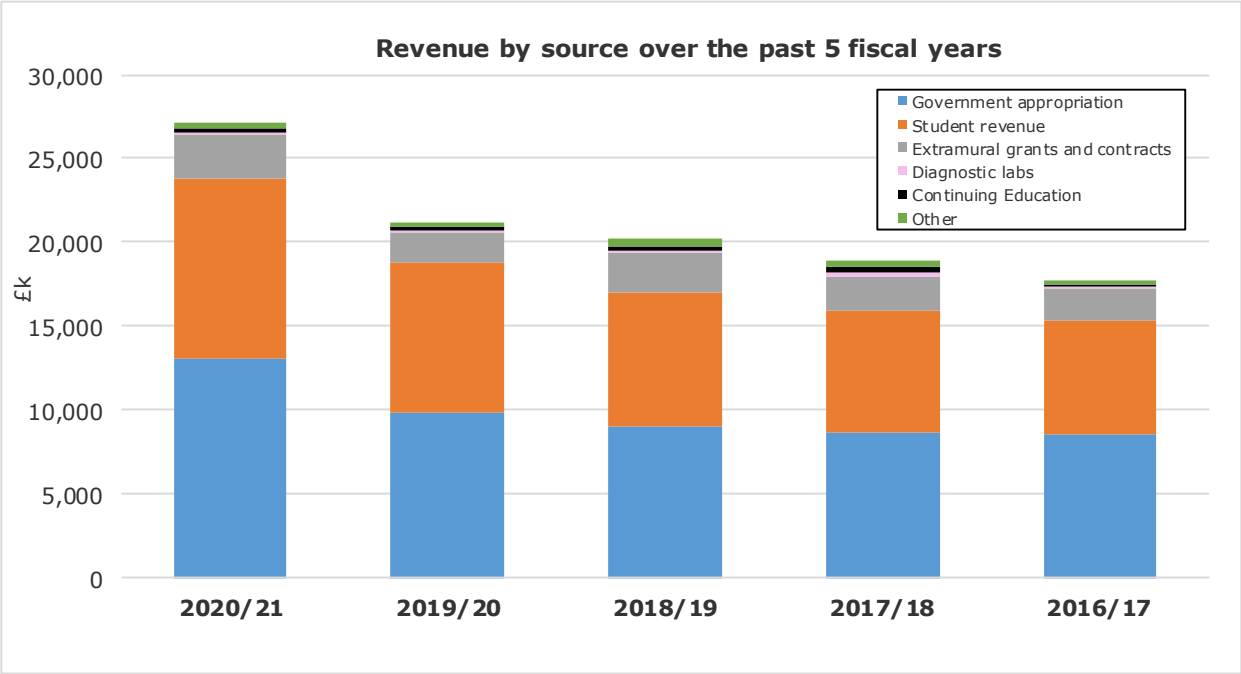
Appendix 2.3 Expenditure by type over the last 5 years



Appendix 2.4 Table B School revenue for the immediate past 5 fiscal years

£k	2020/21	2019/20	2018/19	2017/18	2016/17	% change
Government appropriation	**13,113**	**9,846**	**9,079**	**8,689**	**8,600**	**52%**
UG related	11,034	7,772	7,043	6,654	6,524	69%
PG related	772	741	711	634	644	20%
Research related	1,307	1,333	1,325	1,401	1,432	-9%
Revenue derived from students	**10,663**	**9,014**	**7,920**	**7,253**	**6,706**	**59%**
UG related	9,481	7,834	6,929	6,543	6,066	56%
PG related	1,182	1,180	991	710	640	85%
Tuition and fee revenue paid by other entities	**-**	**-**	**-**	**-**	**-**	
Teaching hospital revenue	**-**	**-**	**-**	**-**	**-**	
Diagnostic lab and other clinical revenue	**188**	**127**	**91**	**232**	**77**	**144%**
Extramural grants and contracts	**2,621**	**1,754**	**2,433**	**2,061**	**1,956**	**34%**
Current year gifts and endowment income	**196**	**108**	**32**	**87**	**20**	**880%**
Other revenue	**398**	**328**	**689**	**587**	**424**	**-6%**
Continuing Education	173	152	265	272	133	30%
Other miscellaneous	225	176	424	315	291	-23%
Total revenue	**27,179**	**21,177**	**20,244**	**18,909**	**17,783**	**53%**
Funds carried forward	**0**	**0**	**0**	**0**	**0**	**0**

Appendix 2.5 Revenue by source over the last 5 years

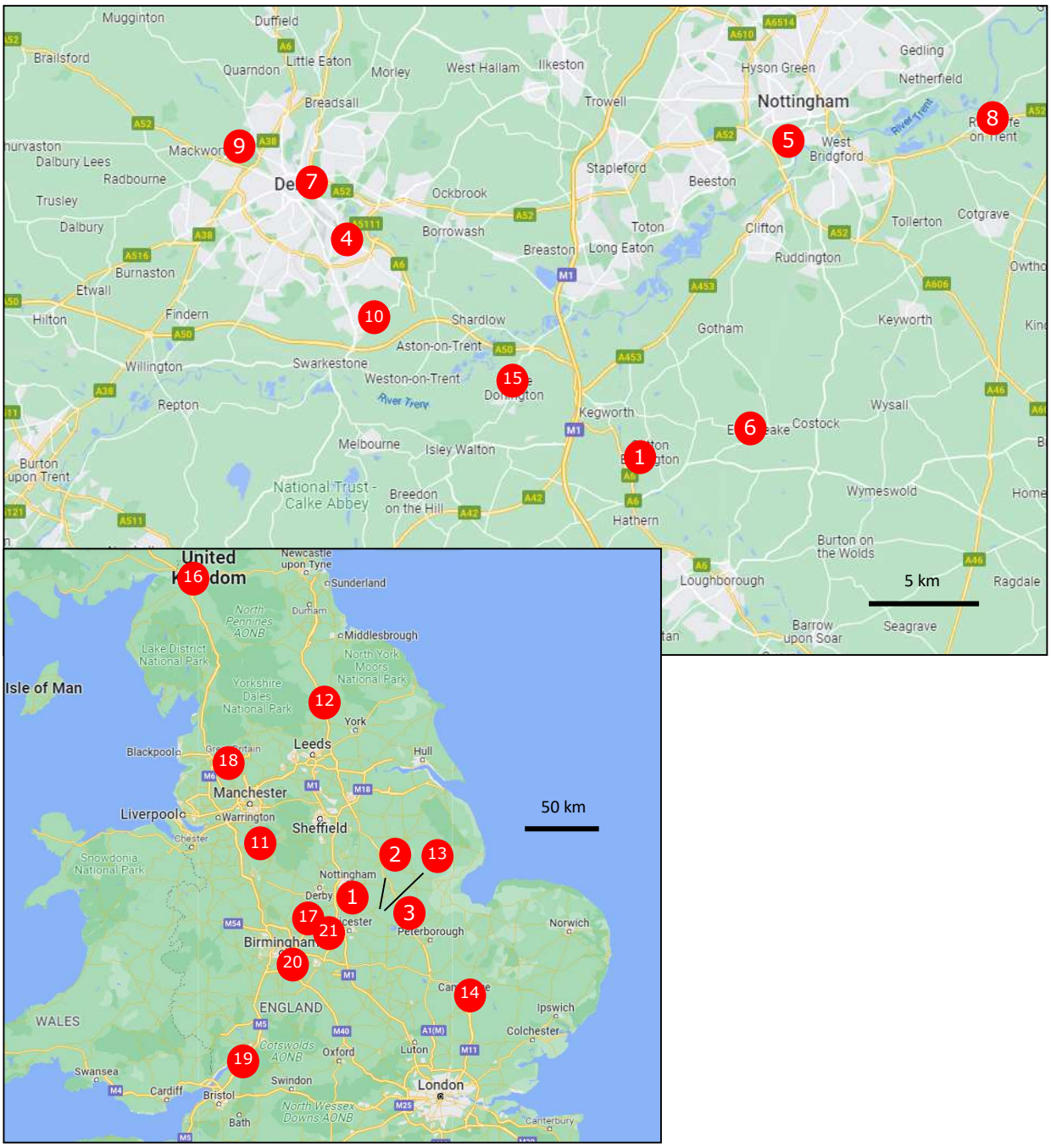


Appendix 2.6 Table C Endowments

£k	2020/21	2019/20	2018/19	2017/18	2016/17
Year end residual value	796	764	786	806	945

The School has no major endowments, rather smaller donation amounts. The year end value is shown above.

Appendix 3.1 Location of Clinical Associates



Core rotations

1. School of Veterinary Medicine and Science
2. Farm Vet Solutions (caseload only), 30 minutes
3. Oakham Veterinary Hospital, 50 minutes
4. PDSA Derby, 30 minutes
5. PDSA Nottingham, 20 minutes
6. Pinfold Vets, 10 minutes
7. Pride Veterinary Hospital, 25 minutes
8. RSPCA Radcliffe, 30 minutes
9. Scarsdale Farm Hospital, 30 minutes
10. Shelton Lock Veterinary Practice, 30 minutes
11. Wright and Morten (caseload only) 1:20 Hours
12. Bishopton, 2 hours
13. Defence Animal Centre, 30 minutes
14. Dick White Referrals, 2:05 hours
15. Dovecote Veterinary Hospital, 10 minutes
16. Paragon Vets. 3:30 hours
17. Pool House Equine, 40 minutes
18. RSPCA Bolton, 2 hours
19. Tyndale Vets, 2 hours
20. Twycross Zoo, 30 minutes
21. Your Vets Sheldon, 1 hour

Track rotations

Appendix 3.2 Campus map

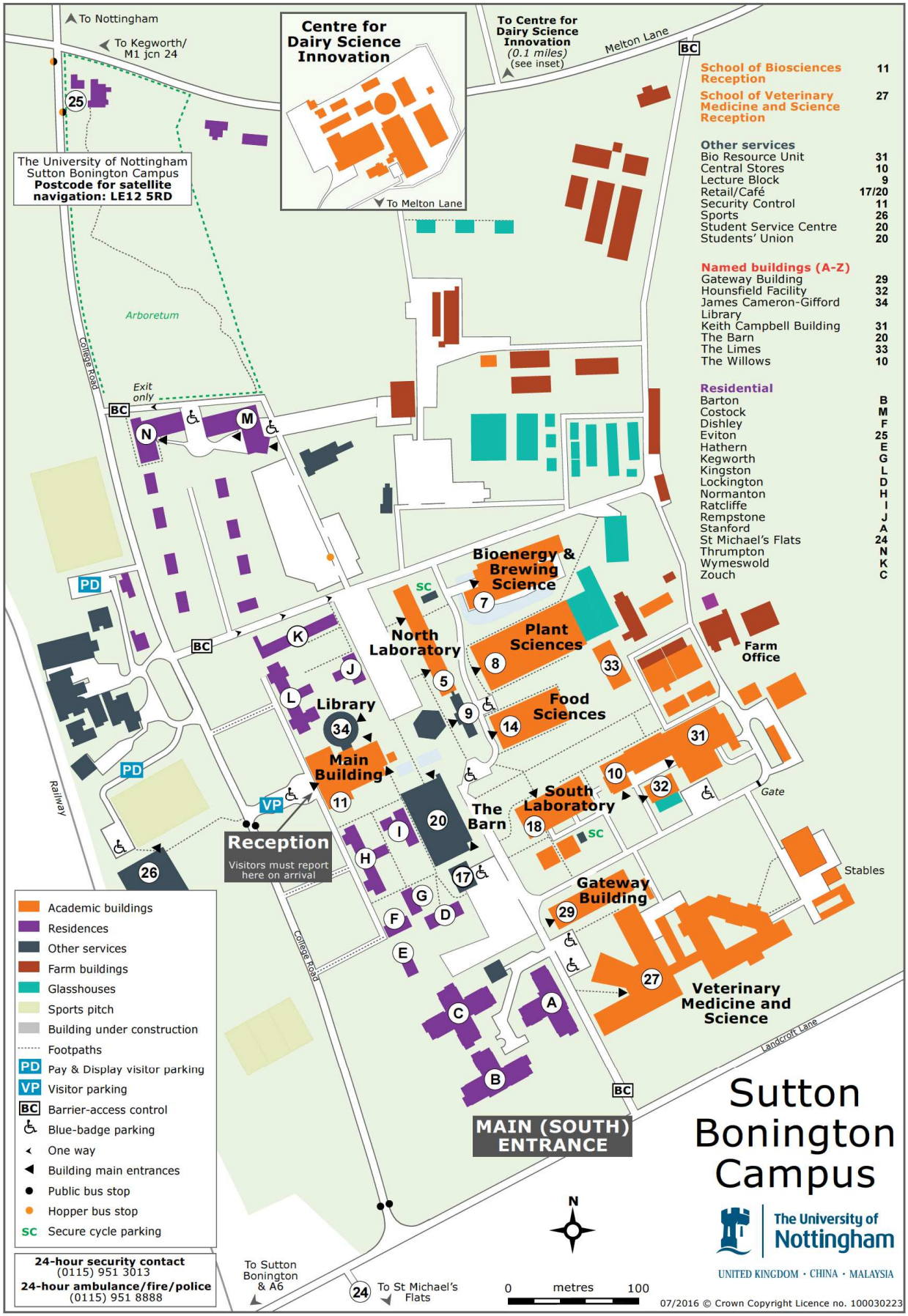


Table A There is no teaching hospital on Campus. Table B Clinical Resources There are no college owned and operated off-campus facilities

Appendix 4.1 Table C Cases seen by students during required rotations at privately owned and operated facilities

	2020/21		2019/20		2018/19		2017/18		2016/17	
	V	H	V	H	V	H	V	H	V	H
Canine	21,395	14,955	17,218	14,208	17,455	14,897	16,421	14,208	15,452	13,528
Feline	8,213	5,658	6,869	5,658	6,241	5,887	5,897	5,658	5,576	5,431
Bovine	4	1	5	3	22	6	28	12	50	20
Small ruminant	43	30	30	29	50	15	80	35	145	50
Equine	7675	1535	7592	1518	7578	1516	6593	1319	6246	1249
Porcine	1	0	1	0	1	0	1	0	15	5
Caged birds	85	85	12	12	14	14	10	10	13	13
Caged mammals	3,187	2,735	345	242	331	247	329	244	319	236
Wildlife	0	0	0	0	0	0	0	0	0	0
Zoo animal (including exotics)	761	761	105	105	139	139	89	89	113	113
Other	19	0	25	0	10	0	10	0	10	0

PV = Patient visits H = number of hospitalised patients

Table D Ambulatory / Field Service program. There are no college owned and operated services

Appendix 4.2 Table E Ambulatory / Field Service program, cases seen during rotations at private practice ambulatory services

Animal Species	2020/21		2019/20		2018/19		2017/18		2016/17	
	FC	AE/T	FC	AE/T	FC	AE/T	FC	AE/T	FC	AE/T
Bovine	980	8,392	1,800	19125	1,550	21,500	1,600	22,000	2,520	36,400
Caprine	50	220	100	350	60	250	70	250	70	200
Equine	7,502	11,253	6,953	10,429	7,886	11,828	6,122	9,183	5,351	8,027
Ovine	200	1,380	200	3,050	155	2,200	160	2,400	150	2,300
Porcine	10	10	10	12	10	11	10	12	10	12
Other	16	52	15	181	15	80	15	55	30	35
Poultry	10	200	12	240	15	300	20	400	12	>1,000,000

FC = total number of farm calls AE/T = number of animals examined/treated
Case numbers are rounded for bovine, caprine and poultry as groups of animals are examined.

Appendix 4.3 Table F Herd/flock health programme

Animal Species	Clinical resources for production medicine training
Dairy	All students will undertake 2.5 days of training in herd health and production medicine as part of the core Farm Health Skills rotation (based within the vet school). This involves training in basic applied epidemiology, then delivery of a herd health visit in conjunction with a member of the School clinical team. Typically, this involves a morning analysing data, an afternoon on farm assessing environment and management and a subsequent feedback presentation to the client. The focus in this activity is on demonstrating what herd health in practice involves and exposure to the process rather than comprehensive training in delivery of herd health work. In addition to this, students undertaking the mixed or farm track during final year undertake the School-hosted Advanced Herd Health rotation, entailing one week working on an individual farm, including data analysis, detailed on-farm discussion with the client/veterinarian, on-farm evaluation of environment/management/cows and a feedback meeting with the client, farm staff and primary veterinarian as relevant. Specialised software including TotalVet and DairyComp305 is used to analyse herd data and inform targeting of advice. These rotations deliver consultancy advice to 14 farms (a total of just under 5,000 cows); each would typically receive 2-4 visits per year. Students on the Farm Practice rotation (hosted at the farm centre of the ScarsdaleVets group) also undertake routine herd health visits to around 40 herds which, each visited on a weekly/fortnightly/monthly basis. Whilst these visits are focused around reproductive examinations, they will also involve varying levels of data analysis and preventive health advice.
Beef feedlots	ScarsdaleVets has two key beef feedlot clients, with around 2,000 head of cattle. These receive regular health visits (2- or 12-weekly); activities vary but can include review of data, addressing perceived problems, clinical assessment of groups of animals and review of vaccination and treatment protocols.
Cow-calf	As part of the farm practice rotation, students may visit one or more of around 100 cow-calf operations registered with ScarsdaleVets. Established health schemes include the Scarsdale Herd Health Planning Scheme, and many herds are involved in Biobest HiHealth accreditation schemes. Activities on visits can include preventive health planning, blood sampling and fertility work (including bull breeding soundness examinations and pregnancy diagnosis).
Small ruminants	Students on the mixed or farm tracks will receive training in analysing production and health data from sheep enterprises as part of the Advanced Herd Health rotation. For students undertaking the farm animal track, this is supplemented during the Advanced Farm Health Skills rotation with a flock health farm visit. These visits investigate specific population health issues such as suboptimal reproductive performance, lamb growth rate analysis, periparturient nutrition or endoparasite control according to the season as part of the routine flock health planning. Students on the Farm Practice rotation may be involved in flock health visits and other activities as part of ScarsdaleVets' flock health scheme, which is run with input from School clinicians.
Swine	No service is provided to pig farming.
Poultry	No service is provided to poultry farming.
Fish	No service is provided to aquaculture or fish farming.
Equine	Students on all equine rotations will undertake preventative health services to clients.
Other	N/A

Appendix 4.4 Table G Necropsy table – Number of necropsies involving students

Species	2020/21	2019/20	2018/19	2017/18	2016/17
Canine	189	163	287	294	233
Feline	65	58	115	111	109
Bovine	118	78	66	51	60
Caprine	11	8	5	6	6
Equine	6	10	27	28	36
Small ruminants (ovine)	104	64	51	60	46
Porcine	33	0	0	1	55
Poultry	261	230	182	125	1,064
Other birds	4	3	3	4	4
Non Avian Exotics	59	66	148	181	56

Appendix 4.5 Table H Off-campus facilities at each Clinical Associate for core rotations

Hospital	Required rotation	Duration (weeks)	Surgery	Necropsy**	Clinical Pathology	Radiology	Intensive or critical care	Isolation	Most recent annual caseload						New or reintroduced site
									Canine	Feline	Equine	Bovine	Small Ruminant	Other	
Oakham Veterinary Hospital (Equine)	Equine	4	Yes		Yes	Yes	Yes	Yes	0	0	8,315	0	0	0	
PDSA Derby*	Small Animal	2	Yes		Yes	Yes	No	Yes	450	450	0	0	0	100	
PDSA Nottingham*	Small Animal	2	Yes		Yes	Yes	Yes	Yes	855	855	0	0	0	190	
Pinfold	Small Animal	1	Yes		Yes	No	No	No	8,165	2,530	0	0	0	805	
RSPCA (Radcliffe)*	Small Animal	2	Yes		Yes	No	No	Yes	40	750	0	0	0	10	
Scarsdale Veterinary Group (Farm)	Farm	2	Yes		Yes	Yes	Yes	Yes	0	0	0	20,979	4,000	276	
Scarsdale Veterinary Group (Pride)	Small Animal	2	Yes		Yes	Yes	Yes	Yes	15,300	5,100	0	0	0	3,752	
Scarsdale Veterinary Group (Pride OOH)	Small Animal	2	Yes		Yes	Yes	Yes	Yes	1,350	675	0	0	0	225	
Scarsdale Veterinary Group (Shelton Lock)	Small Animal	1	Yes		Yes	Yes	No	No	6,562	2,138	0	0	0	50	

* 2 Small Animal/Charity rotation is 2 weeks from a combination of PDSA Nottingham, PDSA Derby and RSPCA Radcliffe
* * Clinical Associates send necropsy cases to School pathologists.

