

**European Association
of Establishments for Veterinary Education**



JOINT VISITATION REPORT

To the School of Veterinary Medicine and Science, University of Nottingham, UK

On 27 November – 1 December 2017

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Introduction

The School of Veterinary Medicine and Science (SVMSN) at the University of Nottingham was established in 2006 and is based at the University's 1,000 acre Sutton Bonington campus. It comprises 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. Three major buildings have been developed for the Establishment, together with access to multiple animal and farm facilities and shared teaching and research facilities. Furthermore, through the Clinical Associates the School has access to 9 clinical veterinary establishments.

The SVMSN 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.

The strategic choice to have no hospital on site led to a particular teaching model used by the Establishment in year 5, which is a community-based lecture-free clinical period, the clinical teaching being delivered at a number of Clinical Associates. This model provides to students rotations overseen by staff and Clinical Associates' staff. The clinical associates are: Defence Animal Centre, Melton Mowbray (Equine), Dick White Referrals, Newmarket (Small Animal), Minster Veterinary Practice, Sutton Bonington (Poultry and Farm Animal Pathology), Oakham Veterinary Hospital, Oakham (Equine, Small Animal), PDSA, Derby (Small Animal), PDSA, Nottingham (Small Animal), Pinfold Vets (Small Animal), Scarsdale Veterinary Group, Derby (Equine, Farm Animal, Small Animal), Twycross Zoo (Zoo), a contract being in negotiation with Bransby Horses. The Establishment's outcomes-based programmes are adjusted to RCVS, EAEVE and AVMA competences and the curriculum is delivered in vertically (clinically) and horizontally (subject) integrated programmes and include a strong research component.

Presently the Establishment has an average of 800 students and 357 active PhD students, 17 interns and 10 residents. The Establishment admits 120 students annually and graduates an average of around 90 students.

The Establishment has already been EAEVE-visited in 2011 and achieved full accreditation, and was last visited by the RCVS in 2014. Since then, no major organisational changes did occur, but a small number administrative roles, and consequently Establishment staff, are managed by the central University and are no longer located in the Establishment.

Some changes in infrastructure occurred since the last Visitation, a 200-seat teaching laboratory being developed on campus, and 6 new small group teaching rooms, a year 5 teaching hub, new Cadaver Skills Centre, a larger Clinical Skills Centre and Dissection room resulting from remodelling of room space. Similarly, the study program has changed in its organisation to improve student experience and the assessment validity.

The SER of the Establishment was prepared and the Visitation took place according to the provisions of the ESEVT SOP 2016.

1. Objectives and Organisation (see Standards 1.1 to 1.6 in Chapter 3)

1.1. Findings

1.1.1. Brief description of the Strategic Plan

The SVMSN developed its strategy within the framework of the University strategy. The School develops its own objectives which may be further broken down into detailed yearly actions to be met in order to fulfil the objectives. The objectives are reviewed by the Establishment quarterly while the entire plan is revised on a yearly basis. The three year strategic plan designed in 2016 comprises the vision for training which should lead to world-leading specialists in their practical and professional approach to veterinary medicine and the one for research, which stands for international recognition for excellent, and results worldwide impacting on animal health. The mission of the Establishment is to educate veterinary surgeons which will contribute significantly to the veterinary profession as a whole and to tackle key issues in fundamental science, animal health and global sustainability. The philosophy of the Establishment will allow it to make significant contributions to both veterinary teaching and science, to continue innovating and delivering a unique veterinary curriculum. Some of the strategic plan objectives, summarised in the supplementary information provided, included: the continuation of combining a clinically-focused basic science curriculum, relevant clinical learning opportunities and an integrated undergraduate research programme, application for accreditation by the American Veterinary Medical Association in the next 3 years with a 'Consultative Visit' in late 2017 as its first stage, development of a new admission process to insure the quality of undergraduate students, further improvement of the clinical teaching delivery through the development of tracking options, completion of the Centre for Dairy Science Innovation and the development of a Centre for Infectious Disease Research, including the establishment of a containment level 3 (CL3) research laboratory, and others.

The SWOT analysis clearly defines the strengths (most popular Establishment in UK, both RCVS and EAEVE recognition, innovative candidate recruitment, teaching and assessment methods, including community-based clinical model, good research portfolio with 4 Strategic Research Areas including Centre for Dairy Science Innovation (part of CIEL), administration model to reduce the staff workload. Opportunities include: request for undergraduate veterinary places, discipline-based TEF, international (AVMA) accreditation, expertise and knowledge to establish new courses, research potential of junior staff, research augmentation at the Centre for Dairy Science Innovation (part of CIEL), potential to establish University centre of infectious disease research. The weaknesses include lack of senior staff in research, improved mentoring for young staff to achieve their potential, investments for infection biology lab establishment, while the threats include concerns about recruitment of the staff and their retention, failure to grow current and new Clinical Associates, failure to consolidate key Strategic Research Areas fails to deliver research grant wins and publications of suitable impact.

1.1.2. Brief description of the Operating Plan

The operating plan is based on the overall strategy of the SVMSN and is provided as an excerpt in the Supplementary information from the Establishment. It includes targets such as research awards or research income per academic staff pay and long term deadlines by which these will be accomplished.

1.1.3. Brief description of the organisation of the Establishment

The School of Veterinary Medicine and Science is part of the University of Nottingham and was established in 2006. The School is part of the Faculty of Medicine and Health Sciences,

which also comprises the School of Medicine, the School of Health Sciences and the School of Life Sciences. It 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 academics in a community-based model within partner Clinical Associate organisations.

The Establishment's mission is to enhance society by carrying out research to tackle key issues in fundamental science, animal health and global sustainability. The Establishment aims 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.

The Dean of Establishment, Deputy Head of Establishment, Clinical Director and Teaching, Learning and Assessment Sub-Dean are all qualified veterinary surgeons and members of the RCVS.

Two main bodies are involved in the governance of the University, the Council and the Senate, which include representatives from staff and students. The day-to-day management of the University is the responsibility of University Executive Board (UEB). The primary decision-making Committees are the weekly Faculty Executive (of which the Dean is a member along with other School Heads, the Faculty Pro-Vice-Chancellor, Faculty Associate Pro-Vice-Chancellor for Education and Student Experience, Faculty Associate Pro-Vice-Chancellor for Research, Faculty Finance Manager) and monthly Faculty Board (membership as per Executive together with Head of Operations for all schools, 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.

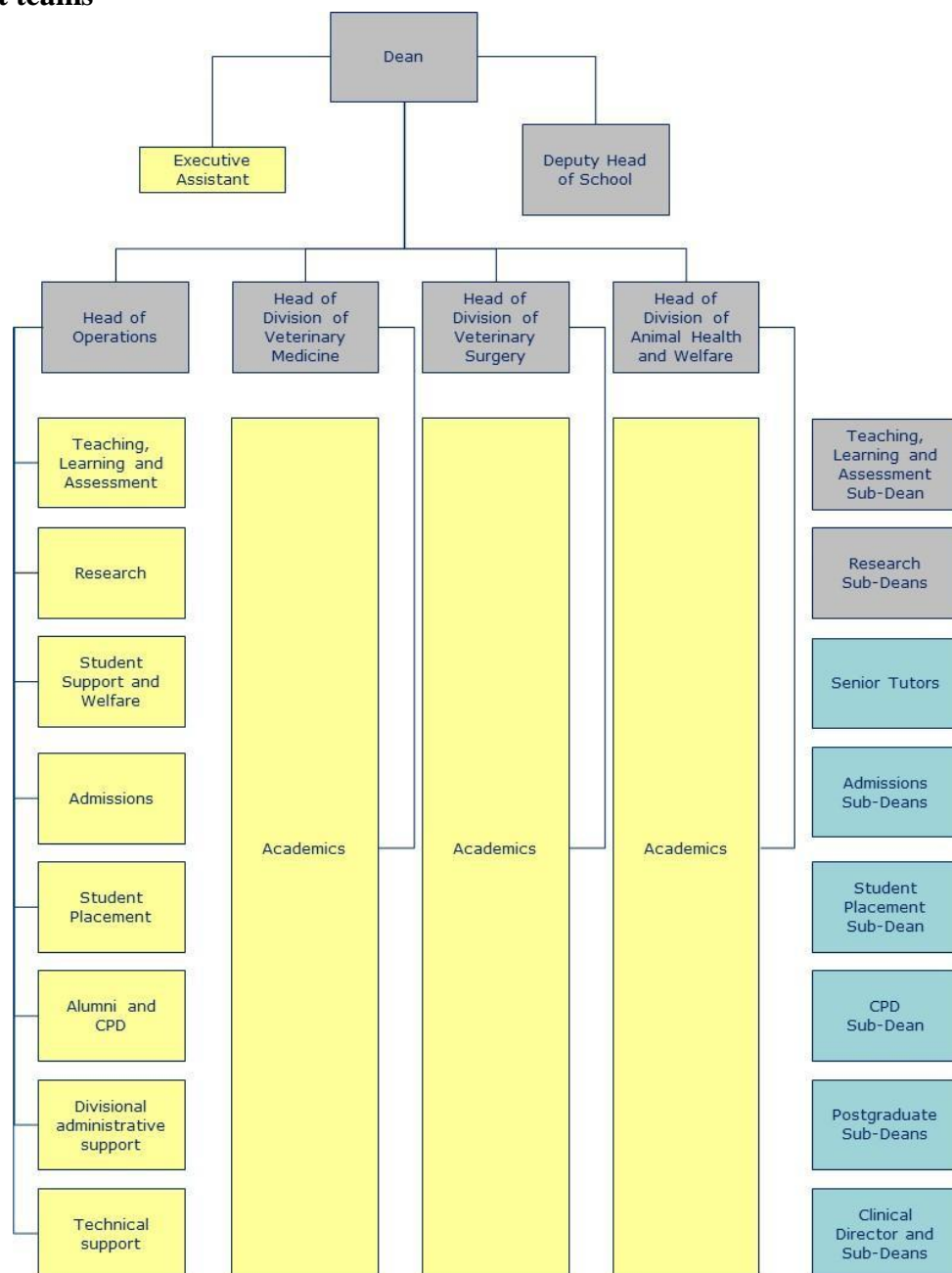
The University allows Faculties significant freedom to run their operations as they see fit and as directed by the Faculty Pro-Vice-Chancellor. The University budget model assigns budget based on an assumed contribution level which relates to the costs within a School. Future budget is therefore a function of student fee income, Higher Education Funding Council England (HEFCE) grants, research margin and services margin. All income associated with clinical work by staff, Residents or Interns is retained by the Clinical Associate.