In addition the School uses the ambulatory caseload of Farm Vet Solutions (estimated annual caseload c. 22,500 cases/year) and Wright and Morten (estimated annual caseload c.25,000 cases/year), but not the facilities.

Appendix 4.6 Table I 13 Off-campus rotation information for each rotation

Core rotations

Off-campus site, number and educational experience	Duration of rotation	No. students per year	Faculty mentor approved		Off-site evaluator	Written educational objective		Educational outcomes assessed and student evaluation reviewed	
			Yes	No		Yes	No	Yes	No
Oakham Veterinary Hospital (Equine)	2 weeks core	Whole cohort (core) (4-6 students per rotation)	N/A School faculty		Dr Julia Dubuc Dr Emma Shipman	Yes		Yes	
PDSA Derby	2 weeks core (or PDSA Nottingham or RSPCA Radcliffe)	1/3 of the cohort (2 students per rotation)	N/A School faculty		Dr Stephen Brogden	Yes		Yes	
PDSA Nottingham	2 weeks core (or PDSA Derby or RSPCA Radcliffe)	1/3 of the cohort (2 students per rotation)	N/A School faculty		Dr Stephen Brogden	Yes		Yes	
Pinfold	1 week (with 1 week Shelton Lock)	Whole cohort (2-5 students per rotation)	N/A School faculty		Dr Olivia Bass	Yes		Yes	
RSPCA Radcliffe	2 weeks core (or PDSA Derby or Nottingham) and 1 week track	1/3 of the cohort (2-4 students per rotation) for core	N/A School faculty		Dr Stephen Brogden	Yes		Yes	
Scarsdale Veterinary Group (Farm)	2 weeks core	Whole cohort (2-4 students per rotation)	N/A School Residents		Dr John Remnant	Yes		Yes	
Scarsdale Veterinary Group (Pride)	2 weeks core	Whole cohort (4-9 students per rotation)	N/A School faculty		Prof Malcolm Cobb Dr Aga Zoltowska	Yes		Yes	
Scarsdale Veterinary Group (Pride OOH)	2 weeks core	Whole cohort (4-9 students per rotation)	N/A School faculty		Dr Tom Hackney	Yes		Yes	
Scarsdale Veterinary Group (Shelton Lock)	1 week (with 1 week Pinfold)	Whole cohort (2-5 students per rotation)	N/A School faculty		Dr Kerry Williams	Yes		Yes	

Track rotations

Off-campus site, number and educational experience	Duration of rotation	No. students per year	Faculty mentor approved		Off-site evaluator	Written educational objective		Educational outcomes assessed and student evaluation reviewed	
			Yes	No		Yes	No	Yes	No
Bishopton	2 weeks farm track	Variable (1-2 students per rotation)	Yes		Dr Chris Hudson	Yes		Yes	
Defence Animal Centre	2 weeks equine track	Variable (2 students per rotation)	Yes		Dr John Burford	Yes		Yes	
Dick White Referrals	2 weeks small animal track	Variable (2-4 students per rotation)	Yes		Prof Malcolm Cobb	Yes		Yes	
Dovecote	2 weeks small animal track	Variable (1-2 students per rotation)	Yes		Dr Mike Targett	Yes		Yes	
Pool House Equine	2 weeks equine track	Variable (2-5 students per rotation)	Yes		Dr Marco Duz	Yes		Yes	
Oakham Veterinary Hospital (Equine)	2 weeks equine track	Variable (2-4 students per track rotation)	Yes		Dr Julia Dubuc Dr Emma Shipman	Yes		Yes	
Oakham Veterinary Hospital (Small Animal)	2 weeks small animal track	Variable (1-2 students per rotation)	Yes		Dr Sarah Cripps	Yes		Yes	
Paragon	2 weeks farm track	Variable (1-2 students per rotation)	Yes		Dr Chris Hudson	Yes		Yes	
RSPCA Bolton	2 weeks small animal track	Variable (1-2 students per rotation)	Yes		Dr Flo Hllen	Yes		Yes	
Twycross Zoo	2 weeks exotics track	Variable (1-2 students per rotation)	Yes		Dr Lisa Yon	Yes		Yes	
Tyndale Vets	2 weeks farm track	Variable (1-2 students per rotation)	Yes		Dr Chris Hudson	Yes		Yes	
Wright and Morten	2 weeks farm track	Variable (1-2 students per rotation)	Yes		Dr Chris Hudson	Yes		Yes	
Your Vets Sheldon	1 week track (with 1 week RSPCA Radcliffe)	Variable (1-2 students per rotation)	Yes		Prof Malcolm Cobb	Yes		Yes	

Appendix 4.7 Contractual arrangements at each Clinical Associate

Clinical Associate	Contractual arrangement	Teaching support	Supervision of students	Monitoring of students
Bishopton	Agreement in principle	Advanced farm practice rotation (track)	Students are supervised by practice clinicians	Contact between rotation lead and practice team (and with students)
Defence Animal Training Regiment	0.8FTE equine specialist staff placed. 2 year 5 students for every 9 days of equine track rotation	Equine musculoskeletal examination and farriery in Years 1 and 2. Equine skills rotation (core) Equine Hospital and Equine Ambulatory rotations (core and track)	Students are directly supervised by SVMS clinicians with input from DATR clinicians	Students are directly monitored by SVMS clinicians
Dick White Referrals	3.0 FTE interns and 0.3FTE clinicians placed Contribution to building costs of student accommodation Student numbers are variable as DWR is a track rotation	Small Animal Specialist Referral rotation (track) Surgery and internal medicine teaching years 1-4	Students are supervised daily by DWR clinicians who have fractional contracts with the University, with the Rotation Leader visiting fortnightly	Students are monitored by DWR clinicians who hold fractional contracts with the University
Dovecote	0.5 FTE specialist clinicians placed (surgery, neurology) student numbers are variable as Dovecote is a track rotation	Small Animal Specialist referral rotation (track)	Students are directly supervised by SVMS clinicians with input from Dovecote clinicians	Students are directly monitored by SVMS clinicians
Farm Vet Solutions	Agreement in principle 0.2FTE clinicians placed	Farm practice rotation (core) Access to caseload	Students are supervised by SVMS clinicians	Students are directly monitored by SVMS clinicians
Oakham Veterinary Hospital (Equine)	3.5 FTE SVMS clinicians placed at Oakham, and 3 interns. Contribution to building costs of teaching facilities. Up to 10 students on rotations possible every 2 weeks of the year.	Equine Hospital and Equine Ambulatory rotations (core and track)	Students are directly supervised by SVMS clinicians with input from Oakham clinicians	Students are directly monitored by SVMS clinicians
Oakham Veterinary Hospital (Small Animal)	0.1 FTE SVMS clinicians placed at Oakham. Student numbers are variable as Oakham small animal is a small animal or mixed track option	Small animal or mixed track rotation	Students are directly supervised by SVMS clinicians with input from Oakham clinicians	Students are directly monitored by SVMS clinicians

Paragon	Agreement in principle	Advanced farm practice rotation (track)	Students are supervised by practice clinicians	Contact between rotation lead and practice team (and with students)
PDSA	2.0 FTE SVMS clinicians placed at PDSA Nottingham and PDSA Derby Contribution to building costs of teaching facilities at Nottingham. 5-6 students are on rotation every 2 weeks of the year (between Derby PDSA, Nottingham PDSA and RSPCA Radcliffe).	Small Animal Charity/Shelter rotation (core)	Students are directly supervised by SVMS clinicians	Students are directly monitored by SVMS clinicians
Pinfold	1.4 FTE SVMS clinicians placed at Pinfold up to 9 students are on rotation every 2 weeks of the year (between Shelton Lock and Pinfold)	Small Animal Charity/Shelter rotation (core)	Students are directly supervised by SVMS clinicians with input from Pinfold clinicians	Students are directly monitored by SVMS clinicians
Pool House Equine	0.6FTE equine specialist placed in hospital at Pool House and 0.5 FTE ambulatory vet Students on track spend 4 weeks at Pool House	Equine track rotation	Students are directly supervised by SVMS clinicians with input from Pool House staff	Students are directly monitored by SVMS clinicians
RSPCA Bolton	Agreement in principle Capital contribution £10k per quarter payment paying for 0.5FTE RSPCA vet costs	Small animal track rotation	Students are supervised by RSPCA clinicians with extensive experience in student teaching, rotation overseen by SVMS clinicians	Students are monitored by RSPCA clinicians
RSPCA Radcliffe	1.0FTE SVMS clinician placed at Radcliffe	Small Animal Charity/Shelter rotation (core)	Students are directly supervised by SVMS staff with input from RSPCA staff	Students are directly monitored by SVMS clinicians
Scarsdale Veterinary Group (Farm)	2.0 FTE farm animal residents placed at Scarsdale Contribution to building costs of teaching facilities. 6-9 students in 1 rotation every 2 weeks of the year.	Farm Practice rotation (core)	Students are supervised daily by residents and SVMS clinicians with input from Scarsdale clinicians; Rotation Leader visiting twice a week	Students are directly monitored by SVMS clinicians
Scarsdale Veterinary Group (Pride, and Shelton Lock)	3.0 FTE clinicians placed at Pride/Shelton Lock Contribution to building costs for veterinary hospital, including development of teaching facilities. Up to 9 students every 2 weeks of the year	Small Animal Primary Care and Referral rotation, and out of hours rotation (core) and small animal practice rotation (with Pinfold)	Students are directly supervised by SVMS clinicians with input from Scarsdale clinicians	Students are directly monitored by SVMS clinicians

	at Pride. Up to 9 students are on rotation every 2 weeks of the year (between Shelton Lock and Pinfold) Emergency and Critical Care/Out of Hours rotation 2-3 students for 4-5 nights every week Exotics tracking students see referral level exotics practice at Pride	Exotics (track)		
Twycross Zoo	Contribution to building costs for veterinary clinic, including development of teaching facilities Numbers of students vary as Twycross is a track rotation	Exotics track rotation	Students are supervised daily by SVMS DVetMed students with input from Zoo clinicians; Rotation Leader or Clinical Director visiting fortnightly	Students are directly monitored by SVMS DVetMed students and Zoo clinicians
Tyndale	Agreement in principle	Advanced farm practice rotation (track)	Students are supervised by practice clinicians	Contact between rotation lead and practice team (and with students)
Wright and Morten	Agreement in principle 0.4FTE staff placed	Advanced farm practice rotation (track) Farm Practice rotation (core)	Students are supervised by practice staff (track rotation) and SVMS clinicians (core rotation)	Contact between rotation lead and practice team (and with students) (track rotation) Students are directly monitored by SVMS clinicians (core rotation)
Your Vets Sheldon	1 or 2 small animal track students	Small Animal (track)	Students supervised by SVMS graduate veterinary surgeon	Students are monitored by experienced SVMS graduate veterinary surgeon

In many cases, to make best use of the clinical case resources, we exceed our contractual obligations. At certain times, for example during recruitment hiatuses a fee in lieu of placement of School clinicians, payment may be made to the Clinical Associate.

There is no supplementary information for Standard 5.

Appendix 6.1 Table A undergraduate enrolment over the last 5 years

Year	2021/22	2020/21	2019/20	2018/19	2017/18
Prelim year	31	46	36	28	28
First year – Sept intake	146	165	154	163	166
First year - April	147	145	152	-	
Second year – Sept intake	169	152	163	155	156
Second year- April intake	149	148	-	-	
Third year – Sept intake	153	163	153	151	134
Third year- April intake	148	-	-	-	-
Fourth year	166	145	152	119	112
Fifth year	148	149	114	111	109
# graduated	Not yet known	142	114	108	109

Appendix 6.2 Tables B Postgraduate students per year over the last 5 years

Year	Interns (PGCert Vet Med and Surgery)	Residents (MVM)	Residents (DVM)	PGCert Vet Education	PGDip/MSc Vet Physiotherapy	Msc Adv Clin Pract	MRes Bioinformatics	MRes	PhD
2021/22	8	9	2	3	80	18	7	10	69
2020/21	10	10	5	5	87	35	8	14	86
2019/20	6	14	3	4	87	0	8	9	94
2018/19	7	10	3	1	55	0	0	8	81
2017/18	6	10	2	2	25	0	0	10	68

Appendix 6.3 Table C undergraduate demographic data

Year	2021/22	2020/21	2019/20	2018/19	2017/18
Widening Participation	31.9%	34.0%	37.5%	34.4%	27.6%
BAME	7.0%	6.5%	4.8%	4.6%	5%
Male	18.8%	20.6%	20.0%	20.3%	20.1%

Table D

There are no other educational programs.

Appendix 7.1 Table A Applications, offers and acceptances data for the 5 year course

Academic Year (entry)	UK and EU students		Overseas students		Total students	
	A/P*	O/A	A/P	O/A	A/P*	O/A
2020/21 Sept	1,630	307/183	126	10/3	1,756/300	317/186
2020/21 April		316/139		15/1		331/140
2019/20 Sept	1,764	307/188	123	8/5	1,887/300	315/192
2019/20 April		302/146		9/4		311/150
2018/19	1,592	379/190	143	11/2	1,735/150	390/192
2017/18	1,481	347/169	145	15/3	1,626/150	362/172
2016/17	1,485	296/158	128	9/1	1,613/150	305/159

A/P Applications/Places available O/A Offers made/Offer acceptances

*P Places are not assigned to home or overseas students, as the School will admit the best student irrespective of home location. There are 150 places on each intake of the 5 year course (of which 25 progress from year 0).

Appendix 8.1 Table A Loss and recruitment of Faculty over the last 5 years (as at 1.3.22)

Year	Faculty lost		Faculty recruited	
	Category of faculty	**Discipline**	**Category of faculty**	**Discipline**
2021/22	L (Down) P (Bowen) P (Hallowell) TA (O'Boyle) TA (Reyneke) TA (Alderson-Knight)	Equine Equine Equine Farm Farm Teaching	AP (Anselmi) L (Bianco) L (Eu) L (Purse) L (Archer) L (Corbetta) L (Foster) L (Kerley) L (Harmon) L (Khan) TA (Van der Rijt) TA (Strong) TA (Sands) TA (Goodman) TA (Maciesza) TA (Muggleton) TA (Stroyd) TA (Clarkson) TA (Hodge) TA (Jeyapalan)	SA Imaging Pathology Pathology Small Animal Epitranscriptomics Pathology Virology Equine Small Animal Equine Teaching Teaching Teaching Teaching Vet Nursing Clinical & Prof Skills Equine Farm Clinical and Prof Skills Oncology
2020/21	L (Henson) L (Waine) L (Stavisky)	Equine Pathology Small Animal	L (Morey Matamalas) UT (Sidhu) UT (Lowton) UT (Messina)	Pathology Teaching Teaching Teaching
2019/20	AP (Ewers) AP (Wapenaar) AP (Foster) AP (Kydd) AP (Eu) AP (Nova Chavez) AP (Voigt) P (Loughna) P (Hannant) P (Barrow) TA (Curzon) TA (Sherwin) TA (McKinlay) TA (Yates) TA (Gordon) TA (Foden)	Imaging Med. & Epidemiology Imm. & Infection Applied Immunology Pathology VPH Behaviour & Neurosci Integrated Physiology Applied Immunology Infectious Diseases Teaching Teaching Teaching Teaching Teaching Teaching	AP (Blanchard) AP (Trimble) AP (Shaw) AP (Sherwin) AP (Waine) AP (Bruce) AP (Bailey) AP (Murphy) AP (Henson) AP (Pickles) AP (Vazquez Diosdado) AP (O'Hara) P (Hall) P (Campbell) P (Demetriou) P (Corletto) P (Foale) P (Arthurs) P (Smithson) P (Dunning) TA (Richens) TA (Spalding) TA (Child) TA (Payne) TA (O'Boyle) TA (Lightfoot) TA (Reyneke) TA (Brignell) TA (Choudhary) TA (Hillen)	Bioinformatics Anaesthesia Dermatology Farm Animal Medicine Pathology Exotics Equine Pathology Equine Equine Precision Livestock Tech Imaging SA Surgery Vet Ethics SA Soft Tissue Surgery Anaesthesia SA Medicine SA Orthopaedic Surgery Dental, Oral & Max SA Internal Medicine Teaching Teaching Physiotherapy Teaching Farm Equine Farm Teaching Teaching Teaching

			TA (Bass) TA (Bhandare) TA (Sumner) TA (Alderson-Knight)	Teaching Teaching Teaching Small Animal
2018/19	AP (Rigo) AP (Self) TA (Merritt)	SA Practice Anaesth & Analgesia Teaching	AP (Ortiz) AP (Rigo) AP (Hackney) AP (Hill) AP (Clarke) AP (Quieros) AP (Richardson) AP (Zoltowska) AP (Hughes) AP (Harland) TA (Williams) TA (Corah) TA (Sandoval-Barron) TA (Turpie) TA (Sherwin) TA (Ferguson)	Pathology SA Practice SA Practice Equine Clinical Practice Poultry Veterinary Education Veterinary Education SA Practice Veterinary Education SA Practice Teaching Teaching Teaching Teaching Teaching Teaching
2017/18	AP (Dean) AP (Hobson-West) AP (Davies) AP (Grau Roma) AP (De Brot) P (Huxley) P (Mossop) TA (Meisl) TA (Ambler) TA (Henstridge)	Feline Medicine Welfare, Ethics Sheep Pathology Pathology Farm Animal Veterinary Education Teaching Teaching Teaching	AP (Randall) AP (Down) AP (Eu) TA (McKinlay) TA (Morrow) TA (Hewitt) TA (Jones) TA (Redpath) TA (Henderson) TA (Lawlor) TA (Black) TA (Coates) TA (Bardill) TA (Haines) TA (Drinkall)	Ruminant H & W Equine Practice Pathology Teaching Teaching Teaching Teaching Equine Medicine Teaching Teaching Veterinary Physio Veterinary Physio Veterinary Physio Veterinary Physio Teaching

Appendix 8.2 Table B Staff support for teaching and research

Area	FTE Clerical	FTE Technical
Clinical Teaching	32.0	17.7
Non-clinical teaching		
Research	1.0	6.9
Total	**33.0**	**24.6**

In addition, there are 24.8 FTE staff based in central University functions (e.g., Student Services, Estates, HR, Dairy Farm, and Finance etc) that directly support the School.

Appendix 8.3 Tables C and D Faculty numbers and qualifications

Status	Title	Non- veterinarians				Veterinarians					
									Veterinary Specialists		
		Non degree	BSc	MSc	PhD	Veterinary degree only (and Clinical Associates)	MSc	PhD	Board certified or diploma holders	Board / Dip and Masters	Board/Dip and PhD
Full time (>75%)	Dean										1.0
	Professor				8.0		1.0	2.0	2.0		2.6
	Associate Professor				14.0	1.0	0.8	6.0			6.0
	Assistant Professor				8.8	15.8	3.0	1.8	2.0	2.0	5.0
	Teaching Fellow	3.0	0.8		5.6	12.8	2.0	2.0			
	Research Fellow		7.0		10.9						0.9
Part time (<75%)	Administrator										
	Professor				0.4	0.1			0.4	0.1	0.4
	Associate Professor								0.4		0.7
	Assistant Professor	0.3				1.2			0.1	0.5	0.6
	Teaching Fellow	0.4	1.0	1.4	1.0	4.2	0.9	1.2			
	Research Fellow	0.6		0.7	1.0						
	Postgraduates					8.0					
	Clinical Associate Staff					16.2					
Total		**4.3**	**8.8**	**2.1**	**49.7**	**59.3**	**7.7**	**13.0**	**4.5**	**2.6**	**17.2**

Total Non-veterinarians:	**64.9**	**Total School specialist veterinarians**	**24.3**
		Total veterinarians	**80.5** (School) **104.3** (including Clinical Associates and Postgraduates)

Appendix 9.1 Schematic curriculum timetable

Week -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

YEAR 0

Welcome Week

Atomic Structure and Bonding: 1 2 3 4 5 6 7 8 (ACB) 1 2 3 (CSB)

Maths: 1 2 3 4

Animal Care and Behaviour: 1 2 3 4 5 6 7 (IBS)

Cell Structure and Biochemistry: 1 2 3 4 5 6 7 8 9 10 11

Holiday

Introduction to Body Systems: 4 5 6 7

Maths: 5 6 7 8

Intro to Body Systems: 12 13 14

Holiday

Compounds and Reactions: 1 2 3 4 5 6 7

Maths: 9 10 11

Animal Care and Behaviour: 8 9 10 11

Health and Disease: 1 2 3 4 5 6 7

Holiday

Revision

Summative Exam

Holiday

Resits

Holiday

Formative exams are throughout the course for Year 0

YEAR 1 - dual cohort (Sept)

Welcome Week

Veterinary Professional Skills 1

Veterinary Neuromuscular System: 1 2 3 4 5 6 7 8 9 10 11

Animal Health and Welfare

Holiday

Veterinary Circulatory and Respiratory System: 12 13 1 2 3 4 5 6 7 8 9

Form. Assess.

Animal Health and Welfare

Form. Assess.

Veterinary Professional Skills 1 / Revision / EMS: 1 2 1 2 1 2

Synoptic Block 1 | Synoptic Block 2 | Synoptic Block 3

Revision

Summative Assesments

Holiday / EMS

Resits

YEAR 2 - dual cohort (Sept)

Welcome Week

Veterinary Professional Skills 2

Veterinary Gastrointestinal System: 1 2 3 4 5 6 7 8 9

Form. Assess.

1 2

Holiday

Endocrine and integument Systems: 3 4 5 6

Form. Assess.

Urogenital Systems: 1 2 3 4 5 6 7

Form. Assess.

Veterinary Professional Skills 2 / Revision / EMS: 1 2 1 2 1 2

Synoptic Block 1 | Synoptic Block 2 | Synoptic Block 3

Revision

Summative Assesments

Holiday / EMS

Resits

YEAR 3 - dual cohort (Sept)

Welcome Week

Veterinary Research Project: 1 2 3 4 5 6

Veterinary Public Health: 1 2 3

Form. Assess.

1 2 3

Holiday

Fundamentals of Clinical Practice: 4 5 6 7 8 9 10

Form. Assess.

Veterinary Professional Skills 3: 1 2 3 4 5

Revision

Summative Assesments BVMedSci

Holiday / EMS

Resits

YEAR 4 - single cohort

Veterinary Personal and Professional Skills 4: 1 2

Form. Assess.

Veterinary Musculoskeletal System 2: 1 2 3 4 5

Form. Assess.

Veterinary Gastrointestinal System 2: 1 2 3 4 5 6

Form. Assess.

Holiday

Veterinary Cardiorespiratory System 2: 1 2 3 4 5

Form. Assess.

Veterinary Reproduction System 2: 1 2 3 4 5

Form. Assess.

Veterinary Urinary Systems: 1 2

Form. Assess.

Holiday

Summative Assessments

Holiday

Summ. Assess. | Summ. Assess.

Resits

Intra-Mural Rotations / Clinical EMS / Vacation

Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess.

YEAR 5 - single cohort

Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess.

Holiday

Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess. | Summ. Assess.

Revision

1 2

Summative Assessments BVM BVS

Resits

9 half days per week assumed

Dates of exams are shown schematically and are provisional

Appendix 9.2 map by module to AVMA Competencies

Module	Credits	AVMA Competency Domain								
		1	2	3	4	5	6	7	8	9
Year 1										
VETS1007 - Circulatory and Respiratory Systems	40	■		■	■	■		■		
VETS1008 - Animal Health and Welfare	20			■				■		
VETS1009 - Neuromuscular System	40	■		■	■	■	■			
VETS1010 - Veterinary Professional Skills 1	20				■	■	■		■	■
Extra Mural Studies	0	■	■	■	■	■	■	■	■	
Total	**120**									
Year 2										
VETS2007 - Veterinary Urogenital Systems	30	■			■	■	■	■		
VETS2009 - Veterinary Professional Skills 2	20	■			■	■			■	■
VETS2011 - Veterinary Gastrointestinal Systems	40	■			■	■		■	■	
VETS2013 - Veterinary Endocrine and Integument Systems	30	■			■	■		■		
Extra Mural Studies	0	■	■	■	■	■	■	■	■	
Total	**120**									
Year 3										
VETS3004 – Veterinary Public Health	20	■		■				■		
VETS3007 - Veterinary Professional Skills 3	30	■	■	■	■	■			■	
VETS3008 - Veterinary Research Project	30								■	■
VETS3009 – Fundamentals of Clinical Practice	40	■	■	■	■	■	■	■	■	
Extra Mural Studies	0	■	■	■	■	■	■	■	■	■
Total	**120**									
Year 4										
VETS4001 - Veterinary Cardiorespiratory System 2	30	■	■	■	■	■	■	■		
VETS4002 - Veterinary Gastrointestinal System 2	30	■	■		■	■	■	■		
VETS4003 - Veterinary Neuroscience 2	10	■	■	■	■	■	■	■		
VETS4004 - Veterinary Personal and Professional Skills 4	10								■	
VETS4005 - Veterinary Musculoskeletal System 2	30	■	■	■	■	■	■	■		
VETS4006 - Veterinary Reproduction 2	30	■	■	■	■	■	■	■		
VETS4007 - Veterinary Urinary System 2	10	■	■		■	■	■			
VETS4009 - Lymphoreticular Cell Biology 2	10	■	■		■	■	■	■		
VETS4014 - Veterinary Endocrine and	20	■	■		■	■	■	■	■	

Integument System 2										
Extra Mural Studies	0									
Total	**180**									
Year 5										
VETS5001 - Veterinary Personal and Professional Skills	35									
VETS5002 - Veterinary Clinical Practice: Equine	40									
VETS5003 - Veterinary Clinical Practice: Farm and Veterinary Public Health	50									
VETS5004 - D15SMA Veterinary Clinical Practice: Small Animal	55									
TRACK – Small Animal										
TRACK – Equine										
TRACK - Farm										
TRACK – Exotics										
TRACK – Mixed										
TRACK – Veterinary Public Health										
Extra Mural Studies										
	180									

Competency domains:

1. Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management
2. Comprehensive treatment planning including patient referral when indicated
3. Anesthesia and pain management, patient welfare
4. Basic surgery skills and case management
5. Basic medicine skills and case management
6. Emergency and intensive care case management
7. Understanding of health promotion, and biosecurity, prevention and control of disease including zoonoses and principles of food safety
8. Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care
9. Critical analysis of new information and research findings relevant to veterinary medicine.

Appendix 9.3 Distribution of essential elements as listed in Standard 9 to modules

Module	Credits	Central biological principles	Normal and pathologic function	Theory and practice of medicine	Epidemiology, zoonoses and Public Health	Communication and information gathering	Professional principles and business	Diversity, inclusion and bias	Health in changing society
Year 1									
VETS1007 - Circulatory and Respiratory Systems	40	■	■	■				■	
VETS1008 - Animal Health and Welfare	20		■		■				
VETS1009 - Neuromuscular System	40	■	■	■					
VETS1010 - Veterinary Professional Skills 1	20			■		■	■	■	■
Extra Mural Studies	0			■	■	■	■	■	■
Total	**120**								
Year 2									
VETS2007 - Veterinary Urogenital Systems	30	■	■	■					
VETS2009 - Veterinary Professional Skills 2	20			■		■	■	■	■
VETS2011 - Veterinary Gastrointestinal Systems	40	■	■	■	■			■	
VETS2013 - Veterinary Endocrine and Integument Systems	30	■	■	■	■				
Extra Mural Studies				■	■	■	■	■	■
Total	**120**								
Year 3									
VETS3004 – Veterinary Public Health	20	■	■		■		■	■	
VETS3007 - Veterinary Professional Skills 3	30			■		■	■	■	■
VETS3008 - Veterinary Research Project	30	■	■	■	■	■	■	■	■
VETS3009 – Fundamentals of Clinical Practice	40	■	■	■					
Extra Mural Studies				■	■	■	■	■	■
Total	**120**								
Year 4									
VETS4001 - Veterinary Cardiorespiratory System 2	30		■	■	■	■	■		
VETS4002 - Veterinary Gastrointestinal System 2	30		■	■	■	■	■		
VETS4003 - Veterinary Neuroscience 2	10		■	■	■	■	■		
VETS4004 - Veterinary Personal and Professional Skills 4	10						■		■
VETS4005 - Veterinary Musculoskeletal System 2	30		■	■	■	■	■		
VETS4006 - Veterinary Reproduction 2	30		■	■	■	■	■		
VETS4007 - Veterinary Urinary System 2	10		■	■	■	■	■		
VETS4009 - Lymphoreticular Cell Biology 2	10		■	■	■	■	■		
VETS4014 - Veterinary Endocrine and Integument System 2	20		■	■	■	■	■		
Extra Mural Studies	0			■	■	■	■	■	■
Total	**180**								

Year 5									
VETS5001 - Veterinary Personal and Professional Skills	35								
VETS5002 - Veterinary Clinical Practice: Equine	40								
VETS5003 - Veterinary Clinical Practice: Farm and Veterinary Public Health	50								
VETS5004 - D15SMA Veterinary Clinical Practice: Small Animal	55								
TRACK – Small Animal									
TRACK – Equine									
TRACK - Farm									
TRACK – Exotics									
TRACK – Mixed									
TRACK – Veterinary Public Health									
Extra Mural Studies									

Standard 9 Essential elements

1. An understanding of the central biological principles and mechanisms that underlie animal health and disease from the molecular and cellular level to organismal and population manifestations.
2. Scientific, discipline-based instruction in an orderly and concise manner so that students gain an understanding of normal function, homeostasis, pathophysiology, mechanisms of health/disease, and the natural history and manifestations of important animal diseases, both domestic and foreign.
3. Instruction in both the theory and practice of medicine and surgery applicable to a broad range of species. The instruction must include principles and hands-on experiences in physical and laboratory diagnostic methods and interpretation (including diagnostic imaging, diagnostic pathology, and necropsy), disease prevention, biosecurity, therapeutic intervention (including surgery and dentistry), and patient management and care (including intensive care, emergency medicine and isolation procedures) involving clinical diseases of individual animals and populations. Instruction should emphasize problem solving that results in making and applying medical judgments.
4. Instruction in the principles of epidemiology, zoonoses, food safety, the interrelationship of animals and the environment, and the contribution of the veterinarian to the overall public and professional healthcare teams.
5. Opportunities for students to learn how to acquire information from clients (e.g. history) and about patients (e.g. medical records), to obtain, store and retrieve such information, and to communicate effectively with clients and colleagues.
6. Opportunities throughout the curriculum for students to gain an understanding of professional ethical, legal, economic, and regulatory principles related to the delivery of veterinary medical services, personal and business finance and management skills; and gain an understanding of the breadth of veterinary medicine, career opportunities and other information about the profession.
7. Opportunities throughout the curriculum for students to gain and integrate an understanding of the important influences of diversity and inclusion in veterinary medicine, including the impact of implicit bias related to an individual's personal circumstance on the delivery of veterinary medical services.
8. Knowledge, skills, values, attitudes, aptitudes and behaviors necessary to address responsibly the health and well-being of animals in the context of ever-changing societal expectations.

Appendix 9.4 Curriculum Digest

The School does not use terms or semesters; please refer to the curriculum timetable in section 9.1 for position within the academic year.

VETS1009 - Neuromuscular System	**Credits: 40**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	52	83
Tutorials/seminars/PBL	67	338
Online and other	0	4
Labs and supervised practical	58	537
Clinical work	29	
Total	**206**	**962**

Content	• Structure and function of the neuromuscular system in common domestic animals, and other selected species • Development of the neuromuscular system • Adaptation of the neuromuscular system in different species • Examination and diagnostic techniques used in evaluation of the neuromuscular system • An introduction to clinical neurology and the study of animal behaviour
Learning Outcomes	a. Knowledge and understanding: • Gross, histological and developmental anatomy, physiology, species adaptation, biomechanics, tissue biology, pharmacological manipulations, pain, behaviour, and investigative techniques including imaging modalities used for the neuromuscular system. Students should be able to demonstrate practical animal handling skills and to carry out neurological examinations, and musculoskeletal examinations. b. Intellectual skills: • The ability to integrate information from skeletal models, dissected specimens, and different imaging modalities and relate these to the live animal • The ability to explain underlying pathophysiology on the basis of an understanding of the integrated normal physiology of the musculoskeletal and nervous system. c. Professional practical skills: • Practical animal handling skills, basic surgical and dissection skills • The correct use of anatomical nomenclature and terminology • The ability to perform neuromuscular examination (including clinical examination, appropriate imaging techniques and microscopy of structures) • The ability to carry out neurological examination d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management • Use of the library and other resources for self-directed learning • The ability to integrate information obtained in lectures and from private study in order to be able to solve problems
Assessment	Short answer, Single Best Answer

VETS1007 - Circulatory and Respiratory Systems	**Credits: 40**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	44	81
Tutorials/seminars/PBL	56	214
Online and other	0	0
Labs and supervised practical	37	214
Clinical work	19	
Total	**156**	**509**

Content	• Structure and function of the cardiovascular, respiratory and lymphoreticular

	systems • Basic introduction to Microbiology • Basic introduction to haematology and immunology • Development of the cardiovascular and respiratory systems • Regulation and adaptation of the cardiovascular and respiratory systems • Methods for clinical evaluation of the cardiovascular and respiratory systems
Learning Outcomes	a. Knowledge and understanding: • the main components and functional anatomy of the cardiovascular, respiratory and lymphatic systems including their role and integration with other systems. • The development of the cardiovascular, respiratory and lymphatic systems • Cardiac and respiratory function, including regulation • The role of the respiratory system in acid-base balance • Differences between prokaryotic and eukaryotic cells especially in the context of the action of antimicrobials • Basic principles of erythropoiesis and haemostasis • Diagnostic tests of anaemia and haemostatic disorders • The physiology of red blood gas transport • The effects of exercise, haemorrhage, shock and the effects of environmental extremes on cardiorespiratory function. • The role of the cardiovascular system in fluid balance • The lifecycles of pulmonary and cardiovascular parasites • The structure and action of bacteria, fungi and viruses • The interaction between bacteria/viruses and the respiratory tract • The structure and function of cytokines and their role in inflammatory response • Basic principles of immunology b. Intellectual skills: • An ability to identify potential sites for pharmacological intervention of the lymphatic, cardiovascular and respiratory systems • The use of different methods for investigation of lymphatic, cardiovascular and respiratory function • Ability to interpret results from laboratory haematological, microbiological and immunological tests c. Professional Practical Skills: • Clinical examination of the cardiovascular, lymphatic and respiratory systems • Practical animal handling skills, basic clinical and surgical skills • The use of correct scientific terminology and anatomical nomenclature • An ability to perform basic lab based procedures and microbiological techniques and ELISA d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability
Assessment	Short answer, Single Best Answer

VETS1008 - Animal Health and Welfare	**Credits: 20**	**Long module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	19	25
Tutorials/seminars/PBL	12	12
Online and other	0	0
Labs and supervised practical	21	273
Clinical work	0	
Total	**52**	**320**