The School is led by the Dean of School, a veterinary surgeon, who is fully responsible for the strategic direction, quality management and operational and financial performance of the School. The School is organised into three Academic Divisions (Divisions of Veterinary Medicine, Veterinary Surgery and Animal Health and Welfare) and an Administrative Division, which primarily act to provide a line management structure (Figure 1). A number of Sub-Deans 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.

In order that students encounter the most appropriate primary care, as well as second and tertiary caseload, and acquire true 'Day One' clinical competences, SVMSN has developed a community-based teaching model, in which teaching is delivered at a number of Clinical Associates. Rotations are overseen by School staff and students are taught by both School and Clinical Associate staff. The School has contractual relationships with nine Clinical Associates: Defence Animal Centre, Melton Mowbray (Equine), Dick White Referrals, Newmarket (Small Animal), Minster Veterinary Practice, Sutton Bonington (Poultry and Farm Animal Pathology), Oakham Veterinary Hospital, Oakham (Equine, Small Animal), PDSA, Derby (Small Animal), PDSA, Nottingham (Small Animal), Pinfold Vets (Small Animal), Scarsdale Veterinary Group, Derby (Equine, Farm Animal, Small Animal), Twycross Zoo (Zoo). In addition a contract is in negotiation with Bransby Horses. The individual contract varies per Clinical Associate in terms of the financial, resource and staff investment, and also the length of term of the contract. The community-based teaching activities (Intra-Mural Rotations) are

planned overall and assigned by the Clinical Director, supported by a senior administrator. The Clinical Director is aided by 3 species leads (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.

Figure 1.1¹: Organisational design of the Establishment with major Sub-Dean roles and Support teams

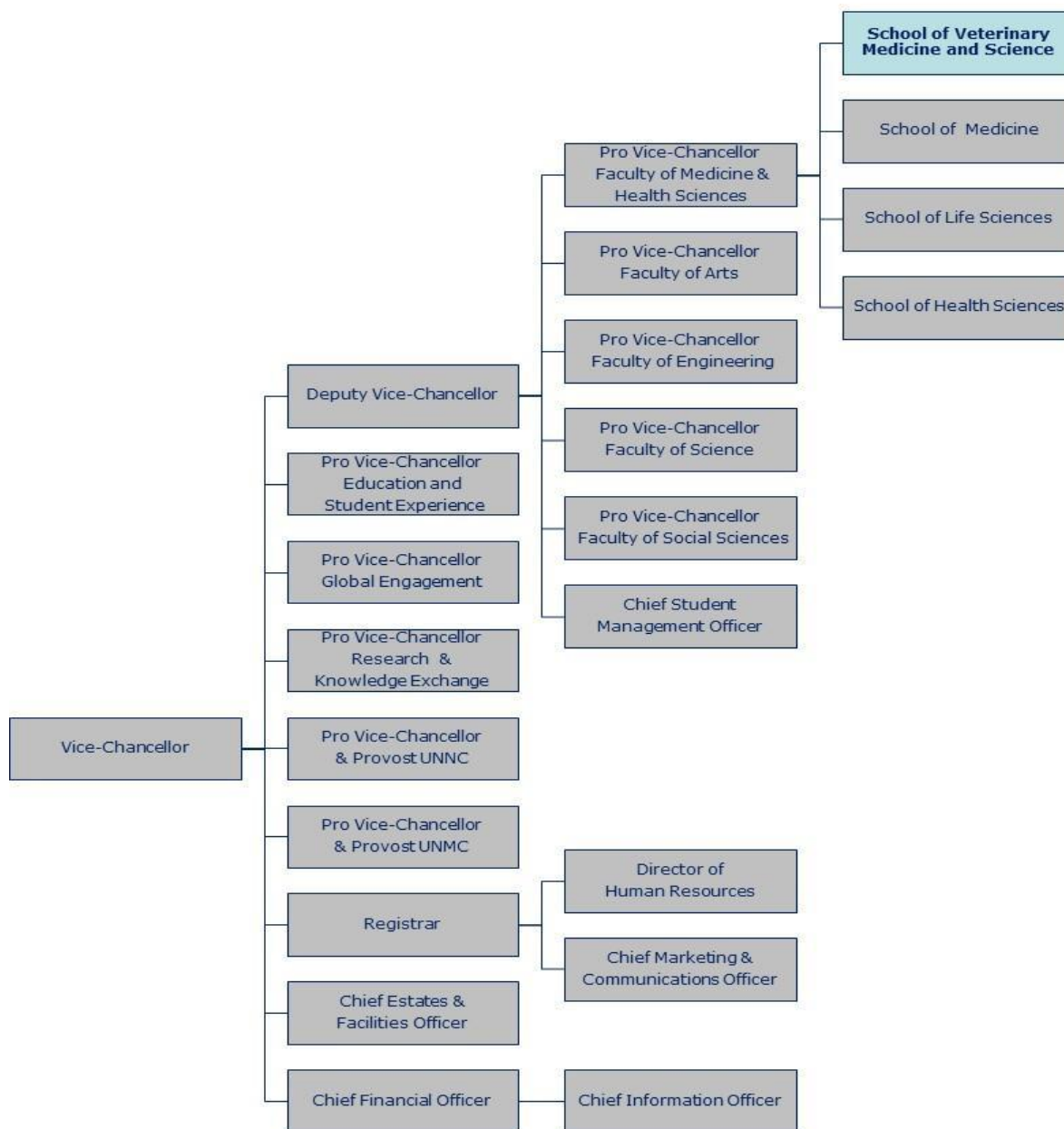


The Establishment has embedded quality within its culture, such that there is a wide recognition of the importance of quality assurance and control and it has become part of normal Establishment operations. Risk is managed explicitly by quarterly review of the Establishment’s risk register at a Management Team Meeting; in addition there is quarterly

¹ All the numberings of figures and tables were adjusted to the numbering of EAEVE standards and the counting order (1.1, 1.2., 1.3, etc.) within the description of a Standard

review of both Establishment performance and risk by Faculty Board. Risk associated with normal Establishment operations is managed by Standard Operating Procedures, and Risk Assessments and also implicitly by quality assurance and control.