Content	• Animal health and husbandry • Animal handling

	• Housing and animal environments • Animal industries and / or the role of the different species in the society • Legislation and regulatory bodies • Throughout the module the following species will be considered: o Dogs and cats o Small mammals o Exotic animals o Horses o Cattle o Small ruminants (including sheep, goats and deer) o Camelids o Pigs o Poultry o Fish o Wildlife
Learning Outcomes	a. Knowledge and understanding: • The principles of animal health and husbandry • Legislation relating to the keeping of animals • Animal industries and the role of the different species in society b. Intellectual skills: • Critical appraisal of housing and husbandry systems • Extrapolation and transfer of knowledge of husbandry to unfamiliar species c. Professional practical skills: • Animal handling skills • An ability to assess animal housing and environments d. Transferable (key) skills: • An ability to work in small groups • An ability to extrapolate knowledge between differing species and areas of knowledge
Assessment	Short answer, Single Best Answer. AHDOPS

VETS1010 - Veterinary Professional Skills 1	**Credits:20**	**Long module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	10	56
Tutorials/seminars/PBL	13	72
Online and other	10	0
Labs and supervised practical	7	127
Clinical work	3	
Total	**44**	**255**

Content	• Professional conduct and the veterinary profession • Methods of learning, study and assessment • Use of learning resources • Problem solving skills • Communication skills • Time and stress management • Basic clinical exam, surgical and emergency practical skills
Learning Outcomes	a. Knowledge and Understanding • Methods of learning, study and assessment • Basic animal first aid and the approach to performing physical examination b. Intellectual skills • An ability to search for and utilise different learning resources • Learning and study techniques which promote life-long learning c. Professional practice skills • An understanding of the professional role of the Veterinary Surgeon and their role in wider society • A professional attitude and a high standard of professional behaviour

	• Problem solving and decision making skills d. Reflective skills • An understanding of personal strategies to build resilience and cope with the demands of the course • Development and maintenance of a personal portfolio
Assessment	Portfolio

VETS2011 - Veterinary Gastrointestinal Systems	**Credits:40**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	56	92
Tutorials/seminars/PBL	50	180
Online and other	0	10
Labs and supervised practical	16	300
Clinical work	6	
Total	**130**	**581**

Content	• Structure and function of the gastrointestinal system and body wall • Development of the gastrointestinal system • Regulation and adaptation of the gastrointestinal system • Digestion and metabolism • Pharmacology of the gastrointestinal system • Microbiology and parasitology of the gastrointestinal system • Methods for clinical evaluation of the gastrointestinal system • Nutrient utilisation • Animal nutrition
Learning Outcomes	a. Knowledge and understanding: • The main components of the gastrointestinal system including their role and integration with other systems. • The functional and topographical anatomy of the gastrointestinal tract and the abdomen, including an understanding of their integration with other systems. • The topographical anatomy of the body wall • The development of the gastrointestinal systems, including common developmental abnormalities. • The processes of digestion and metabolism of carbohydrates, lipids and proteins. • The regulation and control of digestion and metabolism. • The physiological adaptations and changes that occur during digestion and metabolism. • The roles of vitamins, trace elements and other key feed components in nutrition. • The adaptations of the gastrointestinal tract in different species – in particular ruminant herbivores and aves. • The major concepts of gastrointestinal microbiology and parasitology and discuss specific key organisms and life cycles. • Methods of investigating and imaging the gastrointestinal system. • Performing and interpreting simple laboratory techniques that evaluate the gastrointestinal system and associated organisms. • Developing the major concepts of hepatic and other toxicoses b. Intellectual skills: • An ability to explain the role of the gastrointestinal system in digestion. • An ability to recognise the main features of the gastrointestinal system on gross and histological specimens, and images. • An ability to assess normal and abnormal gastrointestinal function in domestic animal species. • An ability to identify potential sites for pharmacological intervention of the gastrointestinal system. c. Professional practical skills: • Clinical examination of the gastrointestinal system, including the oral cavity. • Practical animal handling skills, basic surgical and dissection skills. • Correct use of anatomical nomenclature and terminology.

	• Use of different methods for investigation of gastrointestinal function, including biopsy, endoscopy, radiography, clinical biochemistry and faecal analysis. • Examination techniques for faeces components. • Examination techniques for gastrointestinal parasites. d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability • Multi-tasking, including time and resource management
Assessment	Short answer, Single Best Answer and OSPE

VETS2007 - Veterinary Urogenital Systems	**Credits:30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	53	82
Tutorials/seminars/PBL	50	165
Online and other	2	0
Labs and supervised practical	28	408
Clinical work	14	
Total	**145**	**655**

Content	• Development of the urogenital system; • Structure and function of the male and female reproductive system; • Structure and function of the urinary system; • Spermatogenesis, oogenesis and embryo development; • The reproductive cycle and its hormones; • Manipulation of the reproductive system in different animals; • Pregnancy and placental function in different animals; • The mammary gland and lactation; • Genetics of reproduction; • Regulation and adaptation of the urinary system; • Methods for clinical evaluation of the urinary system
Learning Outcomes	a. Knowledge and understanding: • The structure and function of the male reproductive system • The structure and function of the female reproductive system • Manipulation of the reproduction system in different animals • The development of the urinary and reproductive system • The main components of the urinary system; their role and integration with other body systems. • The functional and topographical anatomy of the urinary tract, and how it integrates with other systems. • Renal physiology and the neuronal and chemical control of urine production and micturition • The laboratory investigations used for evaluation of renal function and damage b. Intellectual skills: • Critical appraisal of normal reproductive function in common species • An ability to evaluate differences in reproductive function between species • An ability to recognise common reproductive problems and indications for intervention • An ability to explain the role of the kidneys in the control of systemic blood pressure • An ability to explain how abnormalities of fluid, acid-base and electrolyte balance occur • How to assess renal function in domestic animal species • How the normal renal function can be compromised and the affects this has on the animal. • An ability to identify potential sites for pharmacological manipulation of both renal and bladder function c. Professional practical skills:

	• Clinical examination of the male and female reproductive systems • An ability to correct simple abnormalities of fetal orientation • An ability to recognise the main features of the urinary and reproductive systems on gross and histological specimens, and radiographic and ultrasonographic images • Different methods for investigation of renal function • An ability to evaluate fluid and electrolyte requirements in the adult and neonate • An ability to critically evaluate options for fluid replacement therapy • Practical animal handling skills, basic surgical and dissection skills • Correct use of anatomical nomenclature and terminology d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management
Assessment	Short answer, Single Best Answer and OSPE

VETS2013 - Veterinary Endocrine and Integument Systems	**Credits:30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	45	64
Tutorials/seminars/PBL	28	80
Online and other		2
Labs and supervised practical	27	151
Clinical work	14	
Total	**113**	**296**

Content	• Basic anatomy, physiology and pharmacology of the endocrine and integument systems including aspects of histology, gross anatomy, function and an introduction to clinical dermatology • It will include the non-reproductive endocrine system in particular the pituitary, adrenal and thyroid glands and the endocrine pancreas, and ectoparasitology, microbiology and cytology • Self-Directed Learning, Practical and Clinical Relevance sessions will address specific questions on functional/clinical issues and anatomy and histology
Learning Outcomes	a. Knowledge and understanding: • Embryological development, the location, structure and principal roles of the pituitary, adrenal, thyroid and parathyroid gland and endocrine pancreas • The concept of an endocrine axis • Positive and negative feedback control systems • How the normal function of the various endocrine glands can be compromised and the effects these have • The structure and function of the different components of the integumentary system • Normal processes of repair and healing of skin, and its application to wound management • The role of the endocrine system and the nutrition in relation to integument structure and function • Simple laboratory techniques that are used in the diagnosis of endocrine and integument disorders • Common dermatological abnormalities • The basic taxonomy and biology of common ectoparasites • The veterinary significance of common ectoparasites, and the importance of a knowledge of the cycle in their control b. Intellectual skills: • Recognition of the main features of the endocrine system on gross and histological specimens, and understand how they may be identified using radiographic and other images • The ability to explain underlying pathophysiology on the basis of an understanding of the integrated normal physiology • How the function of different endocrine glands can be assessed • The importance of the normal cutaneous microbial flora, the immune system, nutrition, and the endocrine system in normal and diseased integument

	c. Professional practical skills: • Ability to analyse and interpret numerical experimental data and clinical data • Ability to discuss the importance of history-taking in the investigation of skin disorders • Ability to perform an examination of the skin and carry out basic diagnostic tests useful in the investigation of skin disease d. Transferable (key) skills: • Learning and study techniques which promote life-long learning. • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management • The ability to integrate information obtained in lectures and from private study in order to be able to solve simple problems. • Use of library and other resources for self-directed learning • Effective use of opportunities for self-directed and independent learning
Assessment	Short answer, Single Best Answer and OSPE

VETS2009 - Veterinary Professional Skills 2	**Credits:20**	**Long module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	6	25
Tutorials/seminars/PBL	12	59
Online and other	10	0
Labs and supervised practical	11	321
Clinical work	5	
Total	**44**	**404**

Content	• Methods of learning, study and assessment • Critical appraisal • Communication skills • Professional conduct • Ethical problems and theories • Introduction to research • Animal law and applied animal behaviour
Learning Outcomes	a. Knowledge and understanding: • Principles of diagnostic imaging • Basic clinical examination • Principles of critical review and scientific communication • Methods of learning, study and assessment • Ethical decision making with reference to the RCVS Guide to Professional Conduct b. Intellectual skills: • Taking a clinical history • An application of the principles and methods of critical appraisal • Selecting and interpreting different diagnostic imaging modalities • Demonstrating effective approaches to ethical decision making • An application of the principles of applied animal behaviour c. Professional practical skills: • The ability to communicate effectively with members of the public • Clinical examination skills • Practical diagnostic imaging • An approach to interpreting and presenting ethical problems d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • Maintaining a personal portfolio • Ability to write a scientific report/review • Verbal and non-verbal communication • Useful and effective feedback • Critical appraisal skills • Ethical decision making and confidentiality • Working effectively in a team

Assessment	Portfolio, OSPE

VETS3002 - Veterinary Research Project (note being replaced by a Research module in 22/23)	**Credits:30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	7	0
Tutorials/seminars/PBL	0	0
Online and other	180	1440
Labs and supervised practical	1	0
Clinical work		0
Total	**188**	**1440**

Content	The module enables students to experience contemporary research methods by requiring them to design a research programme and perform experiments, surveys, or other research activities aimed at solving a specific veterinary problem. They will collect, analyse and interpret data, read and collate previous information and results relevant to their problem, write a clear and concise report. The form of project may vary and it may be based on laboratory work, audit, experimental or observational studies or an extended literature review. This module also considers: • The basis of how biologists formulate hypotheses, make predictions based on these hypotheses, and conduct experiments to test these predictions • Introduction to the importance of laboratory and field research and evidence based veterinary medicine
Learning Outcomes	a. Knowledge and Understanding • A practical understanding of how established methods of research are used to interpret knowledge in veterinary medicine and science. • The relevance of research to the research active clinician and evidence based clinical veterinary practice • The importance of scientific rigour in testing a hypothesis and drawing conclusions • The difference between qualitative and quantitative research • A comprehensive understanding of the techniques applicable to their own research. • If appropriate to the project, ethical constraints for research and procedures for gaining ethical approval for research projects. • If appropriate to the project, relevance, use and interpretation of statistical data. • Ability to explain and discuss critically the background, approach and outcomes of the project. • Knowledge of contemporary research and theory in the chosen areas of veterinary science. b. Intellectual Skills • Development of critical, analytical skills, creative thinking. • Ability to design and conduct an extended research, or related project. • Demonstration of competence in technical, laboratory, recording, organisation, data handling, research appraisal or other skills appropriate to the project. • Critical analysis of research literature. • Ability to produce and interpret simple statistics. • The optimum design of qualitative and quantitative research projects • The realisation why ethical reflection is important for veterinary surgeons c. Professional Practical Skills • Systematically assemble relevant printed and electronic material related to specific area of veterinary science. • Synthesise the material, identifying key points for evidence-based actions. • Describe and evaluate research and theory in chosen areas of veterinary medicine/science. • Produce a coherent written report of the project which includes: a critical review of background literature; a clear account of the approach, rationale and methods used; appropriate analysis and interpretation of the results or outcomes; and conclusions drawn from the results or outcomes. • Make critically informed judgements about the merits of the evidence generated.

	• Produce an oral presentation of their work, including background, methods, results, summary. • An ability to undertake literature reviews and use reference management system. d. Transferable Skills • Learning and study techniques which promote life-long learning • An ability to search for, select and use information for problem-solving and decision-making • Knowledge of the principals required to become a research active clinician • Progress in their ability to write and edit scientific prose • Communication skills: writing, presentation, discussion • Development of the ability to assimilate information that will be of value for future clinical practice • Development of the ability to critically analyse scientific literature • Time and resource management, attitudes and behaviour • Application to self-directed learning • Rigour in record/data keeping
Assessment	Research dissertation, supervisor assessment

VETS3001 - Fundamentals of Clinical Practice	**Credits:40**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	90	166
Tutorials/seminars/PBL	82	144
Online and other		
Labs and supervised practical		578
Clinical work	86	
Total	**258**	**888**

Content	This module considers: • Basic Surgical Techniques – application of knowledge to clinical scenarios and clinical skills. • Anaesthesia and Analgesia – pharmacology and challenges of different species and clinical scenarios. • Emergency and Critical Care and Pharmacology – fundamentals and clinical application. • Pathology • Diagnostic Imaging • Host Disease Interaction. • Principles of urogenital disease. • Principles of Infectious Disease and Dermatology.
Learning outcomes	a. Knowledge and understanding: • Basic Surgical Techniques – application of knowledge to clinical scenarios and clinical skills. • Anaesthesia and Analgesia – pharmacology and challenges of different species and clinical scenarios • Emergency and Critical Care and Pharmacology – fundamentals and clinical application • Pathology • Diagnostic Imaging • Host Disease Interaction • Principles of urogenital disease • Principles of Infectious Disease and Dermatology b. Intellectual skills: • An ability to search for and utilise different learning resources • Learning and study techniques which promote life-long learning • Application of knowledge to a wide variety of basic clinical scenariosPathology c. Professional practical skills: • An understanding of the professional role of the Veterinary Surgeon in prescribing and their role in wider society • Problem solving and decision-making skills • Basic Clinical Skills

	d. Transferable Skills • Reflective skills • An understanding of personal strategies to build resilience and cope with the demands of the course • Time management
Assessment	Single Best Answer

VETS3004 - Veterinary Public Health	**Credits:20**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	22	31
Tutorials/seminars/PBL	12	55
Online and other	0	2
Labs and supervised practical	7	24
Clinical work	7	
Total	**47**	**111**

Content	• Integrates principles and concepts of population medicine, veterinary epidemiology, disease management and surveillance, including zoonotic, notifiable, reportable and transboundary diseases, within an understanding of the legislation and enforcement agencies. • Describes the red meat food chains of beef, lamb and pork: farm, transport, ante mortem, slaughter and post mortem inspection, waste management and the scientific basis of legislative control. • Describes the white meat food chain of poultry production: farm to slaughter, meat inspection and the scientific basis of legislative control. • Explains public health issues relating to other food sources (eggs, fish, game and honey). • Covers a working knowledge of food sciences, including food technology, preservation and processing, and environmental and economic issues in veterinary public health. • Describes how to understand and apply principles of risk analysis to veterinary public health. • Describes how to use hazard analysis critical control points (HACCP) in veterinary public health. • Emphasizes the importance of animal health and welfare in the production of food for human consumption and slaughter practices. • Describes the legislative framework around veterinary public health in the UK and the European Union
Learning Outcomes	a. Knowledge and understanding: • The principles of food safety and assurance and how toxins and organisms may be introduced into the food supply chain and cause illness and intoxication. • The relationship between microbial physiology and food preservation techniques. • The role of producers, retailers and consumers in control of food-borne disease from meat and meat products; egg and egg products; the controls necessary and how they are applied and the importance of the microbiological status of the food ingredients. • The process of hygienically converting live food producing animals to red and white meat taking note of welfare and the methods of slaughter. • The public health issues relating to other food sources (eggs, fish, game and honey). • The methods of humane slaughter, the safe use of devices and firearms legislation. • The integration of the principles and concepts of population medicine and veterinary epidemiology, and the management and surveillance of diseases, including zoonotic, transboundary and notifiable diseases, and put into context an understanding of the legislation and enforcement agencies. • The environmental and economic impacts of veterinary public health activities. • The importance of verification, inspection and auditing along the food chain as part of longitudinal integrated food safety and assurance in veterinary public health. b. Intellectual skills:

	• An understanding of the relationship between animal health and human health. • The concept of HACCP analysis and the production of safe food from animals by applying the principles of risk assessment to all stages of production. • An understanding of the role of quantitative microbiology in assessment of food safety. c. Professional practical skills: • The ante and post-mortem inspection of food-producing animals and suitable actions taken if these are inappropriate. • The inspection points and duties of meat inspectors. • The general principles of design and construction of red and white meat plants, the disposal of by-products and waste and the handling and disposal of unfit meat and Specified Risk Material. d. Transferable (key) skills: • Learning and study techniques which promote life-long learning. • Ability to search for, select and use information for problem-solving and decision-making. • Interpersonal skills and team-working ability. • Multi-tasking ability, including time and resource management. • To use library and other resources for self-directed learning. • The ability to integrate information obtained in lectures and from private study in order to be able to solve simple problems.
Assessment	Clinical reasoning exam, Single Best Answer

VETS3005 - Veterinary Professional Skills 3	**Credits:30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	40	60
Tutorials/seminars/PBL	53	74
Online and other		
Labs and supervised practical	32	132
Clinical work	16	
Total	**141**	**266**

Content	• Veterinary working relationships, team working • Communication and Consultation Skills • Business management • Business entrepreneurship • Role of the RCVS (Royal College of Veterinary Surgeons) and VDS (Veterinary Defence Society), BVA & its divisions • Veterinary career opportunities
Learning Outcomes	a. Knowledge and understanding: • Consultation process and communication skills and theories • Marketing, entrepreneurship and business and practice management • What clinical governance is, what quality improvement is, and the methods of clinical audit • The Veterinary Surgeons Act • The principle of certification • The roles and abilities of Paraprofessionals b. Intellectual skills: • Understanding of working with and management of professional teams • The ability to analyse and develop veterinary business and operations • Elementary clinical decision making c. Professional practical skills: • An understanding of the ethical, legal and professional responsibilities required of a veterinary surgeon. • An understanding of the structure of the veterinary professional, animal care industry and potential career options, including the work of paraprofessionals, charities, governmental bodies and functions, and the RCVS • The ability to undertake the "history taking" and other communication aspects of a consultation • An understanding of the content and relevance of the Code of Professional Conduct • Business and management and entrepreneurial skills applicable to veterinary

	practice management • The ability to carry out clinical audits d. Transferable (key) skills: • Effective communication with clients, and with colleagues both in the veterinary profession and in other disciplines • The ability to cope with uncertainty and the ability to adapt to change whilst recognising personal limitations. A capability to source advice, support and protocols • The ability to construct a CV and interview skills • The ability to search for, select and use information for problem solving and decision making • Appropriate interpersonal and team working ability
Assessment	Business Plan and Portfolio