Figure 1.2: Position of the Establishment in the University structure

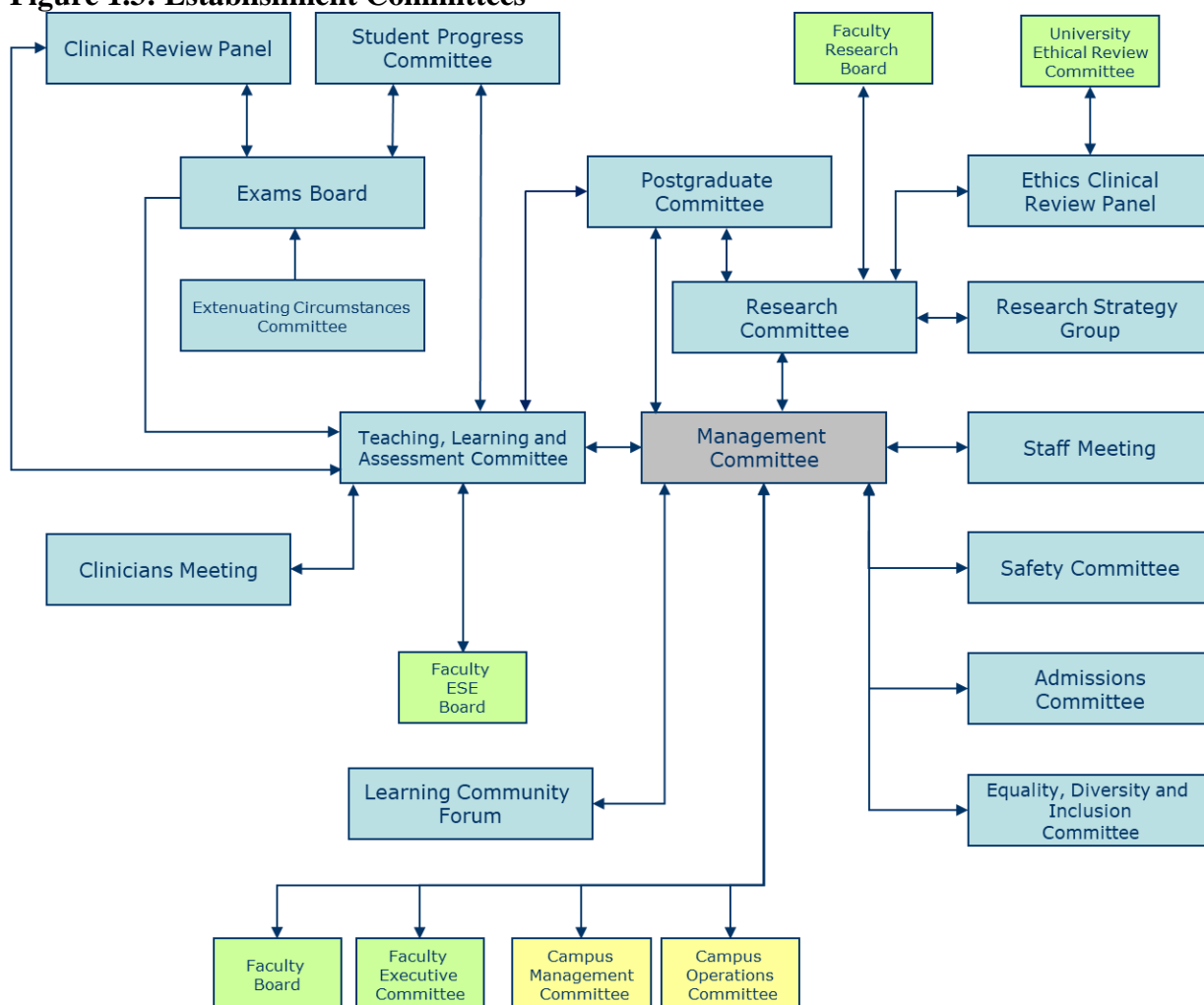


1.1.4. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the Strategic Plan and organisation of the Establishment

The main bodies that lead the Establishment and approve the Strategic Plan include staff and student members. Students are able to influence the schools direction and decision making processes by a number of means, including making comments as to compliance with

RCVS/EAEVE standards (as also shown in Standard 7). Suggestions, comments and complaints of the students can influence the Establishment’s direction, providing by different methods (also see Standard 7). 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. Outcome assessment at Establishment level is an ongoing activity that results in a regular appraisal of data in order to monitor and inform curriculum development and graduate competency and associated Establishment strategy and includes data collected from students, staff and external stakeholders (also see Standard 11).

Figure 1.3: Establishment Committees



1.2. Comments

The Establishment has a high level of autonomy co-existing with a good relationship within the Faculty of Medicine and Health Sciences. Of particular note is the strong representation on wider University committees by senior members of Establishment staff.

The Establishment's internal committee structure and terms of reference are clear. The staff (both academic and support) show good engagement with key committees and there is strong student representation across a wide range of committees.

There are strong and positive relationships with both long standing and newer Clinical Associates. However, effective and comprehensive review processes are not evidenced.

Support from administrative staff for students and the programme is good and the support staff have a strong and positive relationship with academic staff.

1.3. Suggestions for improvement

The translation of the Establishment's strategic plan into a functional and widely understood Operating plan merits review. It is suggested the Operating plan has clear and detailed cascading objectives, accountability and timelines.

The Establishment should consider the broader involvement of alumni and other external stakeholders in the School's decision-making processes.

In terms of risk mitigation and long term planning of clinical rotations, it is recommended that a structured process be put in place for an annual review meeting with the Clinical Associates. Alongside review of the clinical teaching, this should include, but not necessarily be limited to, evaluation of caseload trends, the physical facility and the financial health and ongoing business planning of these partners.

1.4. Decision

The Establishment is compliant with Standard 1, except for substandard 1.2.

The Establishment is partially compliant with substandard 1.2 because of sub-optimal presence of clear and detailed objectives, accountability and timelines in the Operating plan.

2. Finances (see Standards 2.1 to 2.5 in Chapter 3)

2.1. Findings

2.1.1. Brief description of the global financial process of the Establishment and its autonomy on it

The University returns a surplus year on year whilst investing in new teaching and learning technology, research priority areas, developing new partnerships and implementing new processes and systems. The University returned an EBITDA of £39m on a turnover of £635m in 2015/16, with capital investment of £101m, including the new £40m Sports village.

The University allows Faculties significant freedom to run their operations as they see fit and as directed by the Faculty Pro-Vice-Chancellor (PVC). A proportion of the income generated by each Faculty is directed to supporting the running costs of the institution, such as for libraries, Information Systems, Professional Services (Student Services, External Relations, Finance, HR). The percentage each Faculty and individual component Establishment contributes is based on the costs of delivery within each Faculty, in a 'Contribution Based Budgeting' model; this targets each School to deliver a percentage of their income (where Research Margin and Services Margin is classed as income – not the gross income / costs of research). It also recognises the different sources of funding available to each Faculty (for example tuition fees, educational grants, research income, CPD).

The budget model incentivises Faculties to broaden their income base, as this gives them more control over how resources are spent. The Establishment has the lowest University target contribution rate of 31.5% (after Establishment costs, but before central charges; thus the

Establishment retains 68.5% of income). It is not possible, with the exception of funds associated with some research grants or services rendered projects, to retain any income or budget between years. The budget assigned to the Establishment is required to support all operational costs incurred directly by the Establishment, with the exception of central functions which are provided for from contribution, i.e. the School budget covers pay, consumables, school funded research and equipment but not, for example, IT services, library, sports centre, registry.

Budget for all aspects of the School's operations (except for research grants) is administered and flexibly managed centrally in the Establishment by the Head of Operations, and allocated, with discussion with Dean of Establishment, to individual project budgets on a yearly basis, based on prior year spend levels together with forecast future spend, including spend required on any replacement, maintenance or planned procurement of new equipment or buildings. Budgets are locally directed and utilised as required within the relevant budget envelope, by, for example, technical staff for consumables, the Research Manager for school-funded research, with procurement supported by a campus Finance Team. Research projects are funded as per the funder's commitment and are managed by the Principal Investigator.

The Establishment has a Management Accountant who compiles monthly reports with oversight by a Faculty Finance Manager. Non-pay spend over £5,000, outwith normal expected operations (for example a request for a new piece of equipment), is reviewed and considered by the Management Team. Equipment over £30,000 is capitalised. The management accountant and Head of Operations discuss capital requirements as required; the level of capitalised equipment in the Establishment has historically been small as the Establishment has expensed items within yearly budgets.

The Dean and Head of Operations discuss the Establishment's financial performance and plans quarterly with the Faculty PVC, and are able to make the case for additional spend in relation to any increased income, in line with the target contribution. The School is able to secure 50% contribution on small building developments from University Estates for projects up to £500,000. In addition there is a central University Strategic Development Fund process for usefunding new research or educational ideas (e.g. the School was successful in gaining £492,000 funding to establish the Advanced Data Analysis Centre).

2.1.2. Brief description of the budget (expenditures, revenues, balance) of the last 3 years

Expenditure:

The largest proportion of costs is pay at 49% of budget; teaching personnel costs have grown over time as the Establishment has recruited academic and clinical staff to support teaching increased student numbers. Support staff costs have reduced in 2016/17 due to the transfer of 2.0FTE to central University Student Services. Personnel costs for research staff have fluctuated in response to levels of research income.

Utilities costs are incurred by the University on behalf of the Establishment. Until 2014/15 the Establishment was assigned central overhead charges, which includes utilities charges; these are £332,000 in 2014/15; for comparison, the same figure (inflated) is included in 2015/16 and 2016/17.

Expenditure for teaching has fluctuated but in general increased steadily with the exception of 2015/16 when additional budget was assigned towards clinical teaching staff in order to recruit staff and procure resources ahead of a larger number of year 5 students entering rotations the subsequent year. Teaching costs also include widening participation scholarship costs (£479,152 in 2016/17) and costs for farm Residents and zoo DVetMed students.

Expenditure for research includes both expenditure by the Establishment, to support academics, for example, with pump prime support, strategic research (£141,690 in 2016/17) and

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postgraduate costs (£717,175) and also costs associated with externally funded research project delivery (£826,000) and donations (£103,000).