VETS4014 - Veterinary Endocrine and Integument System 2	**Credits: 20**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	28	36
Tutorials/seminars/PBL	29	64
Online and other	0	6
Labs and supervised practical	6	89
Clinical work	18	
Total	**81**	**194**

Content	• Causes, presentation, diagnosis and management of diseases of the endocrine and integument systems in the common domesticated species, with particular reference to diseases of the pituitary, adrenal, thyroid and parathyroid glands and the endocrine pancreas • The module also discusses the causes, presentations, diagnosis and management of disease of the skin and related structures such as hair, hoof, horn and claw in the common domesticated species. • Self-Directed Learning, Practical and Clinical Relevance sessions will address specific clinical issues and presentations
Learning Outcomes	a. Knowledge and understanding: • The aetiology and pathology of common endocrine and dermatological disorders • The typical clinical presentation of common endocrine and dermatological abnormalities • Selective differential diagnoses for endocrine and dermatological disease, based on clinical findings • Diagnostic tests for investigation of endocrine and dermatological disorders • Medical and surgical options for common disorders of the endocrine and integumentary systems • The approach to and management of conditions affecting the large animal digit and horn b. Intellectual skills: • The ability to explain underlying pathology on the basis of an understanding of the integrated normal physiology • The ability to develop differential diagnoses for common endocrine and dermatological clinical presentations (alopecia, pruritus, erythema, crusting, scaling and masses) • Selection of the most appropriate diagnostic tests and formulate a diagnostic plan for investigation of endocrine and dermatological disorders • Problem-solving skills to develop an approach to less common disorders • Critical assessment of corporate marketing material produced to support sales of therapies for endocrine conditions c. Professional practical skills: • The importance of history-taking in the investigation of skin disorders • The ability to associate physical examination findings with endocrine and dermatological disorders • Basic diagnostic tests useful in the investigation of skin disease • The ability to analyse and interpret clinical and laboratory data • The ability to develop a therapeutic plan for endocrine and dermatological disease,

	including prevention, animal husbandry, complications of treatment, owner advice and guidance, and prognosis d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • Working effectively singly and in groups to fulfil problem-solving requirement workshop sessions • The ability to demonstrate effective use of opportunities for self-directed and independent learning • The ability to search for, select and use information for problem-solving and decision-making • Appropriate interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management • The ability to use library and other resources for self-directed learning • The ability to integrate information obtained in lectures and from private study in order to be able to solve simple problems.
Assessment	Clinical reasoning, Single Best Answer

VETS4003 - Veterinary Neuroscience 2	**Credits: 10**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	31	79
Tutorials/seminars/PBL	16	44
Online and other	0	0
Labs and supervised practical	0	6
Clinical work	0	
Total	**47**	**129**

Content	• Causes, presentation, diagnosis and management of disease of the neurological system in the common domesticated species • Self-Directed Learning, Practical and Clinical Relevance sessions will address specific clinical issues and presentations
Learning Outcomes	a. Knowledge and understanding: • The aetiology and pathology of common veterinary neurological disorders • The clinical approach to neurological disease in an animal or group of animals, including examination techniques and localisation of lesions • Selective differential diagnoses for neurological disease based on clinical findings and lesion localisation • The most appropriate diagnostic tests and the ability to formulate a diagnostic plan for investigation of neurological disorders • Medical and surgical options for common disorders of the nervous system • The aetiology and pathology of diseases of the special senses • A clinical approach to ophthalmic disease, including clinical and further diagnostic investigations • Medical and surgical options for common disorders of the special senses b. Intellectual skills: • The ability to relate anatomical information to the live animal • The ability to formulate therapeutic plans for neurological disease, including owner advice and guidance, and prognosis • The ability to explain underlying pathophysiology on the basis of an understanding of the integrated normal physiology c. Professional practical skills: • The ability to perform neurological examination • Analysis and interpretation of numerical experimental data and clinical data • Discussing the importance of history-taking and neurological examination in the investigation of neurological disorders d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • Working effectively singly and in groups to fulfil problem-solving requirement workshop sessions • Problem-solving skills • Use of the library and other resources for self-directed learning

	• Appropriate interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management • The ability to integrate information obtained in lectures and from private study in order to be able to solve simple problems
Assessment	Clinical reasoning, Single Best Answer

VETS4009 - Lymphoreticular Cell Biology 2	**Credits: 10**	**Block module**
Instructional methods	**Student hours**	**Staff hours**
Lectures	13	14
Tutorials/seminars/PBL	10	16
Online and other	0	3
Labs and supervised practical	1	26
Clinical work	4	
Total	**28**	**59**

Content	• Aetiology and pathology of diseases of the lymphoreticular and haemopoetic systems • Clinical signs and diagnosis of diseases of the lymphoreticular and haemopoetic systems • Medical and surgical management of diseases of the lymphoreticular systems
Learning Outcomes	a. Knowledge and understanding: • Basic principles of abnormalities of anatomy and cell structure of the lymphoid and haemopoetic tissues and the blood • Basic principles of immune-mediated diseases of the lymphoid and haemopoetic tissues and the blood b. Intellectual skills: • The ability to interpret results from laboratory haematological tests c. Professional practical skills: • The ability to recognise abnormalities of cells and tissues • d. Transferable (key) skills: • The ability to search for, select and use information for problem-solving and decision-making • Working in small groups
Assessment	Clinical reasoning, Single Best Answer

VETS4004 - Veterinary Personal and Professional Skills 4	**Credits: 10**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	21	16
Tutorials/seminars/PBL	10	65
Online and other	13	0
Labs and supervised practical	5	
Clinical work	14	
Total	**63**	**80**

Content	• Veterinary working relationships • Business management • Business entrepreneurship • Role of the RCVS (Royal College of Veterinary Surgeons) and VDS (Veterinary Defence Society), BVA & its divisions • Veterinary career opportunities
Learning Outcomes	a. Knowledge and understanding: • Marketing, entrepreneurship and business and practice management • Methods of clinical audit • The Veterinary Surgeons Act b. Intellectual skills: • Understanding of working with and management of professional teams • The ability to analyse and develop veterinary business and operations c. Professional practical skills:

	• At the end of this module the student should be able to demonstrate: • An understanding of the ethical, legal and professional responsibilities required of a veterinary surgeon • An understanding of the structure of the veterinary industry and potential career options, including the work of paraprofessionals, charities, governmental bodies and functions, and the RCVS • Business and management and entrepreneurial skills applicable to veterinary practice management • The ability to carry out clinical audit d. Transferable (key) skills: • Effective communication with clients and with colleagues both in the veterinary profession and in other disciplines • The ability to cope with uncertainty and the ability to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols • The ability to construct a CV and interview skills
Assessment	Business plan, Portfolio, Open book examination

VETS4005 - Veterinary Musculoskeletal System 2	**Credits: 30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	37	42
Tutorials/seminars/PBL	41	99
Online and other	0	0
Labs and supervised practical	4	160
Clinical work	12	
Total	**94**	**300**

Content	• Aetiology, pathology, clinical signs and diagnosis of diseases of the musculoskeletal system • Medical and surgical management of diseases of the musculoskeletal systems
Learning Outcomes	a. Knowledge and understanding: • Aetiology, pathology, clinical signs, diagnostic techniques, medical and surgical treatments and management and prevention of common musculoskeletal diseases b. Intellectual skills: • The ability to integrate various clinical information including physical examination, laboratory and diagnostic tests, surgical and post mortem findings to diagnose musculoskeletal disease c. Professional practical skills: • Practical animal handling skills, surgical and pathology skills • The ability to perform musculoskeletal examination (including clinical examination, radiology, gross and histopathology) d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Interpersonal skills and team-working ability • Communication skills • Multi-tasking ability, including time and resource management
Assessment	Clinical Reasoning, Single Best Answer

VETS4002 - Veterinary Gastrointestinal System 2	**Credits: 30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	55	55
Tutorials/seminars/PBL	46	117
Online and other	0	0
Labs and supervised practical	6	185
Clinical work	18	
Total	**124**	**356**

Content	• Aetiology and pathology of diseases of the gastrointestinal system • Clinical signs and diagnosis of diseases of the gastrointestinal system • Medical and surgical treatment of diseases of the gastrointestinal system • Prevention of diseases of the gastro-intestinal system
Learning Outcomes	a. Knowledge and understanding: • The aetiology and pathology of common gastrointestinal, liver and exocrine pancreatic diseases • The pathological responses of the gastrointestinal systems (including diarrhoea, vomiting, tenesmus, wasting and acute abdomen) • The clinical and diagnostic approaches to gastrointestinal diseases in an animal or group of animals • Medical and surgical options for common gastrointestinal diseases • The approach to acute abdominal distress, including diagnosis and supportive treatment • Oral preventative care and routine dental procedures b. Intellectual skills: • The use knowledge of pathology to predict the manifestations, clinical signs, treatment options and prognosis of diseases • The ability to formulate selective differential diagnoses for common clinical presentations (including diarrhoea, vomiting, tenesmus, wasting and acute abdomen) • The ability to select the most appropriate diagnostic tests and formulate a diagnostic plan for investigation of gastrointestinal, liver and exocrine pancreas disease • The ability to discuss the diagnosis and treatment of common oral and dental diseases • The ability to recognise common gastrointestinal diseases and abnormalities • Use of problem-solving skills to develop an approach to less common gastrointestinal disease c. Professional practical skills: • The ability to formulate therapeutic plans for specific disorders, including prevention, animal husbandry, owner advice and guidance, and prognosis • The ability to perform gastrointestinal examinations (including clinical examination, diagnostic imaging (radiology and basic ultrasound) and microscopy of normal structures and interpret basic relevant laboratory tests. d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management
Assessment	Clinical Reasoning, Single Best Answer

VETS4001 - Veterinary Cardiorespiratory System 2	**Credits: 30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	35	44
Tutorials/seminars/PBL	25	47
Online and other	0	2
Labs and supervised practical	6	170
Clinical work	19	
Total	**85**	**263**

Content	• Aetiology and pathology of diseases of the cardiovascular and respiratory system • Clinical signs and diagnosis of diseases of the cardiovascular and respiratory system • Medical and surgical treatment of diseases of the cardiovascular and respiratory system
Learning Outcomes	a. Knowledge and understanding: • The aetiology and pathology of common cardiac and respiratory diseases • The clinical and diagnostic approach to cardiovascular and respiratory disease in an animal or group of animals • Medical and surgical options for common cardiovascular and respiratory diseases

	• The effects of anaesthesia on the cardiovascular and respiratory system • The approach to acute cardiovascular failure and respiratory distress b. Intellectual skills: • Knowledge of pathology to predict the manifestations, clinical signs, treatment options and prognosis of diseases • The ability to formulate selective differential diagnoses for common clinical presentations • The ability to select the most appropriate diagnostic tests and formulate a diagnostic plan for investigation of cardiovascular and respiratory disease • The ability to recognise common cardiovascular and respiratory diseases. • Use of problem-solving skills to develop an approach to less common cardiovascular diseases c. Professional practical skills: • The ability to formulate therapeutic plans for specific disorders • The ability to perform cardiovascular and respiratory tract examination d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management
Assessment	Clinical Reasoning, Single Best Answer

VETS4006 - Veterinary Reproduction 2	**Credits: 30**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	38	49
Tutorials/seminars/PBL	28	63
Online and other	1	2
Labs and supervised practical	4	99
Clinical work	13	
Total	**84**	**213**

Content	• Aetiology and pathology of diseases of the reproductive system • Clinical signs and diagnosis of diseases of the reproductive system • Medical and surgical treatment of diseases of the reproductive system • Artificial control of reproductive function
Learning Outcomes	a. Knowledge and understanding: • The aetiology and pathology of common reproductive disorders • The medical and surgical options for common disorders of the male and female reproductive system • The management of reproductive disorders in common species b. Intellectual skills: • The pharmacological and surgical control of reproductive function • The clinical and diagnostic approach to reproductive disorders • The ability to predict clinical signs, treatment options and disease prognosis • The ability to formulate a diagnostic plan for the investigation of reproductive disorders c. Professional practical skills: • Pregnancy diagnosis • Therapeutic plans for specific disorders • The selection of appropriate diagnostic tests d. Transferable (key) skills: • Working in small groups • Problem-solving and decision-making • Multi-tasking ability • Extrapolation of knowledge between species and veterinary disciplines
Assessment	Clinical Reasoning, Single Best Answer

VETS4007 - Veterinary Urinary System 2	**Credits: 10**	**Block module**
Instructional methods	**Student hours**	**Faculty hours**
Lectures	15	21
Tutorials/seminars/PBL	14	18
Online and other	0	2
Labs and supervised practical	2	36
Clinical work	5	
Total	**36**	**77**

Content	• Aetiology and pathology of diseases of the urinary system • Clinical signs and diagnosis of diseases of the urinary system • Medical and surgical treatment of diseases of the urinary system
Learning Outcomes	a. Knowledge and understanding: • Explain the aetiology and pathology of common urinary tract diseases • Describe the pathological response of the urinary tract (the kidneys, ureters, bladder and urethra) • Describe the clinical and diagnostic approach to urinary tract disease in an animal or group of animals • Describe medical and surgical options for common urinary tract diseases • Discuss the effects of anaesthesia on the urinary system • Describe the approach to acute renal failure, including initial management and supportive treatment b. Intellectual skills: • Use knowledge of pathology to predict the manifestations, clinical signs, treatment options and prognosis of diseases • Formulate selective differential diagnoses for common clinical presentations (dysuria, polyuria, haematuria) • Select the most appropriate diagnostic tests and formulate a diagnostic plan for investigation of urinary tract disease • Recognise common urinary tract diseases. • Use problem-solving skills to develop an approach to less common urinary tract diseases c. Professional practical skills: • Formulate therapeutic plans for specific disorders, including prevention, animal husbandry, owner advice and guidance, and prognosis • Perform urinary tract examination (including clinical examination, radiology, sampling techniques and microscopy of normal structures) d. Transferable (key) skills: • Learning and study techniques which promote life-long learning • The ability to search for, select and use information for problem-solving and decision-making • Interpersonal skills and team-working ability • Multi-tasking ability, including time and resource management
Assessment	Clinical Reasoning, Single Best Answer

VETS5002 - Veterinary Clinical Practice Equine	**Credits: 40**	**Rotations**		
Instructional methods	**Student hours**	**Faculty FTE**	**PG FTE**	**Clinical Associate FTE**
Lectures				
Tutorials/seminars/PBL				
Online and other				
Labs and supervised practical				
Clinical work	163	3.8	2.2	4.0
Total	**163**	**4.9**	**2.2**	**4.0**

Content	Apply and develop clinical knowledge and skills learnt in years 1 to 4 of the course; integrate body system knowledge into species based whole animal or population animal presentations of disease; enhance communication and personal skills and develop a deep ethic of professionalism. **Introduction (School)** The year 5 introductory week comprises health and safety briefings, information about each placement, assessments and systems as well as a review of some clinical topics including radiation safety, hand hygiene and clinical examination. In addition an introduction to the RCVS is included. This module is assumed to be related to each of the modules (0.03 FTE faculty) **Equine skills (SVMS)** The aim of this 2 week rotation is to provide students with a set of day one skills that are essential for omnicompetency consisting of case discussions, practicals and directed learning material, seminars and practical sessions cover surgery, anaesthesia, preventive healthcare, ophthalmology, internal medicine, podiatry, equine behaviour, imaging and clinical pathology. (1.4 FTE faculty) **Equine hospital practice and Equine ambulatory (Oakham Veterinary Hospital)** This 2 week rotation is based at Oakham Veterinary Hospital and consists of 1 week of ambulatory practice and 1 week of hospital medicine and surgery. The large caseload is first and second opinion cases and covers the evaluation and treatment of a range of working, racing and pleasure horses. The hospital caseload is extensive and varied including orthopaedic disease, investigation of poor performance, medical problems, predominantly cardiovascular, gastrointestinal, or neurological cases. (3.1 FTE faculty, 2.0 FTE PGs, 4.0 FTE CA) **Anatomic pathology (School)** This 2 week rotation covers aspects of gross and microscopic pathology of various species including farm animals, companion animals at the School's own pathology premises. Students will learn to conduct post mortem examinations, discuss cases and present written and verbal reports. Students also examine histological sections from selected cases of animal disease, review prepared case materials and take part in tutorial discussions. Note: relevant species are assessed in each of the 3 species modules (1.2 FTE faculty, 0.5 FTE PG effort in total).
Learning Outcomes	a. Knowledge and understanding: • Demonstrate knowledge and the application of veterinary pharmacology, pharmacy and toxicology • Understand normal physiology, the pathological basis and clinical manifestation of disease in common animal species • Understand the relationship between animal health and human health, processes within the food industry, zoonotic disease and public health and associated legal and ethical implications • Demonstrate a knowledge of the principles of surgical techniques • Understand the ethical, legal and professional responsibilities required of a veterinary surgeon • Possess an understanding of the structure of the veterinary industry and potential career options, including the work of paraprofessionals, charities, governmental bodies and functions, and the RCVS • Understand Health and Safety aspects of veterinary practice • Understand the need for lifelong learning, the importance of continuing professional development, education, self-audit and peer review b. Intellectual skills: • Possess the ability to absorb, arrange and analyse information • Demonstrate skills in diagnostic problem solving, and in formulation and application of treatment strategies • Be able to recognise, diagnose, and offer preventative healthcare advice for the common diseases of animals