Expenditure for services has fluctuated in relation to services income, with the exception of 2014/15 where some of extra expenditure relates to writing off obsolete shop stock.

General operations costs remain at fluctuating levels, and represent costs for items such as photocopying, conference costs and general unspecified costs. The increase in 2016/17 represents a new Faculty charge for overheads of £154,944.

Teaching equipment costs have risen over time to support resources for increased year sizes; an apparent dip in 2016/17 is overstated as a further £36,000 was capitalised. Research equipment costs have been held steady, with replacement and new expenditure as required; in 2016/17 a further £79,000 was capitalised. General equipment cost levels vary and peak in 2014/15 when the Establishment purchased 2 further vehicles.

The Establishment budgets for a small level of building maintenance costs but the majority is provided for by the University Estates department (previously as part of a central charge until 2014/15 and included, inflated in years thereafter).

Table 2.1: Annual expenditure for the last 5 years

Area of expenditure £	2016/17	2015/16	2014/15	2013/14	2012/13
a. Personnel					
a.1 teaching staff	6,345,987	6,079,961	5,766,056	5,251,467	4,841,096
a.2 support staff	1,317,881	1,381,825	1,370,875	1,182,466	1,230,534
a.3 research staff	598,110	982,561	806,348	732,511	700,666
Total for a	8,261,978	8,444,347	7,943,279	7,166,444	6,772,296
b. Operating costs					
b.1 utilities	334,220	327,667	332,000	331,667	331,333
b.2 expenditure relating to teaching	1,471,468	1,212,297	1,333,374	1,450,767	1,372,670
b.3 expenditure relating to research	1,787,865	1,831,142	1,807,885	1,781,564	1,975,882
b.4 expenditure related to services	173,000	179,604	244,043	172,533	143,813
b.5 general operations	468,753	309,420	433,623	413,676	266,543
Total for b	4,235,306	3,860,130	4,150,925	4,150,207	4,090,241
c. Equipment					
c.1 teaching	146,789	281,244	266,515	125,155	248,095
c.2 research	120,417	122,610	111,802	130,462	100,703
c.3 general (or common) equipment	100,524	131,692	165,208	59,939	80,057
Total for c	367,730	535,546	543,525	315,556	428,855
d. Maintenance of buildings	257,323	275,908	260,177	350,899	241,219
e. Other central charges	3,737,247	3,747,732	3,740,800	3,428,332	3,130,866
f. Total expenditure	16,859,584	16,863,663	16,638,706	15,411,438	14,663,477

Table 2.2: Projected future expenditure for the next 5 years

Area of expenditure £	2017/18	2018/19	2019/20	2021/22	2022/23
a. Personnel					
a.1 teaching staff	6,667,264	6,970,201	7,331,363	7,524,422	7,674,911
a.2 support staff	1,510,766	1,560,456	1,591,665	1,623,499	1,655,969
a.3 research staff	661,909	678,298	695,093	712,305	729,945
Total for a	8,839,939	9,208,955	9,618,122	9,860,227	10,060,824
b. Operating costs					

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b.1 utilities	340,904	347,722	354,677	361,770	369,006
b.2 expenditure relating to teaching	1,418,311	1,567,944	1,711,905	1,924,925	2,094,800
b.3 expenditure relating to research	1,859,278	1,881,871	1,961,396	1,992,258	2,072,057
b.4 expenditure related to services	184,496	188,517	192,757	196,843	203,323
b.5 general operations	496,195	496,304	529,695	533,899	566,912
Total for b	4,299,185	4,482,359	4,750,430	5,009,695	5,306,099
c. Equipment					
c.1 teaching	140,000	195,665	205,191	195,520	204,829
c.2 research	105,000	101,749	108,893	109,140	116,122
c.3 general (or common) equipment	50,000	48,452	51,854	51,972	55,296
Total for c	295,000	345,866	365,938	356,632	376,248
d. Maintenance of buildings	263,089	268,540	274,211	280,002	285,917
e. Other central charges	3,726,553	3,715,644	3,704,517	3,693,167	3,681,591
f. Total expenditure	17,423,765	18,021,364	18,713,217	19,199,723	19,710,678

The Establishment has invested considerably in Clinical Associate teaching establishments, as it does not own a teaching hospital. To allow comparison expenditure (historical and future) associated with year 5 teaching and caring for teaching animals, data have been extracted from relevant cost categories in Tables 2.1 and 2.2 and are shown in Tables 2.3 and 2.4.

Support staff costs represent technical time associated with looking after the Establishment's teaching animals. Teaching staff represent costs for clinicians. No costs for maintenance of buildings or equipment is assumed as this is paid for by Clinical Associates. Costs of consumable items etc are variable; within this category are costs paid to Clinical Associates. This may include costs where at certain times, for example during recruitment hiatuses a fee in lieu of placement of Establishment staff may be made to the Clinical Associate; this accounts for the majority of fluctuation in this cost category, with other costs representing costs associated with consumables, rotation travel and clinical postgraduates with teaching responsibilities.

Table 2.3: Sources of expenditure for the veterinary teaching hospitals for the last 5 years

Costs	2016/17	2015/16	2014/15	2013/14	2012/13
1. Salaries for support staff	7,049	6,877	6,709	6,546	6,386
2. Salaries for teaching staff	2,086,156	2,159,254	1,876,785	1,687,845	1,555,950
3. Maintenance of buildings and equipment	0	0	0	0	0
4. Costs of consumable items etc	406,378	154,331	259,150	411,629	489,426
5. Equipment costs and depreciations	52,251	77,535	24,569	19,924	54,476
6. Costs of maintaining teaching animals	50,550	49,512	9,280	47,195	7,475
7. Total costs	2,602,384	2,447,509	2,176,493	2,173,139	2,113,713

Table 2.4: Projected future expenditure for the veterinary teaching hospitals for the next 5 years

Costs	2017/18	2018/19	2019/20	2021/22	2022/23
1. Salaries for support staff	7,331	7,624	7,929	8,246	8,576
2. Salaries for teaching staff	2,359,224	2,406,408	2,676,295	2,729,821	2,784,417
3. Maintenance of buildings and equipment	0	0	0	0	0
4. Costs of consumable items etc	384,629	372,720	398,890	559,796	680,370
5. Equipment costs and depreciations	50,000	48,452	51,854	81,972	85,296

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6. Costs of maintaining teaching animals	50,994	52,269	53,575	54,915	56,288
7. Total costs	2,852,178	2,887,473	3,188,543	3,434,750	3,614,947

Table 2.5 shows the annual cost of teaching a veterinary student with and without the inclusion of student-related central charges. There has been a slight overall reduction in costs over time as the cost base has been stretched with increased student numbers.

Table 2.5: Cost of veterinary training for the last 5 years

Costs £	2016/17	2015/16	2014/15	2013/14	2012/13
Annual cost of training a veterinary student (School budget only)	13,511	14,375	14,441	13,954	14,245
Annual cost of training a veterinary student (including student-related central charges)	15,275	16,320	16,444	15,911	16,168

Revenues:

Tables 2.6 and 2.7 show historical and planned revenues. The majority of the School's income is from State Funding Council grants for teaching and research and from student fees.

Revenue from the State

The revenue for the teaching of Home and EU (HEU) undergraduate students is provided by HEFCE, the Higher Education Funding Council for England. Funds are allocated based on a unit of resource 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 £10,180 in 2016/17 (£9,804 in 2012/13). As a result of the introduction of UK Government increased fees (see below), HEFCE funding has reduced per undergraduate student.

For HEU postgraduate students, HEFCE funding per postgraduate taught student is £11,300 (2016/17). The HEFCE Research Degree Programme grant is distributed according to the number (FTE) of research students for Schools that receive HEFCE Quality-Related Research (QR) funding, multiplied by a subject cost and quality weighting (this is £5,927 per student in 2016/17).

The School currently receives research related HEFCE QR funding associated with the grading resulting from the 2014 Research Excellence Framework (REF) assessment (and prior to that from the 2008 Research Assessment Exercise (RAE)). The QR 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). Income up to 2015/16 was a result of the 23 staff submitted to the RAE in 2008; the income increased in 2015/16 as a result of increased numbers (41 staff) submitted for the 2014 REF. HEFCE Funding is also received on the basis of average research income from charities and business for the previous four years of published data. So, for 2017/18, this would be an average of such income in 2012/13, 2013/14, 2014/15 and 2015/16.

Revenue from research

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 trend is fairly stable with minor fluctuations reflecting the way that the start /end of large grants can significantly affect the overall income profile. However, there was a 25% reduction in income in 2016/17 due to a marked fall in awards from UK Research Councils. These are high value and highly competitive. The main reasons suggested for the fall are the: Number of applications is down

Proportion of awards being made by the Biotechnology and Biological Sciences Research Council (BBSRC) to areas in which the Establishment conducts research is lower than it has been historically.