	• Be able to offer medical and surgical treatment and prognoses for common disorders of animals • Make informed decisions regarding optimum case management • Anticipate and manage complications associated with treatment • Be able to analyse ethical problems that present in practice and justify decisions that are made c. Professional practical skills: • Be able to undertake full clinical, ante- and basic post mortem examination and diagnosis including laboratory diagnosis and analysis of common animal species • Be able to undertake practical techniques including anaesthesia, euthanasia, cytology, diagnostic imaging, pregnancy diagnosis, basic surgery techniques and to manage common obstetrical and reproductive problems of common animal species • Be able to dispense and administer medicines to common animal species by a variety of routes • Undertake supportive care of patients, including emergency and critical care • Be able to advise on husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species whilst considering the economics, organization, legal issues and impacts of animal-related industries ethics • Possess business and management skills applicable to veterinary practice management • Provide an understandable explanation to the client of diagnosis, investigations, management options and prognosis • Discuss and apply strategies to deal with more challenging consultations • Make an adequate record and complete the administration related to investigations, treatment and prescribing d. Transferable (key) skills: • Possess the ability to communicate effectively with clients and with colleagues both in the veterinary profession and in other disciplines, including the ability to record information in an appropriate manner • Possess an ability to conduct themselves in a courteous and professional manner • Possess an ability to conduct themselves in a safe and appropriate manner in a range of veterinary facilities (consulting room, surgery, laboratory, pathology room, abattoir etc) • Demonstrate an ability to undertake further study, critically evaluate literature and formulate independent conclusions • Be able to analyse and reflect on their own and others consultation and management skills • Be able to cope with uncertainty and be able to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols
Assessment	Clinical Reasoning, Single Best Answer, RPA, DOPS

VETS5003 - Veterinary Clinical Practice Large Animal & Veterinary Public Health	**Credits: 50**	**Rotations**		
Instructional methods	**Student hours**	**Faculty FTE**	**PG FTE**	**Clinical Associate FTE**
Lectures				
Tutorials/seminars/PBL				
Online and other				
Labs and supervised practical				
Clinical work	223	3.1	1.3	2.5
Total	**223**	**3.1**	**1.3**	**2.5**

Content	Apply and develop clinical knowledge and skills learnt in years 1 to 4 of the course; integrate body system knowledge into species based whole animal or population animal presentations of disease; enhance communication and personal skills and develop a deep ethic of professionalism. **Introduction (School)** The year 5 introductory week comprises health and safety briefings, information about each placement, assessments and systems as well as a review of some clinical topics including radiation safety, hand hygiene and clinical examination. In addition an introduction to the RCVS is included. This module is assumed to be related to each of the modules (0.03 FTE faculty) **Farm skills (School)** This 2 week rotation is based at SVMS with a wide variety of practical and theoretical elements designed ensure students become competent and confident dealing with common and unusual situations in individual animals and flock/herd issues encountered in farm and mixed practice in a range of species including cattle, pigs, sheep and camelids. The timetable includes surgical practicals, hoof trimming, routine fertility visits, individual case management, and calf health monitoring and farm rounds with presentations at the end of the fortnight. (0.9 FTE faculty, 0.2 FTE PG effort) **Farm practice (Scarsdale Veterinary Hospital and School)** The 2 week farm practice based rotation is based at the Scarsdale farm practice which covers a wide area of the Midlands with farm units in Derbyshire, Nottinghamshire, Leicestershire, Staffordshire, Warwickshire and Birmingham. Students join a team of 7 vets and take part in veterinary visits for the individual animal and also take part in regular routine preventative health visits for the larger farms. In addition students also attend the caseload of Wright and Morton and Farm Vet Solutions, which cover the same geographic area (with the addition of Cheshire) with School input (0.8 FTE faculty, 1.0 FTE PG; 2.5 FTE CA) **Veterinary Public Health – One Health, One Welfare (School)** This 2 week public health rotation provides learning and experience across critical areas of veterinary public health. The first week of the rotation involves time spent in the Sutton Bonington abattoir observing the arrival, ante-mortem inspection, slaughter and dressing of a small number of animals and the butchering of the carcases. The second week includes visits to Food Business Operators (FBOs) (dairy, poultry and red meat) and Melton Mowbray animal market. There are numerous self study tasks for the students to complete during the 2 weeks covering epidemiology, human outbreaks of zoonotic diseases and certification, plus undertaking a BestBet as part of evidence based medicine teaching. Practical bee keeping is also taught during the summer months only (1.0 FTE faculty). **Anatomic pathology (School)** This 2 week rotation covers aspects of gross and microscopic pathology of various species including farm animals, companion animals at the School's own pathology premises. Students will learn to conduct post mortem examinations, discuss cases and present written and verbal reports. Students also examine histological sections from selected cases of animal disease, review prepared case materials and take part in tutorial discussions. Note: relevant species are assessed in each of the 3 species modules (1.2 FTE faculty, 0.5 FTE PG effort in total).
Learning Outcomes	a. Knowledge and understanding: • Demonstrate knowledge and the application of veterinary pharmacology, pharmacy and toxicology • Understand normal physiology, the pathological basis and clinical manifestation of disease in common animal species • Understand the relationship between animal health and human health, processes within the food industry, zoonotic disease and public health and associated legal and ethical implications

	• Demonstrate a knowledge of the principles of surgical techniques • Understand the ethical, legal and professional responsibilities required of a veterinary surgeon • Possess an understanding of the structure of the veterinary industry and potential career options, including the work of paraprofessionals, charities, governmental bodies and functions, and the RCVS • Understand Health and Safety aspects of veterinary practice • Understand the need for lifelong learning, the importance of continuing professional development, education, self-audit and peer review b. Intellectual skills: • Possess the ability to absorb, arrange and analyse information • Demonstrate skills in diagnostic problem solving, and in formulation and application of treatment strategies • Be able to recognise, diagnose, and offer preventative healthcare advice for the common diseases of animals • Be able to offer medical and surgical treatment and prognoses for common disorders of animals • Make informed decisions regarding optimum case management • Anticipate and manage complications associated with treatment • Be able to analyse ethical problems that present in practice and justify decisions that are made c. Professional practical skills: • Be able to undertake full clinical, ante- and basic post mortem examination and diagnosis including laboratory diagnosis and analysis of common animal species • Be able to undertake practical techniques including anaesthesia, euthanasia, cytology, diagnostic imaging, pregnancy diagnosis, basic surgery techniques and to manage common obstetrical and reproductive problems of common animal species • Be able to dispense and administer medicines to common animal species by a variety of routes • Undertake supportive care of patients, including emergency and critical care • Be able to advise on husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species whilst considering the economics, organization, legal issues and impacts of animal-related industries ethics • Possess business and management skills applicable to veterinary practice management • Provide an understandable explanation to the client of diagnosis, investigations, management options and prognosis • Discuss and apply strategies to deal with more challenging consultations • Make an adequate record and complete the administration related to investigations, treatment and prescribing d. Transferable (key) skills: • Possess the ability to communicate effectively with clients and with colleagues both in the veterinary profession and in other disciplines, including the ability to record information in an appropriate manner • Possess an ability to conduct themselves in a courteous and professional manner • Possess an ability to conduct themselves in a safe and appropriate manner in a range of veterinary facilities (consulting room, surgery, laboratory, pathology room, abattoir etc) • Demonstrate an ability to undertake further study, critically evaluate literature and formulate independent conclusions • Be able to analyse and reflect on their own and others consultation and management skills • Be able to cope with uncertainty and be able to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols
Assessment	Clinical Reasoning, Single Best Answer, RPA, DOPS

VETS5004 - Veterinary Clinical Practice Small Animal	**Credits: 55**	**Rotations**		
Instructional methods	**Student hours**	**Faculty FTE**	**PG FTE**	**Clinical Associate FTE**
Lectures				
Tutorials/seminars/PBL				
Online and other				
Labs and supervised practical				
Clinical work	303	9.1	0.2	4.0
Total	**303**	**9.1**	**0.2**	**4.0**

Content	Apply and develop clinical knowledge and skills learnt in years 1 to 4 of the course; integrate body system knowledge into species based whole animal or population animal presentations of disease; enhance communication and personal skills and develop a deep ethic of professionalism. **Introduction (School)** The year 5 introductory week comprises health and safety briefings, information about each placement, assessments and systems as well as a review of some clinical topics including radiation safety, hand hygiene and clinical examination. In addition an introduction to the RCVS is included. This module is assumed to be related to each of the modules. (0.03 FTE faculty) **Primary care rotation (Pinfold/Shelton Lock)** This 2 week rotation comprises one week at Pinfold Vets and one week at Shelton Lock and provides valuable opportunities to experience a large and varied primary care caseload involving private and charity (Blue Cross) clients. During this rotation students gain experience of all aspects of primary care, with emphasis on preventive medicine, consulting and dermatology. (2.6 FTE faculty, 1 FTE CA) **Pride Veterinary Centre** This 2-week rotation consists of one week of decision-making using the internal medicine case load, and one week in wards focussing on in-patient management. This rotation focuses on all aspects of case management and clinical decision making. Students will take an active role in case management and responsibility from the consultation, through the diagnostic work up, hospitalization, and participate in morning and evening rounds on a daily basis. 2 weeks is additionally spent on out of hours, emergency care. (1.0FTE faculty, 2.0 FTE CA) **Charity/shelter (PDSA/RSPCA Radcliffe)** Nottingham and Derby PetAid hospitals are busy first opinion clinics operated by PDSA, Britain's leading veterinary charity. RSPCA Radcliffe is a large re-homing centre with a new purpose-built veterinary suite. This rotation provides valuable opportunities to experience a large and varied caseload in a demanding clinical environment and work within a charitable setting. All aspects of first opinion, general practice are carried out, including consultations (also remote consultations offered by the PDSA), surgery, in-patient care and diagnostics. The PDSA weeks will include general consulting, first opinion dermatology, anaesthesia, basic surgery, care of inpatients and imaging. The RSPCA-based elements focus on allowing the students to anaesthetise patients and carry out common surgical procedures. Students either attend Derby or Nottingham PDSA for a week and one week at RSPCA. (4 FTE faculty, 1.0 FTE CA) **Anatomic pathology (School)** This 2 week rotation covers aspects of gross and microscopic pathology of various species including farm animals, companion animals at the School's own pathology premises. Students will learn to conduct post mortem examinations,

	discuss cases and present written and verbal reports. Students also examine histological sections from selected cases of animal disease, review prepared case materials and take part in tutorial discussions. Note: relevant species are assessed in each of the 3 species modules (1.2 FTE faculty, 0.5 FTE PG effort in total).
Learning Outcomes	a. Knowledge and understanding: • Demonstrate knowledge and the application of veterinary pharmacology, pharmacy and toxicology • Understand normal physiology, the pathological basis and clinical manifestation of disease in small animal species • Understand the relationship between animal health and human health, processes within the food industry, zoonotic disease and public health and associated legal and ethical implications • Demonstrate a knowledge of the principles of surgical techniques • Understand the ethical, legal and professional responsibilities required of a veterinary surgeon • Possess an understanding of the structure of the veterinary industry and potential career options, including the work of paraprofessionals, charities, governmental bodies and functions, and the RCVS • Understand Health and Safety aspects of veterinary practice • Understand the need for lifelong learning, the importance of continuing professional development, education, self-audit and peer review b. Intellectual skills: • Possess the ability to absorb, arrange and analyse information • Demonstrate skills in diagnostic problem solving, and in formulation and application of treatment strategies • Be able to recognise, diagnose, and offer preventative healthcare advice for the common diseases of animals • Be able to offer medical and surgical treatment and prognoses for common disorders of animals • Make informed decisions regarding optimum case management • Anticipate and manage complications associated with treatment • Be able to analyse ethical problems that present in practice and justify decisions that are made c. Professional practical skills: • Be able to undertake full clinical, ante- and basic post mortem examination and diagnosis including laboratory diagnosis and analysis of common animal species • Be able to undertake practical techniques including anaesthesia, euthanasia, cytology, diagnostic imaging, pregnancy diagnosis, basic surgery techniques and to manage common obstetrical and reproductive problems of common animal species • Be able to dispense and administer medicines to common animal species by a variety of routes • Undertake supportive care of patients, including emergency and critical care • Be able to advise on husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species whilst considering the economics, organization, legal issues and impacts of animal-related industries ethics • Possess business and management skills applicable to veterinary practice management • Provide an understandable explanation to the client of diagnosis, investigations, management options and prognosis • Discuss and apply strategies to deal with more challenging consultations • Make an adequate record and complete the administration related to investigations, treatment and prescribing d. Transferable (key) skills: • Possess the ability to communicate effectively with clients and with colleagues both in the veterinary profession and in other disciplines, including the ability to record information in an appropriate manner • Possess an ability to conduct themselves in a courteous and professional

	manner • Possess an ability to conduct themselves in a safe and appropriate manner in a range of veterinary facilities (consulting room, surgery, laboratory, pathology room, etc) • Demonstrate an ability to undertake further study, critically evaluate literature and formulate independent conclusions • Be able to analyse and reflect on their own and others consultation and management skills • Be able to cope with uncertainty and be able to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols
Assessment	Clinical Reasoning, Single Best Answer, RPA, DOPS

VETS5001 - Veterinary Personal and Professional Skills 5	**Credits: 35**	**Rotations**		
Instructional methods	**Student hours**	**Faculty FTE**	**PG FTE**	**Clinical Associate FTE**
Lectures	9			
Tutorials/seminars/PBL	10			
Online and other	13			
Labs and supervised practical				
Clinical work	22			
Total	**54**	**0.1**		**0**

Content	Enhance communication and personal skills and develop a deep ethic of professionalism across all rotations **All rotations** Professionalism is integrated into all rotations and assessed on an ongoing basis. **Introduction (School)** The year 5 introductory week comprises health and safety briefings, information about each placement, assessments and systems as well as a review of some clinical topics including radiation safety, hand hygiene and clinical examination. In addition an introduction to the RCVS is included. This module is assumed to be related to each of the modules. (0.1 FTE faculty)
Learning Outcomes	a. Knowledge and understanding: • Understand the relationship between animal health and human health, processes within the food industry, zoonotic disease and public health and associated legal and ethical implications • Understand the ethical, legal and professional responsibilities required of a veterinary surgeon Understand Health and Safety aspects of veterinary practice • Understand the need for lifelong learning, the importance of continuing professional development, education, self-audit and peer review b. Intellectual skills: • At the end of this module the student should: • Possess the ability to absorb, arrange and analyse information • Be able to analyse ethical problems that present in practice and justify decisions that are made c. Professional practical skills: • Be able to advise on husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species whilst considering the economics, organization, legal issues and impacts of animal-related industries ethics • Possess business and management skills applicable to veterinary practice management • Provide an understandable explanation to the client of diagnosis,

	investigations, management options and prognosis • Discuss and apply strategies to deal with more challenging consultations • Make an adequate record and complete the administration related to investigations, treatment and prescribing d. Transferable (key) skills: • Possess the ability to communicate effectively with clients and with colleagues both in the veterinary profession and in other disciplines, including the ability to record information in an appropriate manner • Possess an ability to conduct themselves in a courteous and professional manner • Possess an ability to conduct themselves in a safe and appropriate manner in a range of veterinary facilities (consulting room, surgery, laboratory, pathology room, abattior etc) • Demonstrate an ability to undertake further study, critically evaluate literature and formulate independent conclusions • Be able to analyse and reflect on their own and others consultation and management skills • Be able to cope with uncertainty and be able to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols • Be able to effectively engage in reflective practice, and record thoughts and action plans in a professional portfolio
Assessment	Portfolio, Portfolio Defence Viva, RPA

VETS5001 - Veterinary Personal and Professional Skills 5	**Credits: N/A**	**Rotations**		
Instructional methods	**Student hours**	**Faculty FTE**	**PG FTE**	**Clinical Associate FTE**
Lectures				
Tutorials/seminars/PBL				
Online and other				
Labs and supervised practical				
Clinical work				
Total	**140**	**Variable**		

Content	Track IMR (6 weeks, 2 weeks of which counts as CEMS) chosen from: **Equine Track:** 6 weeks from a combination of • Equine Hospital at Oakham • Defence Animal Training Regiment • Pool House Equine **Farm Animal Track:** • 2 weeks Advanced Farm Animal Practice • 2 weeks Advanced Herd Health • 2 weeks Advanced Farm Skills **Small Animal Track:** 6 weeks from a combination of • Dick White Referrals • Dovecote Veterinary Hospital • RSPCA Radcliffe / YourVets - Sheldon Branch • Oakham Small Animal **Mixed Track:** • Small Animal at Oakham • Farm Animal on the Advanced Herd Health

	• Equine track **Exotics Track:** • 2 weeks Exotic Practice • 2 weeks Twycross Zoo • 2 weeks Zoo and Exotic Skills **Veterinary Public Health** • 2 week Advanced Farm Skills • 2 weeks Advanced Herd Health • 2 weeks Veterinary Public Health track
Learning Outcomes	As per species discipline covered in other credit-bearing Year 5 modules
Assessment	Clinical Reasoning, Single Best Answer, RPA, DOPS

Notes

- Data is completed for all teaching delivered for years 1 to 4 and for rotations in year 5 in the academic year 2020-21, updated for the new modules delivered in 21/22 (VPS3 and FCP)
- Year 5 data shows contact time with students, not the full FTE of clinicians
- Year 5 Pathology is split equally across the three species rotations

Appendix 9.5 Core and track rotations

Core Rotation	Theme	Location
Small Animal	Primary Care (2 weeks)	Pinfold and Shelton Lock
	Decision-making (2 weeks)	Pride
	Charity/Shelter (2 weeks)	PDSA Derby and PDSA Nottingham /RSPCA Radcliffe
	Out of hours/Emergency and Critical Care (2 weeks)	Pride out of hours service
Equine	Equine skills (2 weeks)	School
	Equine practice (2 weeks)	Oakham
Farm	Farm skills (2 weeks)	School
	Farm practice (2 weeks)	Scarsdale and School
Veterinary Public Health	One health, One welfare (2 weeks)	School and visits
Pathology	Anatomic and clinical pathology (2 weeks)	School
Introduction	Introduction (1 weeks)	School

Track Rotation	Each block is 6 weeks; (4 weeks IMR, 2 weeks CEMS)
Small Animal	Combination of:
	Oakham
	Dick White Referrals
	Your Vets Sheldon and RSPCA Bolton
	Dovecote
Equine	Combination of:
	Oakham
	Defence Animal Training Regiment
	Pool House Hospital and ambulatory
Farm	Advanced Farm Skills
	Advanced Farm Practice
	Advanced Herd Health
Exotics	Twycross Zoo
	Pride
	Exotic and zoo skills
Mixed	Oakham Small Animal
	Advanced Herd Health
	Equine track
Veterinary Public Health	Veterinary Public Health
	Advanced farm skills
	Advanced Herd Health

Appendix 9.6 Embedded modules

- Anaesthesia
- Anatomy, histology and embryology
- Animal production
- Behaviour
- Biochemistry
- Clinical and practical skills
- Clinical Pathology
- Clinical reasoning
- Diagnostic imaging
- Epidemiology and statistics
- Emergency and Critical Care
- EDI
- Ethics
- Exotics
- Genetics
- Immunology
- Microbiology
- Numeracy
- Nutrition
- Oncology
- Pathology
- Parasitology
- Pharmacology and toxicology
- Physiology
- Preventative medicine
- Student wellbeing and mental health awareness
- Sustainability

Appendix 9.7 Directly Observed Procedural Skills

There are 49 DOPS which are divided into 6 skill areas, and students must be assessed on at least one from each of the 6 skill areas. There is no limit to the number of times a student can attempt each assessment or the number of assessments they attempt. The overall evaluation of the student performance is rated on an entrustability scale:

- To supervise others
- To complete independently
- To complete with reactive supervision
- To complete with proactive supervision
- To assist

As previously mentioned, all students must have demonstrated performance at the level of 'reactive supervision' in 6 DOPS assessments, 1 from each skill area and 2 from each species area, to be eligible to sit finals examinations. The DOPS assessments do not carry any marks towards finals. Students reflect on their DOPS assessments within a clinical skills asset in their portfolio. Students in years 1 – 4 also complete a compulsory clinical skills asset as part of their portfolio.