Revenue earned and retained by the Establishment

Tuition fees are charged to all undergraduate and postgraduate students. All HEU undergraduate students pay a University fee of £9,000 per year (2016/17 entry). This fee also applies to graduates undertaking the undergraduate programme. International undergraduate students on the 5-year programme are charged £28,320 per year (2016/17 entry). HEU postgraduates on taught programmes pay a fee as per the price of the course, currently this is £4,395 (Veterinary Medicine and Surgery) and £2,075 (Veterinary Education). HEU postgraduates on research programmes pay £4,121 fees. International postgraduate taught students pay fees of £11,780 (Veterinary Medicine and Surgery) and £2,075 (Veterinary Education). Postgraduate Research students pay fees varying between £19,120 and £35,010 per year dependent on the type of research project.

The Establishment has increased the cohort size to 160; there are no plans to increase student numbers above this level to ensure that resources are effectively used and the student experience is maximised. International undergraduate student income has decreased through a strategic decision to admit the highest achieving students irrespective of nationality, as experience had shown that international students frequently failed to complete the course due to cultural and academic reasons.

Continuing education revenue has increased over time as the Establishment has grown the number of courses offered.

Revenue associated with diagnostic activities is from three sources: NUVetNA, the Establishment own Pathology diagnostic service and a great crested newt eDNA analysis service.

Table 2.6: Annual revenue for the last 5 years

Revenue source £	2016/17	2015/16	2014/15	2013/14	2012/13
a. Revenue from State					
a.1 UG student related	6,524,302	6,102,094	5,885,000	5,924,000	5,819,000
a.2 PG student related	353,399	379,374	458,000	349,000	279,000
a.3 Research related	1,431,665	1,412,022	1,157,000	1,167,000	1,069,000
b. Revenue from private bodies	0	0	0	0	0
c. Revenue from research	1,749,000	2,321,785	2,092,000	2,231,000	2,343,000
d. Revenue earned and retained by the School					
d.1.1 UG student fees (HEU)	5,842,071	4,847,792	4,068,000	3,217,000	2,358,000
d.1.2 UG student fees (overseas)	199,212	352,126	601,000	705,000	691,000
d.1.3 PG student fees (HEU)	214,318	264,372	296,000	230,000	203,000
d.1.1 PG student fees (overseas)	450,533	519,464	470,000	407,000	443,000
d.2 continuing education	141,812	139,303	89,000	52,000	44,000
d.3 clinical activities	0	0	0	0	0
d.4 diagnostic activities	105,084	102,813	87,000	41,000	33,000
e. Revenue from other sources	195,604	182,755	279,000	350,000	264,000
f. Total revenue from all sources	17,207,000	16,623,901	15,482,000	14,673,000	13,546,000

The Establishment receives no income from clinical activities undertaken by Establishment staff; 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 Establishment 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 (this revenue is shown in the ‘Diagnostic Activities’ category).

2.1.3. Brief description of the projected budget (expenditures, revenues, balance) of the next 3 years

According to RCVS requirements, the Establishment needs to describe their projected budget for the next five years. The expenditures are described in Table 2.2 (page 11) and the revenues in Table 2.7.

Table 2.7: Projected future revenue for the next 5 years

Revenue source £	2017/18	2018/19	2019/20	2021/22	2022/23
a. Revenue from State					
a.1 UG student related	6,650,046	7,053,830	7,346,122	7,482,623	7,652,000
a.2 PG student related	329,081	274,669	274,500	274,737	274,737
a.3 Research related	1,362,853	1,362,853	1,362,853	1,362,853	1,362,853
b. Revenue from private bodies					
c. Revenue from research	2,009,346	2,059,579	2,111,069	2,163,846	2,217,942
d. Revenue earned and retained by the School					
d.1.1 UG student fees (HEU)	6,311,994	6,730,406	7,172,111	7,574,552	7,964,000
d.1.2 UG student fees (overseas)	165,355	198,918	230,524	263,528	301,000
d.1.3 PG student fees (HEU)	237,927	255,648	308,106	322,328	337,375
d.1.1 PG student fees (overseas)	414,998	478,377	573,199	601,854	632,000
d.2 continuing education	152,177	154,979	157,838	160,754	166,046
d.3 clinical activities					
d.4 diagnostic activities	112,764	114,841	116,959	119,120	123,041
e. Revenue from other sources	214,859	219,481	224,208	229,042	235,721
f. Total revenue from all sources	17,961,400	18,903,581	19,877,490	20,555,235	21,266,715

2.1.4. Brief description of the planned or on-going investments

Investments are planned mainly in equipment, constantly increasing by year, attaining in the next three years a total of 1,006,804.

2.1.5. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the budget of the Establishment

Students and stakeholders are involved in financial decision making at the level where they are involved in various decisional bodies. It has not been specifically mentioned that these parties are able to decide about the different budget categories.

2.2. Comments

The Establishment’s finances are sufficient to support adequately the requirements for the Establishment to meet its mission, to achieve its objectives for education, research and services and to facilitate annual investment in priority areas. The Dean has appropriate levels of autonomy.

The expenditures and revenues are clearly presented in annual accounts. The financial records undergo monthly reviews and *ad hoc* reviews whenever needed (e.g., capital costs) to ensure that available resources meet the requirements.

The allocation of resources for the upcoming 5 years appears to be realistic and is based on the expenditures of the last 5 years, and includes appropriate increases in staffing levels.

The relatively low financial contribution level of the Establishment to the University is noted. The level of this contribution is crucial to the ongoing financial health of the Establishment and its ability to deliver the curriculum. The recent and projected increase in student numbers is the predominant driver of additional income. Although the Establishment has no set capital budget, the increased capitalisation in 2016-17 is noted.

The research revenue has decreased over time although the Establishment is making efforts to ensure that funds are available to allow staff to undertake research and to support grant applications.

The financial health of the Clinical Associates represents one of the selection criteria used when initiating the relationship but receives minimal attention once the relationship is established.

2.3. Suggestions for improvement

Consideration should be given to providing a budget allocation in future for building maintenance to ensure the infrastructure and facilities of Clinical Associates will continue to support the mission and objectives of the School.

Discussions on the business development plans of the Clinical Associates should be a routine part of the annual review to ensure the robustness of the clinical training model is maintained and enhanced.

With the increased student numbers driving income, the School should ensure expenditure is directed appropriately to maintain the student experience.

Considering the recent establishment of the four Strategic Research Areas, the opportunities available within the University in terms of interdisciplinary co-operation, human resources and infrastructure should be leveraged to increase the numbers of successful research grant applications.

We encourage the University to maintain the School's current forecast absolute level of financial contribution in recognition of the unique nature of the veterinary programme.

2.4. Decision

The Establishment is compliant with Standard 2.

3. Curriculum (see Standards 3.1 to 3.10 in Chapter 3)

3.1 General Curriculum

3.1.1 Findings

3.1.1.1. Brief description of the educational aims and strategy in order to propose a cohesive framework and to achieve the learning outcome

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

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- Knowledge of veterinary public and animal health standards, processes and issues including animal foodstuffs, transmittable and notifiable zoonotic diseases and animal welfare
- Problem solving ability, and 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, including the obligation for a commitment to continuing professional development, coupled with due recognition of their own personal limitations
- Skills and attributes for further professional development and continual lifelong learning as a veterinary surgeon

3.1.1.2. Brief statement if all EU-listed subjects are taught in the core curriculum to each student (independently of the tracking system)

The curriculum has been designed to meet the RCVS Day One Competences, QAA Subject Benchmark and EAEVE Subject Areas, with additional key underpinning themes of providing a grounding in basic science, research literacy and ensuring development as professionals. The programme has been mapped to RCVS Day One Competences and EAEVE clinical competences. Students meet RCVS requirements for EMS, undertaking it during vacation periods. They cannot progress to Clinical Extra-Mural Studies until completion of Animal Husbandry EMS.