DOPS skill areas map directly to the RCVS/EAEVE Day 1 Competences, and as these are "must pass" assessments students cannot graduate without passing these assessments.

The DOPS process recognises the fact that different individual assessment opportunities will, due to the fact that they are conducted on real animals in a real clinical situation, be of variable difficulty. To address this variability assessors are trained in both the process of assessment and feedback before completing DOPS assessments.

Paraprofessional Skills
Apply bandage, casts or splints
Dental scale and polish
Equine tooth rasping
Express anal glands
Disbudding
Foot trimming in cattle
Remove shoes from horses
Injection technique
IV injection
Microchip

Anaesthesia and Surgery
Assessment of pain
Equine castration
Equine urinary catheter placement
Farm animal castration
Local anaesthesia
Maintenance of general anaesthesia
Preparation for and induction of general anaesthesia
Skin suture
Surgical procedure

Diagnostic skills
Blood sample
Collect milk sample
Equine endoscopy
Microscopy
Radiography
Record and interpret ECG
Transrectal ultrasound
Ultrasonography
Urinalysis

Emergency Medicine and care
Assisted reproductive delivery
Emergency slaughter
Euthanasia
Fluid therapy
IV cannula placement
Pass a nasogastric tube
Triage
Wound management

Physical Examination
Colic assessment
Dermatological exam
General clinical exam
Lameness evaluation in the horse
Musculoskeletal exam
Neurological exam
Ophthalmology exam
Population scoring exam
Rectal exam

Veterinary Public Health
Ante mortem inspection
Equine identification
Equine passport
Post mortem examination

Appendix 9.8 Average range of marks and pass levels per module and by degree

			2017-18	2018-19	2019-20		2020-21	
					Sept	Apr	Sept	Apr
Year 1	NMSK	Max	84.9	82.8	96.0	95.0	91.0	95.0
Pre 2019: MSK, CRS and PPS reported in place of NMSK, CAR &VPS1 respectively		Min	22.2	31.6	65.0	59.0	54.0	59.0
		Mean	61.4	61.2	81.0	81.3	73.4	78.0
		% pass rate	91.1	93.3	99.3	100.0	100.0	99.3
	CAR	Max	81.0	90.0	90.0	86.0	84.0	85.0
		Min	0.0	0.0	57.0	64.0	49.0	42.0
		Mean	59.9	61.2	73.8	76.1	67.6	65.3
		% pass rate	81.6	92.1	99.3	100.0	98.8	97.9
	AHW	Max	83.0	91.0	94.0	96.0	95.0	95.0
		Min	0.0	45.0	72.0	74.0	63.0	55.0
		Mean	65.8	67.5	85.8	85.9	79.4	77.9
		% pass rate	94.9	97.6	99.3	100.0	100.0	100.0
	VPS1	Max	91.2	93.5	100.0	100.0	100.0	100.0
		Min	43.2	39.2	29.2	50.0	0.0	0.0
		Mean	63.4	66.7	71.7	78.4	78.4	76.3
		% pass rate	94.9	96.3	95.3	100.0	99.4	97.2
	Y1 w.m.	Max	82.0	87.0	94.0	91.0	87.0	88.0
		Min	21.0	38.0	64.0	67.0	46.0	58.0
		Mean	63.2	65.1	77.9	79.8	73.3	73.0
		% pass rate	75.6	76.8	94.7	100.0	97.6	95.8
Year 2	GIL	Max	85.0	80.0	92.0		86.0	87.0
Pre 2020: REP reported in place of UG Pass rates are low due to must pass element of OSPE (7/10 stations)		Min	40.0	36.6	42.0		51.0	51.0
		Mean	63.1	60.5	66.1		69.3	69.9
		% pass rate	92.2	86.1	95.7		99.3	100.0
	ENI	Max	88.0	90.0	98.0		95.0	89.0
		Min	48.0	42.0	67.0		53.0	50.0
		Mean	72.5	74.5	83.8		78.1	75.0
		% pass rate	97.4	98.7	100.0		99.3	100.0
	UG	Max	85.0	85.0	95.0		87.0	85.0
		Min	0.0	30.0	63.0		50.0	49.0
		Mean	66.2	68.2	80.63		70.0	69.1
		% pass rate	92.8	93.4	100.0		98.7	99.3
	VPS2	Max	86.0	93.0	88.0		99.0	99.0
		Min	7.0	8.0	45.0		45.0	40.0
		Mean	65.4	71.6	65.9		77.7	77.0
		% pass rate	96.1	96.7	93.2		97.3	98.0
	Y2 w.m.	Max	84.0	82.0	92.0		89.0	92.0
		Min	44.0	30.0	59.0		57.0	54.0
		Mean	67.2	67.4	75.6		73.2	74.3
		% pass rate	86.3	80.8	89.4		94.0	87.8
Year 3	PRO	Max	81.93	79.0	84.0		81.9	
No DI results. Pass rate low due to must pass OSCE and portfolio requirements		Min	53.75	49.8	50.8		43.9	
		Mean	67.51	66.0	67.1		67.5	
		% pass rate	100.0	100.0	100.0		99.4	
	VPH	Max	84.7	84.6	86.9		89.4	
		Min	46.4	39.9	56.3		46.3	
		Mean	64.3	62.7	74.0		74.7	
		% pass rate	97.2	93.2	100.0		99.4	
	PVS	Max	91.3	83.5	91.4		93.6	
		Min	31.3	39.1	60.8		59.2	
		Mean	68.2	64.0	80.4		77.0	
		% pass rate	92.9	94.6	100.0		99.4	
	CPS	Max	85.3	89.5	91.4		91.3	

		Min	51.0	46.5	58.9	52.2
		Mean	70.8	71.8	79.3	76.0
		% pass rate	100.0	98.6	100.0	100.0
	Y3 w.m.	Max	83.0	80.0	85.0	85.0
		Min	47.0	46.0	61.0	59.0
		Mean	68.0	66.4	74.6	73.2
		% pass rate	90.1	89.2	98.7	95.1
BVMed Sci (%)		1st class	47.4	29.1	57.8	66.0
		2.1	43.6	60.8	37.7	32.1
		2.2	9.0	7.4	4.5	1.9
		3rd	0	0	0	0
		Fail	0	2.7	0	0

			2017-18	**2018-19**	**2019-20**	**2020-21**
Year 4	ENI	Max	92.0	94.0	93.0	95.0
		Min	40.0	51.0	44.0	63.0
		Mean	75.2	72.5	69.6	84.9
		% pass rate	98.3	100.0	98.7	100.0
	LCB	Max	95.0	98.0	89.0	92.0
		Min	54.0	54.0	42.0	52.0
		Mean	75.7	76.9	69.0	79.4
		% pass rate	100.0	100.0	98.7	100.0
	NEU	Max	90.0	87.0	89.0	95.0
		Min	45.0	51.0	49.0	56.0
		Mean	71.4	72.4	68.8	78.0
		% pass rate	99.1	100.0	98.7	100.0
	PPS4	Max	91.0	89.0	88.0	98.0
		Min	62.0	60.0	63.0	69.0
		Mean	76.5	76.9	79.4	84.5
		% pass rate	100.0	98.5	98.7	95.2
	MSK	Max	81.0	85.0	90.0	89.0
		Min	46.0	45.0	51.0	56.0
		Mean	65.1	70.9	76.2	75.6
		% pass rate	97.4	97.0	100.0	99.3
	GIL	Max	86.0	90.0	90.0	88.0
		Min	0.0	48.0	59.0	48.0
		Mean	65.9	66.3	77.3	69.1
		% pass rate	94.0	95.5	100.0	97.3
	CRS	Max	82.0	90.0	91.0	88.0
		Min	41.0	50.0	56.0	49.0
		Mean	65.0	71.8	74.6	72.1
		% pass rate	91.4	97.7	100.0	97.9
	REP	Max	89.3	88.3	92.6	90.5
		Min	46.9	39.0	63.9	54.8
		Mean	73.5	69.8	79.5	78.3
		% pass rate	98.3	97.0	100.0	99.3
	URI	Max	91.9	90.4	92.3	96.3
		Min	60.4	47.3	60.7	51.6
		Mean	77.0	73.1	77.9	83.1
		% pass rate	100.0	97.7	100.0	100.0
	Y4 w.m.	Max	84.3	87.9	89.0	87.7
		Min	52.9	51.7	63.2	61.3
		Mean	70.2	71.3	75.5	76.8
		% pass rate	88.8	91.7	96.6	91.8
Year 5	SA	Max	82.6	91.9	90.1	85.8
		Min	48.0	56.0	56.2	43.1
		Mean	68.6	72.1	77.8	70.8
		% pass rate	96.3	98.2	100.0	98.6
	EQI	Max	88.9	81.6	82.0	84.2

		Min	48.9	43.1	52.0	40.7
		Mean	67.4	62.3	67.4	66.9
		% pass rate	97.2	93.9	99.3	95.9
	LAV	Max	83.9	81.8	95.6	85.4
		Min	49.1	44.9	67.3	43.4
		Mean	66.3	66.3	82.6	71.4
		% pass rate	96.3	95.6	100.0	98.6
	PPS5	Max	100.0	100.0	100.0	100.0
		Min	43.4	47.6	50.0	0.0
		Mean	82.6	80.9	82.2	81.2
		% pass rate	97.2	97.4	99.3	98.0
	Y5 w.m.	Max	82.8	82.6	89.1	84.4
		Min	50.6	51.4	42.7	45.0
		Mean	70.4	70.0	77.5	71.7
		% pass rate	94.4	92.1	99.3	95.2
BVM BVS (%)		Honours	62.7	64.2	81.5	85.0
		Pass	37.3	35.8	18.5	15.0

Appendix 10.1 Undergraduate student research data

Academic year	Total students	No. of students in funded and unfunded research projects					No. of peer reviewed publications in which UGs are authors/ co-authors	No. of students in joint postgraduate programme (intercalating)		
		Year 1	Year 2	Year 3	Year 4	Year 5		PhD	Masters	PGCert Vet Ed
2020/21	1,257	7	5	Whole year	15	10	59	0	4	3
2019/20	1,113	0	3	Whole year	6	2	43	0	3	3
2018/19	924	0	2	Whole year	4	1	32	0	4	1
2017/18	727	0	2	Whole year	3	1	66	1	2	2
2016/17	705	0	3	Whole year	8	2	79	1	0	2

Appendix 10.2 Faculty research data

Year	Total headcount Faculty	Total FTE Faculty	Total headcount research active Faculty	Total FTE research active Faculty	Total research active Faculty involved in delivering the veterinary curriculum	No. of unique, original, peer-reviewed research publications	No. of original book chapters
2020/21	162	133.6	126	66.6	106	154	2
2019/20	143	123.0	118	60.8	102	170	3
2018/19	126	108.3	103	50.9	93	108	5
2017/18	106	92.0	90	41.5	85	128	9
2016/17	108	92.5	93	41.6	90	121	9

Notes: In calculating the FTE research active Faculty, it is assumed 20% of research active T&L Faculty, 58% R&T Faculty and 100% of Research Faculty time is spent on research. All research active faculty deliver on the curriculum with the exception of Research Assistants who are employed to deliver grant research.

Appendix 10.3 Research award data

	UK Research councils		UK Charities		UK & EU government		UK Industry and commerce		Other		Patents
	No.	£k	No.	£k	No.	£k	No.	£k	No.	£k	No.
2020/21	6	1,859	6	37	4	232	5	221	5	736	1
2019/20	3	39	4	146	7	1,057	3	193	2	265	1
2018/19	6	1,293	13	429	8	345	2	176	6	766	0
2017/18	6	340	7	53	5	771	2	70	4	210	0
2016/17	3	100	10	384	6	506	1	114	6	1,492	1

Appendix 11.1 Mapping of assessment to AVMA Competencies

	Year 1	Year 2	Year 3	Year 4	Year 5
Competence 1 - Comprehensive patient diagnosis, diagnostic testing, and record management	Formative OSPE, e.g. ultrasound of the equine distal limb	OSPE, e.g. perform cystocentesis	FCP SBA paper	SBA papers for each species module OSCE, e.g. performing a FNA and cytology interpretation	DOPS, e.g. obtain appropriate urine sample and analyse in the laboratory CR papers
Competence 2 - Comprehensive treatment planning including patient referral			FCP SBA paper	SBA paper for each species module OSCE, e.g. formulating a patient management plan and communicating this to the owner	DOPS, e.g. develop a therapeutic plan for the management of congestive heart failure CR papers
Competence 3 - Anaesthesia and pain management, patient welfare	Formative OSPE, e.g. epidural anaesthesia in the ewe	OSPE, e.g. abaxial sesamoid nerve block in the horse	Formative OSCE, e.g. anaesthesia induction FCP SBA paper	SBA paper for each species module OSCE, e.g. formulating an analgesic plan for a surgical patient	DOPS, e.g. anaesthetic maintenance and monitoring CR papers
Competence 4 - Basic surgery skills and case management	Formative OSPE e.g. IV administration of calcium in the cow	OSPE, e.g. Partial fetotomy	Formative OSCE e.g. Cat spay FCP SBA paper	SBA papers for each species module OSCE, e.g. Wound closure and post operative care	DOPS, e.g. perform a castration CR papers
Competence 5 - Basic medicine skills and case management	AHDOPS e.g. basic handling and BCS Formative OSPE, e.g. cardiorespiratory examination of the dog	OSPE, e.g. General clinical examination	FCP SBA paper	SBA papers for each species module OSCE, e.g. interpretation of blood results and formulation of a management plan	DOPS, e.g. formulate an appropriate plan for fluid therapy CR papers
Competence 6 - Emergency and intensive care case management	OSPE, e.g. canine intubation	OSPE, e.g. Dystocia in the ewe	FCP SBA paper	SBA papers for each species module OSCE, e.g. CPR	DOPS, e.g. triage of the emergency patient CR papers
Competence 7 -	AHDOPS e.g.		VPH SBA and	MCQ papers	DOPS, e.g.

Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses, and principles of food safety	demonstration of appropriate biosecurity measures AHW SBA and short answer paper	SBA and short answer papers for systems based modules	CR papers FCP SBA papers	for each species modules	perform pre-mortem examination for food producing animals CR papers
Competence 8 - Ethical and professional conduct; client communication skills	Portfolio assessment	Portfolio assessment OSCE e.g. history taking	Portfolio assessment VPS3 business game and plan Formative OSCE e.g. obtaining informed consent	Portfolio assessment	Portfolio assessment DOPS, e.g. demonstrate effective advice regarding post-surgical management of patients RPA
Competence 9 - Critical analysis of new information and research findings relevant to veterinary medicine			Research module Portfolio assessment	Portfolio assessment	Portfolio assessment

Appendix 11.2 Mapping of RCVS and AVMA competences to programme outcomes

RCVS Day One Competences are represented by number and domain: Vet Capability (VC), Professional Commitment (PC), Personal leadership (PL), Reflective relationships (RR)

Programme outcomes – Knowledge and Understanding - BVMedSci	AVMA	RCVS Competences
Possess a knowledge of structure, function and developmental organisation of cells together with an understanding of biochemical and molecular processes and genetics	1. Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	Pre-requisite for all competencies within the Vet Capability domain PL5, PL11, PL14
Possess a knowledge of the structure, development, function and processes of healthy animals, which will subsequently allow students to distinguish the pathological from the normal in all body systems	1. Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	Pre-requisite for all competencies within the Vet Capability domain PL14
Understand and interpret a full range of invasive and non-invasive investigative methods	1. Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC29, VC31, VC32, VC36, VC37, VC38, VC42
Possess a knowledge of common microbial, parasitic and zoonotic diseases, their transmission and prevention together with the development of observational and deductive skills in associating pathological events with the outcomes of disease or toxins	7. Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	VC28, VC29, VC31, VC37, VC38, VC40, VC41, VC42, VC43, VC44, VC45
Understand the basis of preventative and therapeutic medicine including pharmacological intervention	2.Comprehensive treatment planning including patient referral when indicated	VC23, VC25, VC34, VC43