Table 3.1.1: Digest of disciplines and subjects (hours)

Subject	Hours						Total
	Lectures	Tutorials, seminars & PBL	Online and Other	Labs and supervised practical's	Clinical	EMS	
Basic subjects and sciences							
Anatomy, histology, embryology	69	60	0	68	44	0	242
Biochemistry	16	14	0	2	1	0	33
Biology, cell biology	23	19	0	8	4	0	55
Chemistry	4	2	0	1	0	0	7
Physiology	85	53	0	10	7	0	155
Molecular biology	6	5	0	2	1	0	13
Scientific Method	1	1	384	0	0	0	386
Biostatistics	3	2	0	3	2	0	11
Genetics	6	6	0	3	1	0	16
Epidemiology	7	7	0	0	0	0	14
Immunology	18	9	0	1	0	0	29
Microbiology	26	17	0	12	5	0	60
Pathology, pathophysiology	55	49	0	14	14	0	132
Pharmacology	16	15	0	3	3	0	36
Pharmacy	8	8	0	1	2	0	19
Toxicology	4	3	0	0	1	0	7
Environmental protection and conservation	1	0	0	0	0	0	1
Parasitology*	23	17	0	9	5	0	54
Total	371	286	384	138	90	0	1269
Animal Production							
Agromony	2	0	0	0	0	0	2
Animal nutrition	9	10	0	5	4	0	29
Animal husbandry & production, incl. aquaculture	29	20	2	22	6	0	79
Livestock production economics	16	7	0	2	1	0	25
Animal behaviour & behavioural disorders	14	13	0	5	2	0	34
Animal protection & welfare	6	5	0	1	0	0	12
Preventative vet medicine, health monitoring**	6	5	0	1	34	0	45
Reproduction & obstetrics**	24	21	1	12	22	0	80
Total	105	81	3	49	68	0	306
Clinical subjects							
Anaesthesia	16	9	0	6	36	0	67

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Clinical examination & diagnosis	21	30	0	25	161	0	237
Clinical pathology	22	25	0	16	51	0	114
Diagnostic imaging	15	20	0	14	76	0	125
Clinical medicine	49	25	0	19	176	0	269
Surgery	33	17	0	12	68	0	129
Therapeutics	35	32	0	8	82	0	157
Emergency & critical care	9	6	0	2	34	0	51
Exotic & epizootic disease	1	1	0	0	9	0	11
Zoonoses & public health	1	1	0	0	30	0	31
Government veterinary services	13	6	0	3	23	0	45
Anatomic pathology*	0	0	0	0	67	0	67
Total	215	170	1	104	812	0	1303
Food hygiene							
Veterinary certification	2	1	0	0	15	0	18
Regulation & certification of animal & animal products	5	3	0	3	5	0	17
Food hygiene & quality	2	1	0	0	22	0	25
Total	9	5	0	3	42	0	60
Professional knowledge							
Professional Ethics & behaviour	10	12	0	0	53	0	75
Veterinary legislation	7	4	0	2	4	0	17
Communication skills	22	36	8	5	48	0	119
Practice management & business	7	3	0	7	17	0	33
Information literacy & data management	3	2	0	2	12	0	18
Total	48	55	8	16	133	0	262
Other							
Learning, group working and interpersonal development	66	26	26	6	6	0	130
Tutorial	1	23	0	0	0	0	24
Career planning and opportunities	7	0	0	0	0	0	7
EMS	0	0	0	0	0	1330	1330
Total	75	49	26	6	6	1330	1493

Alignment of the curriculum has been calculated by mapping individual learning objectives for each delivery session; any differences in the totals between tables reflect rounding

* Parasitology and anatomic pathology have been added as subject areas as the Establishment feel these do not map clearly to other areas

** Preventative vet medicine, health monitoring and Reproduction & obstetrics whilst listed under 'Animal Production' include significant clinical time

'Learning, Group Working and Interpersonal Development' represents generic objectives associated with the majority of delivery sessions (e.g. 'work as a group to solve a problem')

It is not possible to map EMS to subject areas as the content varies on an individual student basis

3.1.1.3. Brief description of how curricular overlaps, redundancies, omissions and lack of consistency, transversality and/or integration of the curriculum are identified and corrected

The curriculum is a vertically (clinically) and horizontally (subject) integrated programme and uses a range of teaching methods. In Years 1 and 2, systems-based clinical science modules cover structure and function in the normal animal. Each systems-based module is then repeated in Year 4, when the clinical aspects of disease, diagnostics and treatment are delivered. The first (clinical science) and second (clinical) modules for each body system are scheduled contemporaneously during the academic year, enabling the clinical students to revisit any relevant clinical science teaching during the clinical module. Year 4 students are also involved in peer-led teaching to earlier years thereby ensuring they review the relevant basic science relating to that module.

Learning is reinforced by the introduction of clinical case scenarios from the beginning of the course with the aim of developing problem-solving and clinical reasoning attributes. Lifelong learning skills are developed 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 cover areas such as Animal Health and Welfare, and Personal and Professional Skills.

Year 3 is a transition year between clinical science and clinical modules. A twelve-week free choice research project at the start of year 3 allows students to develop research skills including literature searching, experimental design, analysis of data and scientific writing techniques. Year 5 is lecture free and students undertake a series of Clinical Practice Rotations that comprise small-group clinical teaching in a workplace situation. The year is competency-based, and 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 but may also include seminars, case rounds, practical classes and self-directed learning; students are normally under the supervision of University academic staff working from the School campus or placed at, and working within, the Clinical Associate. The 26 weeks of rotations are delivered over a period of 50 weeks. During year 5, students also undertake a 4-week elective in Specialist Practice. A 1 week compulsory Emergency and Critical Care/Out of Hours EMS placement is currently required, but it is planned that it may become a core rotation. A further 21 weeks comprises study /vacation time and time for required Clinical Extramural Studies.

3.1.1.4. Description of the selection procedures of the Electives by the students and the degree of freedom in their choice

In spite the fact that the curriculum contains no electives, there are inherently elements of choice. The students are able to select the topic of their year 3 research project, and also there is a flexible choice of Extra Mural Studies, which allows the students to focus their activities in species of interest. The EMS rotations in the 5th year include Elective Specialist Practice rotations organised by the Establishment. Year 5 rotations provide choice to choose 2 weeks referral or 2 weeks Primary Care, Small Animal rotation. When students do not get their first-choice research project, a process is in place to ensure they obtain suitable alternative topics. There are no restrictions on EMS placements. Currently students have to choose Specialist Elective EMS in one of small animal practice, equine practice or farm animal practice. From 2018, the School will operate core and track rotations which will give students more exposure to specialist level practice in the area of their choice.

The Establishment organises 4 weeks of rotations in Elective Specialist Practice in Year 5 as shown in Table 9.4. Students are required to choose one of these options.

Table 3.1.2: Elective Specialist Practice EMS requirements

Rotation	Location	Weeks	Practical work
Small Animal	VetsNow	2	Emergency Small Animal Medicine and Surgery
	Dovecote Veterinary Hospital	2	Advanced small animal practice
Farm Animal	XL Vets	4	Advanced Farm Animal practice
Equine	Chine House	4	Emergency equine medicine and surgery
	Bell Equine		Advanced equine medicine and surgery
	Rainbow Equine		Advanced equine medicine and surgery

3.1.1.5. A brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the curriculum

The Establishment has in place mechanisms for ongoing curriculum review and assessment such as weekly debriefing of facilitators reviewing material delivered in Clinical Relevance sessions, annual module and rotation reviews (e.g. student feedback, external review, focus groups etc), evaluation of individual teachers by student evaluation of teaching and peer, Module Convenor and Sub-Dean observation, external examiner reports on each assessment,

annual programme reviews, including student feedback on their experience of the year and 7 yearly curriculum reviews to consider major changes in strategy. For changing the learning objectives, periodic review and accreditation by the RCVS and EAEVEA formal process have been introduced. Whilst changes were always made previously via module reviews, in order to keep the curriculum map current a separate process is now undertaken, which ensures all stakeholders are kept informed. Changes are considered by the Teaching, Learning and Assessment (TLA) committee and rejected if inappropriate.

3.1.2 Comments

The curriculum is integrated both vertically and horizontally yet has been mapped to the RCVS and EAEVE Day One Competences through curriculum mapping software.

3.1.3. Suggestions of improvement

The School should encourage students to consider a broad range of career options as opposed to having a focus on a career in clinical practice. The School should consider introducing non-clinical rotations and/ or tracking or elective rotations for students interested in these fields.

3.2 Basic Sciences

3.2.1 Findings

3.2.1.1. Brief description of the theoretical and practical education in basic sciences

A systems-based approach covers each major body system as a separate module in which all basic subjects are included. In Years 1 and 2, these clinical science modules cover structure and function in the normal animal.

There is incremental development of understanding in a range of basic science subjects including anatomy, physiology, biochemistry, embryology, immunology, genetics, molecular biology and microbiology within the systems based modules undertaken in Years 1 and 2. Subjects which traditionally have been considered as ‘paraclinical’ such as pathology, microbiology, parasitology and immunology are also taught within the system based modules in Years 1 and 2 and are complemented and reinforced by additional teaching in a Year 3 Principles of Clinical Veterinary Science Module. Basic subjects and sciences are considered as embedded modules within the curriculum and tracked to avoid any omissions or duplications across the modules. It is expected that when students progress to the clinical modules in Year 4 they are conversant with all the material taught in the clinical science system-based modules and the long modules delivered in Years 1 and 2.

Table 3.2.1: Digest of units of study (hours)

Module	Credits	Hours						
		Lectures	Tutorials, seminars & PBL	Online and Other	Labs and supervised practical's	Clinical	EMS	Total
Year 1								
D11MSK Veterinary Musculoskeletal System 1	30	43	49	0	35	17	0	144
D11LCB Lymphoreticular Cell Biology	10	18	15	1	16	0	0	50
D11CRS Veterinary Cardiorespiratory System 1	30	51	49	2	23	11	0	135
D11NEU Veterinary Neuroscience 1	30	52	47	2	28	14	0	143
D11AHW Animal Health and Welfare 1	15	32	2	2	25	0	0	61

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D11PPS Veterinary Personal and Professional Skills 1	5	9	29	1	4	2	0	44
Extra Mural Studies	0	0	0	0	0	0	210	210
Total	120	205	191	8	131	44	210	787
Year 2								
D12GIL Veterinary Gastrointestinal System 1	40	78	68	0	37	19	0	202
D12URI Veterinary Urinary System 1	15	32	16	2	12	6	0	67
D12REP Veterinary Reproduction 1	20	35	29	0	22	11	0	97
D12ENI Veterinary Endocrine & Integument Systems 1	25	42	26	2	20	10	0	100
D12AHW Animal Health and Welfare 2	15	31	19	0	13	0	0	62
D12PPS Veterinary Personal and Professional Skills 2	5	25	23	0	5	3	0	55
Extra Mural Studies	0	0	0	0	0	0	210	210
Total	120	243	181	4	109	49	210	793
Year 3								
D13PRO Veterinary Research Project	40	0	0	384	0	0	0	384
D13PVS Principles of Clinical Veterinary Science	30	59	41	1	20	10	0	131
D13VPH Veterinary Public Health	20	15	13	2	5	5	0	40
D13CPS Clinical and Professional Skills	30	20	15	0	0	35	0	70
Extra Mural Studies	0	0	0	0	0	0	210	210
Total	120	94	69	387	25	50	210	835
Year 4								
D14ENI Veterinary Endocrine & Integument Systems 2	20	36	23	2	6	17	0	83
D14NEU Veterinary Neuroscience 2	10	30	21	1	1	2	0	54
D14LCB Veterinary Lymphoreticular Cell Biology 2	10	14	12	2	3	0	0	31
D14PPS Veterinary Personal and Professional Skills 4	10	13	4	0	14	0	0	32
D14MSK Veterinary Musculoskeletal System 2	30	40	37	2	6	18	0	102
D14GIL Veterinary Gastrointestinal System 2	30	54	34	0	8	24	0	120
D14CRS Veterinary Cardiorespiratory System 2	30	36	36	2	5	14	0	92
D14REP Veterinary Reproduction 2	30	41	21	12	6	19	0	100
D14URI Veterinary Urinary System 2	10	17	14	2	2	5	0	38
Extra Mural Studies	0	0	0	0	0	0	350	350
Total	180	281	202	23	51	99	350	1002
Year 5								
D15EQI Veterinary Clinical Practice: Equine	40	0	0	0	0	230	0	230
D15LAV Veterinary Clinical Practice: Farm and Veterinary Public Health	50	0	0	0	0	335	0	335
D15SMA Veterinary Clinical Practice: Small Animal	55	0	0	0	0	335	0	335
D15PPS Veterinary Personal and Professional Skills	35	0	3	0	0	9	0	12
Extra Mural Studies	0	0	0	0	0	0	350	350
Total	180	0	3	0	0	909	350	1262
Total	720	823	646	422	316	1151	1330	4679

Data is completed for all teaching delivered for years 1 to 4 and for rotations in year 5 in the academic year 2016/17, and rounded to the nearest hour

Practical classes in years 1 to 4 include clinical work, based on a proportion of classes a valid assumption has been made that 1/3 of the time of any practical class (except Animal Health and Welfare 1, Lymphoreticular Cell Biology, Clinical and Professional Skills, Veterinary Public Health and Personal and Professional Skills

4) is spent on clinical work in years 1 to 3, and 3/4 of the time of any practical class is spent on clinical work in year 4. Veterinary Public Health is assumed to be 50% clinical work. Year 3 Clinical and Professional Skills and all of year 5 rotations is assumed to be 100% clinical work

The 'Other' category of delivery type includes timetabled formative assessments and Research Project

The 'Tutorials, Seminars/Problem based learning' category of delivery type includes Clinical Relevance sessions, Self and Directed Group Learning

EMS profiles are individual to the student however the data assumes 6 weeks in years 1 -3 and 10 weeks in years 4 and 5

Curriculum hours have been assigned as accurately as possible using a bespoke database. Average hours per week are assumed to be 32 hours for the Research Project and 35 hours for year 5 and EMS.

3.2.2 Comments

None

3.2.3. Suggestions of improvement

None

3.3. Clinical Sciences in Companion Animals (incl. Equines)

3.3.1. Findings

3.3.1.1. Brief description of the theoretical, practical and clinical education in Clinical Sciences in companion animals

In Year 4 of the course emphasis is primarily clinical, utilising and building upon earlier concepts and knowledge. Year 4 students are also involved in peer led teaching to earlier years thereby ensuring they are cognisant of all the relevant basic science relating to that module. The development of clinical knowledge is also supported by EMS.

The lecture-free Year 5 is based at the School and Clinical Associates in which clinical teaching is delivered in the context of a large, varied caseload relevant to the 'Day One' veterinary graduate. Total Clinical Rotations are 26 weeks. There are plans that the current 1-week compulsory Out of Hours / Emergency and Critical Care CEMS may become a core rotation.

3.3.1.2. Description of the core clinical exercises/practicals/seminars in companion animals prior to the start of the clinical rotations

Delivery of clinical sciences exploits the vertical integration of the course to allow embedding of clinical concepts and skills alongside basic sciences from Year 1. In Years 1 to 3 clinical material is used to reinforce and contextualise the basic subjects and sciences, and practical skills which are core to later development of clinical competence are taught, practised and assessed.

3.3.1.3. Description of the core clinical rotations and emergency services in companion animals and the direct involvement of undergraduate students in it

There have been no major changes to the content of the curriculum since the last Visitation, but there have been some organisational changes, as mentioned in Table 9.1.

There have been some changes associated with year 5:

A compulsory introductory week prior to rotations starting has been restructured to offer all the information on health and safety and pastoral support, surgical and anaesthesia refresher practicals, advice about DOPS and assessment, CV and financial planning sessions, and a visit from an RCVS representative.

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Students no longer attend Dogs Trust Loughborough during their small animal PDSA rotation, instead they attend a newly established small animal practice (Pinfold Vets) as part of the PDSA Nottingham rotation

Students are now able to choose to either spend 2 weeks at Dick White Referrals, or 2 weeks at first opinion small animal department at Oakham Veterinary Hospital

Students spend 2 weeks on a primary care rotation which is split between the Pride Hospital (1 week) and a branch practice (Shelton Lock), where the case load is a mix of private and Blue Cross clients. The Pride Hospital is also the site for the 2-week small animal referral rotation, which now consists of medicine, anaesthesia (and pain clinics) and diagnostic imaging. Students may also spend time with other referral disciplines.

Students now undertake a 2-week equine skills rotation based at the School instead of at Scarsdale Vets. Within this rotation students spend 2 days undertaking ambulatory work at Scarsdale equine practice, 1 day performing dentistry at the Defence Animal Centre (DAC), and clinical pathology teaching at Pride laboratory

Students with a particular interest in equine work can opt to spend some of their 4-week Oakham-based equine practice rotation at the DAC

The Farm skills rotation has evolved since the last visit to include more teaching around the non-dairy species (sheep and pigs)

The Zoo/exotics rotation has been reduced from 8 days to 5 days. Additional staffing at the zoo and the construction of a new purpose built veterinary facility has further improved this rotation. Students no longer spend a day at the Chine House practice

All students currently undertake a compulsory week of out of hours/emergency CEMS at Pride in groups of 2 or 3 under close supervision of the out of hours' clinicians. It is planned that this may become a core rotation.

There is no compulsory participation of the students supervised by the staff trained to teach and assess, in 24/7 emergency services at some of the Clinical Associates, which does not allow them to acquire all Day one skills.

Table 3.3.1: Current compulsory Clinical rotations and planned changes

Core Rotation	2017/18 weeks		2018/19 weeks	
Small Animal	Primary care	2 weeks Pride / Shelton Lock	Primary care	2 weeks Pride / Shelton Lock
	Referral medicine, anaesthesia and imaging	2 weeks Pride	Referral medicine, anaesthesia and imaging	2 weeks Pride
	Charity/shelter	2 weeks PDSA/Pinfold	Charity/shelter	2 weeks PDSA
	Specialist / referral care or Primary care	2 weeks (DWR or OVH)	Specialist / referral care or Primary care	-
Equine	Equine skills	2 weeks School / DAC / Scarsdale / Bransby	Equine skills	2 weeks School/DAC/ Scarsdale
	Equine hospital practice	2 weeks Oakham	Equine practice	2 weeks Oakham
	Equine ambulatory	2 weeks Oakham		
Farm	Farm skills	2 weeks School	Farm skills	2 weeks School
	Farm practice	2 weeks Scarsdale	Farm practice	2 weeks Scarsdale / New CA
	Herd Health	2 weeks School		-

Veterinary Public Health		2 weeks School	Veterinary Public Health, ethics and biosecurity	2 weeks School
Anatomic pathology		1 week School 1 week Minster	Anatomic pathology	1 week School 1 week Minster
Exotics		1 week Twycross Zoo		-
Introduction		1 week School	Introduction	1 week School

Compulsory track	-	-	Flexible	6 weeks
Compulsory CEMS	Out of hours / Emergency and Critical Care	1 Week Pride	Out of hours/Emergency and Critical Care	1 week Pride 1 week VetsNow

3.3.2. Comments

The use of Clinical Associate practices to deliver clinical teaching exposes students to relevant case material applicable to the Day One Competences.