	7.Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	
Understand the husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species and the economics, organisation, legal issues and impacts of animal-related industries	7. Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	PC15, PC16, VC27, VC37, VC39, VC41, VC43, VC44, VC45).
Understand the relationship between animal health and human health, processes within the food industry, zoonotic disease and public health, biosecurity, new and emerging diseases and associated legal and ethical implications	7.Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	VC42, VC43, VC44, VC45
Programme outcomes – Knowledge and Understanding – BVM BVS	**AVMA**	**RCVS Competences**
Demonstrate knowledge of veterinary pharmacology, pharmacy and toxicology	5.Basic medicine skills and case management	PL7, PL8, VC23
Understand normal physiology, the pathological basis and clinical manifestation of disease in common species	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC24
Demonstrate a knowledge of the principles of surgical techniques	4.Basic surgery skills and case management	VC28, VC33, VC34
Programme outcomes – Intellectual Skills - BVMedSci	**AVMA**	**RCVS Competences**
Possess skills in the experimental design, analysis and interpretation of experimental data, including understanding of the ethical and legal implications of the use of animals in laboratories	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care 9.Critical analysis of new information and research findings relevant to veterinary medicine	PL2, PL3, PL5
Demonstrate scientific curiosity, an understanding of scientific method and research, critical review of the literature and an ability to apply basic scientific knowledge through research design, collection and analysis of data to veterinary practise in order to advance veterinary knowledge	9.Critical analysis of new information and research findings relevant to veterinary medicine	PL3, PL4, PL5
Programme outcomes – Intellectual Skills – BVM BVS	**AVMA**	**RCVS Competences**
Understand the principles of and demonstrate skills in clinical reasoning	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC22, VC23, VC24, VC25, VC26
Be able to recognise, diagnose, and offer preventative healthcare advice for the common diseases of animals	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management 2.Comprehensive treatment	PL7, VC41, VC43

	planning including patient referral when indicated	
Be able to offer medical and surgical treatment and prognoses for common disorders of animals	4.Basic surgery skills and case management 5.Basic medicine skills and case management	PL7, PL8, VC23, VC28, VC30, VC33
Programme outcomes – Professional/Practical Skills - BVMedSci	**AVMA**	**RCVS Competences**
Demonstrate practical animal husbandry and management skills including the ability to restrain and handle a variety of common species to allow clinical examination making rapid risk assessments as necessary	7.Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	VC27
Be capable of performing full clinical examination	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC29
Understand normal and abnormal parturition and when intervention is indicated	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC23, VC25
Be able to perform basic emergency medicine	6.Emergency and intensive care case management	VC25, VC26, VC30
Demonstrate an ability to perform routine health procedures such as animal identification, vaccination and administration of medication	7.Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	VC27, VC37
Display basic laboratory manipulative skills and techniques	5.Basic medicine skills and case management	VC31
Understand the professional role of the Veterinary Surgeon and their role in wider society. Demonstrate a professional attitude, a high standard of professional behaviour and an understanding of the ethical framework within which veterinary surgeons should work	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	PL1, PL2, PL6, PL9, PL10, PL13, PC16, RR17, RR18, RR19, RR20, RR21
Demonstrate a sense of care and responsibility to patients and their owners, including clinical case planning and review and all aspects of client communication	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	PL7, RR17, RR18, RR20, VC23
Programme outcomes – Professional/Practical Skills – BVM BVS	**AVMA**	**RCVS Competences**
Be able to undertake full clinical, ante- and post mortem examination and diagnosis including laboratory diagnosis and analysis	1.Comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management	VC27, VC29, VC31, VC36, VC42, VC45
Be able to undertake practical techniques including anaesthesia, analgesia,	3.Anesthesia and pain management, patient welfare	

euthanasia, cytology, diagnostic imaging, pregnancy diagnosis, basic surgery techniques and to manage common obstetrical and reproductive problems	4.Basic surgery skills and case management 5.Basic medicine skills and case management	VC28, VC29, VC31, VC32, VC33, VC34, VC35, VC38
Be able to responsibly dispense and administer medicines to animals, and report suspected adverse reactions as necessary	5.Basic medicine skills and case management	PL7, PL8
Be able to advise on husbandry, management, reproduction, nutrition, behaviour, welfare and health requirements of common species whilst considering the economics, organization, ethical and legal issues and impacts of animal-related industries	7.Understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety	PL6, PC15, PC16, VC37, VC39, VC41, VC43
Understand the ethical, legal and professional responsibilities required of a veterinary surgeon	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	PL1, PL2
Programme outcomes – Transferable/Key Skills - BVMedSci	**AVMA**	**RCVS Competences**
Develop learning and study techniques which promote life-long learning, and understand different methods of teaching and learning	9.Critical analysis of new information and research findings relevant to veterinary medicine	PL11, PL12
Demonstrate competence in a range of IT skills	9.Critical analysis of new information and research findings relevant to veterinary medicine	PC15, RR20
Learn to search for, select and use information to solve problems and make decisions	9.Critical analysis of new information and research findings relevant to veterinary medicine	PL3, PL13, PL14, VC24
Demonstrate good written, verbal and non-verbal communication skills. Demonstrate good interpersonal skills and team-working ability	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	RR17, RR18, RR19, RR20, RR21
Be able to understand and mitigate time and stress demands	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	PL9, PL10, PL13
Programme outcomes – Transferable/Key Skills – BVM BVS	**AVMA**	**RCVS Competences**
Possess the ability to communicate effectively with clients and with colleagues both in the veterinary profession and in other disciplines, including team working and leadership skills	8.Ethical and professional conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	RR17, RR18, RR19, RR20, RR21
Be able to cope with uncertainty and be able	8.Ethical and professional	

to adapt to change whilst recognising personal limitations, and sources of advice and support and protocols	conduct; communication skills including those that demonstrate an understanding and sensitivity to how clients' diversity and individual circumstance can impact health care	PL13, PL14, VC26

Appendix 11.3 Attrition of veterinary students

Year of entry	Cohort size	Relative Attrition					Absolute attrition				Total attrition	
		Academic failure	Personal	Transfer to other courses	Total Relative Attrition	% Relative attrition	Academic	Personal	Total Absolute Attrition	% Absolute attrition	n	%
2016/17	163	5	3	0	8	4.9%	0	3	3	1.8%	11	6.7%
2017/18	166	6	2	0	8	4.8%	2	2	4	2.4%	12	7.2%
2018/19	163	5	5	1	11	6.7%	0	1	1	1.2%	12	8.0%
2019/20S	154	3	3	2	8	5.2%	0	1	1	1.3%	9	6.5%
2019/20A	152	2	1	0	3	2.0%	1	1	2	1.3%	5	3.3%
2020/21S	165	0	1	0	1	0.6%	0	0	0	0%	1	0.6%
2020/21A	143	0	0	0	0	0%	0	0	0	0%	0	0.0%

Attrition = Relative attrition + absolute attrition
Relative attrition = students moving to an earlier year or transferring to other University courses
Absolute attrition = students who leave and never return (excluding those on other University courses)
Students who intercalate are not included in this table.

Appendix 11.4 Employment rates (HESA data)

Graduating class	Full time employ	Part time employ	Further study only	Work and study	Unemployed	Other	Total respondents
2014/15	72	1	1	0	0	1	75
2015/16	60	0	2	0	2	1	65
2016/17	103	0	3	0	1	2	109
2017/18	69	0	0	1	0	1	71
2018/19	64	3	0	3	1	0	71

Appendix 11.5 Mean graduate preparedness to practice independently within each of the 9 AVMA competences

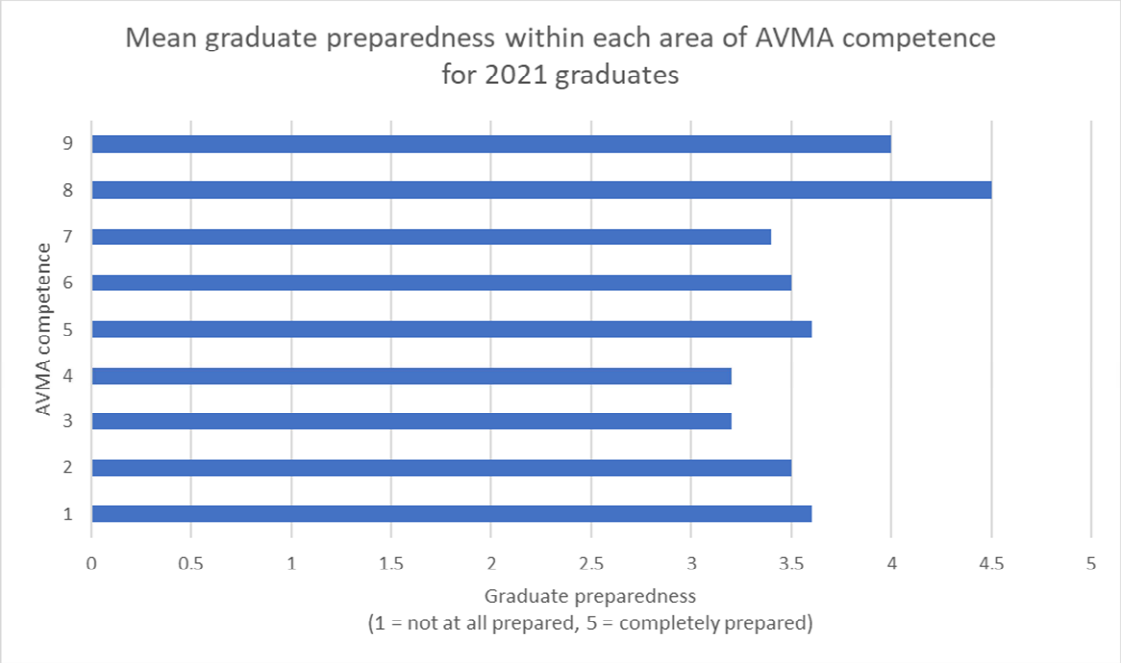


Figure 2.

Appendix 11.6 Graduate outcomes data

Learning outcome	2011	2012	2013	2014	2015	2016	2017	2018	2019
Knowledge of underpinning basic science	4.21	4.13	4.17	4.14	4.25	4.32	4.44	4.39	4.25
Veterinary clinical knowledge	4.11	4.26	4.15	4.11	4.13	4.09	4.44	4.32	4.21
Clinical and surgical skills	4.04	3.95	3.90	4.29	4.03	3.91	4.09	4.03	4.33
Clinical examination skills	4.61	4.55	4.44	4.59	4.75	4.51	4.75	4.71	4.75
Diagnostic reasoning ability	4.18	4.24	4.02	4.03	4.28	4.03	4.50	4.52	4.13
Case management and therapeutic strategies	3.96	3.79	3.88	4.16	3.91	4.09	4.47	4.16	4.00
Dealing with emergency and critical care cases	3.54	3.63	3.50	3.86	3.50	3.69	4.16	3.87	3.79
Promoting preventative healthcare	4.21	4.05	4.15	4.46	4.34	4.31	4.52	4.39	4.42
Population health and epidemiology	4.00	3.82	4.05	3.89	4.00	3.89	4.06	3.94	4.00
Veterinary public health and zoonotic issues	3.75	3.66	3.78	3.81	3.69	3.37	4.03	4.00	3.88
Recognition for need and implementation of euthanasia	4.50	4.50	4.55	4.62	4.61	4.54	4.75	4.48	4.71
Veterinary practice and financial management	3.86	4.19	4.05	3.84	4.09	3.91	4.00	3.77	4.00
Recognising own limitations and seeking advice	4.68	4.55	4.68	4.62	4.78	4.66	4.78	4.61	4.75
Ability to seek, evaluate and utilise new information	4.25	4.44	4.33	4.43	4.59	4.54	4.69	4.52	4.50
Knowledge of veterinary legislation	3.54	3.66	3.50	3.73	3.81	3.66	4.03	3.68	4.04
Compassion and the application of ethics to animal welfare	4.68	4.76	4.70	4.56	4.69	4.57	4.72	4.65	4.63
Awareness of professional responsibilities	4.50	4.47	4.53	4.62	4.50	4.68	4.66	4.65	4.67
Communication skills	4.82	4.63	4.58	4.65	4.88	4.54	4.88	4.71	4.54
Interpersonal and teamwork skills	4.36	4.42	4.40	4.49	4.66	4.55	4.78	4.48	4.50
Robustness and managing pressure and stress	4.11	4.13	4.03	4.00	4.09	4.06	4.16	4.03	4.13
Flexibility and ability to cope with change	4.39	4.18	4.31	4.19	4.34	4.17	4.41	4.35	4.29
Self-reflection and maintaining a work-life balance	4.29	4.10	4.21	4.05	4.31	4.11	4.31	4.26	4.33
Systematic approach to problem solving and critical thinking	4.32	4.21	4.20	4.30	4.34	4.37	4.53	4.61	4.46
IT skills	4.36	4.24	3.93	4.00	3.94	4.27	4.16	4.00	4.08
Research skills	4.04	4.03	3.83	4.05	4.38	4.20	4.13	4.10	4.25
Overall competence to do the job for which you were hired	4.36	4.11	4.13	4.19	4.45	4.26	4.41	4.52	4.38

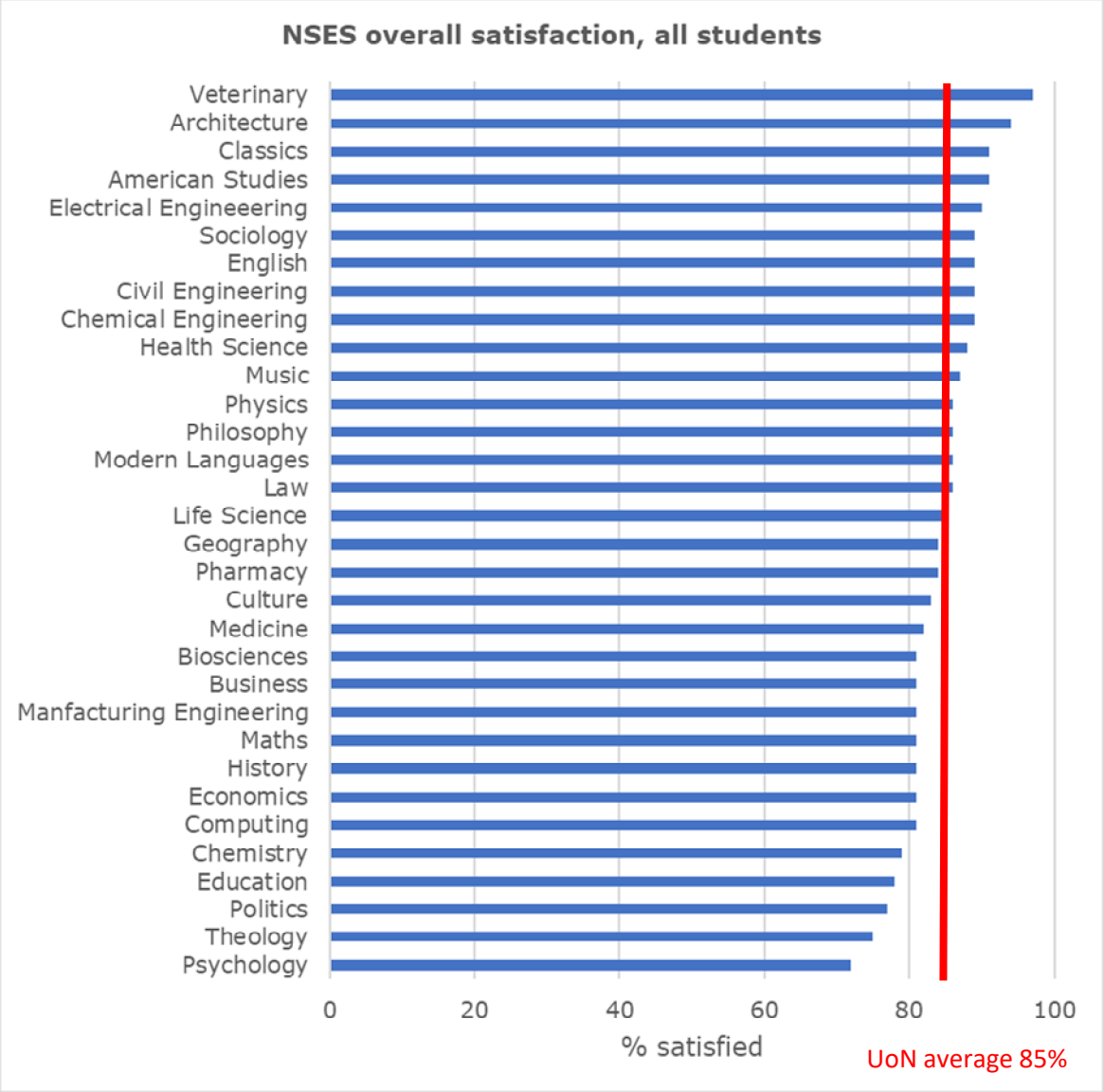
Scoring ranges from 5 = excellent preparation and 1 = not at all prepared

Appendix 11.7 2020/21 National Student Survey data (weighted average)

NSS 2021 Weighted score (1-5 max)	Nottingham	RVC	Liverpool	Surrey	Bristol	Edinburgh	Glasgow
1 Staff are good at explaining things	4.75	4.26	4.17	4.30	4.31	4.40	4.18
2 Staff have made the subject interesting	4.57	4.18	4.13	4.45	4.22	4.38	4.24
3 The course is intellectually stimulating	4.85	4.67	4.71	4.79	4.69	4.77	4.73
4 My course has challenged me to achieve my best work	4.68	4.14	4.38	4.43	4.06	4.35	4.23
5 My course has provided me with opportunities to explore ideas or concepts in depth	4.63	4.17	4.15	4.41	3.92	4.30	4.22
6 My course has provided me with opportunities to bring information and ideas together from different topics	4.66	4.47	4.28	4.48	4.36	4.41	4.42
7 My course has provided me with opportunities to apply what I have learnt	4.88	4.26	4.74	4.68	4.63	4.34	4.47
8 The criteria used in marking have been clear in advance	4.19	3.65	3.72	4.20	3.85	4.02	3.61
9 Marking and assessment has been fair	4.39	3.83	3.92	4.06	4.02	4.21	3.68
10 Feedback on my work has been timely	4.37	3.61	3.67	3.78	3.55	3.55	3.25
11 I have received helpful comments on my work	4.20	3.65	3.73	3.87	3.70	3.90	3.82
12 I have been able to contact faculty/staff when I needed to	4.71	4.20	4.17	4.38	4.26	4.40	4.37
13 I have received sufficient advice and guidance in relation to my course	4.64	3.76	4.02	4.28	3.98	4.08	3.99
14 Good advice was available when I needed to make study choices on my course	4.59	3.72	3.77	4.03	3.95	4.03	3.95
15 The course is well organised and running smoothly	4.55	3.38	4.01	3.93	3.40	3.65	3.55
16 The timetable works efficiently for me	4.57	3.81	4.02	4.12	3.83	3.71	4.02
17 Any changes in the course or teaching have been communicated effectively	4.30	3.25	3.73	4.02	3.21	3.45	3.67
18 The IT resources and facilities provided have supported my learning well	4.50	4.01	3.98	4.03	4.07	4.13	4.03
19 The library resources (e.g. books, online services and learning spaces) have supported my learning well	4.33	4.28	4.01	3.97	4.23	4.23	4.37
20 I have been able to access course-specific resources (e.g. equipment, facilities, software, collections) when I needed to	4.62	4.12	4.09	4.30	4.27	4.30	4.34
21 I feel part of a community of faculty/staff and students	4.63	3.93	4.14	4.38	4.17	4.29	4.23
22 I have had the right opportunities to work with other students as part of my course	4.78	4.43	4.37	4.63	4.48	4.52	4.55
23 I have had the right opportunities to provide feedback on my course	4.75	4.47	4.28	4.46	4.28	4.51	4.59
24 Staff value students' views and opinions about the course	4.50	3.56	3.87	4.39	3.90	4.12	4.06
25 It is clear how students' feedback on the course has been acted on	4.26	3.27	3.68	4.19	3.77	3.98	3.78
26 The students' union (association or guild) effectively represents students' academic interests	3.73	4.00	3.23	3.67	3.26	3.62	3.70
27 Overall, I am satisfied with the quality of the course	4.84	4.08	4.43	4.61	4.23	4.33	4.40

Red text indicates highest score per indicator. There are no data for Cambridge Veterinary School as they failed to reach the minimum 50% response rate threshold

Appendix 11.8 2022 NSES data for overall satisfaction.



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