Compulsory Clinical EMS in Specialist practices ensures that students experience an important aspect of practice largely missing from core rotations. Similarly, EMS in Emergency/Out of Hours Clinics is a worthwhile activity.

The curriculum is strongly focussed towards a career in clinical work, however an increasing proportion of future graduates may find work in (international) non-clinical jobs. The curriculum currently offers limited opportunities for electives in non-clinical work and also leaves the students the option of participating or not in the 24/7 emergency training.

3.3.3. Suggestions

The School should implement the planned conversion of compulsory Emergency/Out of Hours EMS to an assessed rotation

3.4. Clinical sciences in food-producing animals (including animal production)

3.4.1. Findings

3.4.1.1. Brief description of the theoretical, practical and clinical education in Clinical Sciences in food producing animals

The Digest of units of study (hours) for clinical sciences in food producing animals is presented in Table 9.5, while Table 9.1 presents the current compulsory Clinical rotations and planned changes, including Farm skills, Farm practice and Herd Health. Preventive medicine topics are integrated into the systems-based modules as appropriate and the teaching is consolidated during final year, where students commonly lead vaccination/wellness consultations during some small animal rotations, and design farm animal health preventative strategies during relevant rotations.

3.4.1.2. Description of the core clinical exercises/practicals/seminars in food-producing animals prior to the start of the clinical rotations

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 practice a wide variety of clinical, personal and professional skills, whilst experiencing a range of management systems and processes.

As per RCVS guidelines, clinical EMS comprises two phases: one preparatory phase – 6 weeks on completion of AHEMS. During this period students are encouraged to undertake a variety of different placements to experience a range of veterinary work, as defined by RCVS guidelines and a second, practical EMS – the remainder of student selected CEMS. This is entirely free choice for the students, the School does not insist a minimum number of weeks in different subject areas are completed.

The view of the Establishment is that it is its responsibility to deliver core teaching in all species areas, leaving EMS for students to concentrate on areas of particular interest or on areas where they feel they would benefit from additional experience.

3.4.1.3. Description of the core clinical rotations, emergency services (both intramural VTH and ambulatory clinics) and herd health visits in food-producing animals (i.e. ruminants, pigs and poultry) and the direct involvement of undergraduate students in it (responsibilities, hands-on versus observation, report writing)

Since the Establishment utilises a community-based teaching model as part of Intra Mural Rotations and also facilitates Extra Mural Studies as required by the RCVS, the core clinical rotations, emergency services in food-producing animals take place extramurally, as mentioned in Tables 9.1-9.3. As it can be observed under point 12. ESEVT indicators, the numbers of ruminant and pig patients seen during the clinical rotations by students as well as the visits to rabbit and chicken farms are fully covered.

3.4.1.4. Brief description of the theoretical and practical education in Animal Production

Animal production is primarily covered within Animal Health and Welfare modules which are “long modules” running through years 1 and 2. Teaching is integrated with concurrent systems based teaching where appropriate. Three of the guiding aims of these modules are to provide: An introduction to the health and husbandry of the common species on which to build throughout the remainder of the course.

A basic understanding of animal industries and the role of the different species in society

The key animal handling and practical skills to enable students to effectively and efficiently learn during Animal Husbandry EMS and clinical EMS.

Animal production is consolidated during clinical teaching in year 4 and Year 5 rotations.

3.4.2. Comments

None

3.4.3. Suggestions of improvement

None

3.5. Food Safety and Quality (FSQ)

3.5.1. Findings

3.5.1.1. Brief description of the theoretical and practical education in FSQ

The principles of the food chain of a variety of species, epidemiology, milk production and microbiology are delivered in body systems based modules where appropriate. In Year 3 the Veterinary Public Health (VPH) module integrates the principles and concepts of food hygiene, population medicine and veterinary epidemiology. Furthermore, the management and

surveillance of zoonotic and notifiable diseases is developed and its context with regard to legislation and enforcement defined. The students are expected to develop an understanding of the public health issues relating to other food sources and to exhibit a working knowledge of the basic food sciences including food technology, processing and preservation as well as the relevant environmental and economic issues associated with food production. Food hygiene knowledge is applied in context during the year 5 VPH rotation.

3.5.1.2. Description of the teaching in slaughterhouses and in premises for the production, processing, distribution/sale or consumption of food of animal origin

Veterinary Public Health, was formerly taught as a long module in Year 4 but it was recognised that this was not helpful to student learning. It is now largely delivered in a block module in year 3, adjacent to the Principles of Veterinary Science module but, after review, some content was re-integrated back into the year-4 systems modules. These changes in VPH delivery also resulted in the merging of Year 3 PPS into Practical Techniques to form a new Clinical and Professional Skills module. The length of the research projects has been slightly reduced to accommodate the movement of VPH to year 3, but the intended learning outcomes are unchanged.

Students undertake a 2-week module on Veterinary Public Health in Year 3. Additionally learning objectives of veterinary public health relevance are embedded in body system modules in Year 4. The VPH module is delivered by School staff and external specialists. During Year 5 students undertake a 2-week VPH rotation. In this rotation visits are undertaken to a variety of abattoirs and food production units; in the most part these visits are undertaken with no payment to the host.

3.5.2. Comments

None

3.5.3. Suggestions of improvement

None

3.6. Professional knowledge

3.6.1. Findings

3.6.1.1. Brief description of the theoretical and practical education in professional knowledge

Personal and professional skill teaching is delivered in each year of the curriculum. This material is taught in two ways; firstly, the stand-alone module Personal and Professional Skills (PPS), and secondly, learning outcomes from PPS are integrated at multiple relevant points within other system based modules. Within the PPS module, teaching is often experiential or discussion based and uses techniques such as the use of medical actors for communication skills sessions. Years 1, 2 and 4 contain standalone PPS modules. In year three professional skills are included in the Clinical and Professional Skills module, which prepares the students for Clinical EMS placements.

3.6.1.2. Brief description of the organisation, selection procedures and supervision of the EPT

The Establishment does not provide EPT, rather it utilises a community-based teaching model as part of Intra Mural Rotations and also facilitates Extra Mural Studies as required by the RCVS.

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 a 2FTE administrative team, with academic and strategic input from the Student Placement Sub-Dean. This team aids students in selecting suitable EMS placements 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.

Twelve weeks of animal husbandry EMS are required to be undertaken in Years 1 and 2 in order to meet the requirements of the BVMedSci degree. 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.

Table 3.6.1: Animal Husbandry EMS requirements

Nature of work	Minimum period	Minimum number of animals on farm/unit
Lambing	2 weeks	200
Pig	2 weeks	60
Equine	2 weeks	Commercial establishment
Dairy	2 weeks	75
Free choice (e.g. vet nursing, cattery, zoo)	4 weeks	

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 allowed to complete a maximum of 6 weeks before the end of Easter vacation of Year 3 of the course.

Table 3.6.2: Clinical EMS requirements

Nature of work	Type	Minimum period
Elective Specialist EMS	Formalised compulsory– the type of experience (farm, small animal or equine) is chosen by student but organised by the School at Specialist practices and attended by all students	4 weeks
Emergency and Critical Care/ Out of hours	Formalised compulsory– organised by School at Pride Veterinary Centre and attended by all students	1 week
Other	Free choice - student selected based on learning needs, likely career choice and discussion with Personal Tutor, e.g. practice, research, veterinary business, veterinary education. An optional Specialist Elective Rotation is offered by the School, which covers various Small Animal related topics (e.g. dermatology, clinical pathology)	21 weeks

3.6.1.3. Description of the procedures (e.g. logbooks) used to ascertain the achievement of each core practical/clinical activity (pre-clinical, clinical, ambulatory clinics, EPT) and professional knowledge by each student (independently of the tracking system)

Students are required 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 and Skills Diary by the Personal Tutor. All Placement providers are provided with a Host pack covering logistical details of the placement, a commitment statement by the Establishment, and a Health and Safety disclosure. Each placement provider will also receive details of the aims and objectives for the EMS. CEMS hosts also receive a pack that contains an overview of the course, a copy of an extract from the RCVS 'Clinical Extra Mural Studies: A manual for participating practices', and details of skills and techniques appropriate to the year of study of the student.

3.6.2. Comments

None

3.6.3. Suggestions of improvement

None

3.7. Decision

The Establishment is compliant with Standard 3, with exception of substandard 3.5.

The Establishment is non-compliant with substandard 3.5 because of no compulsory training in 24/7 emergency services for all students resulting in insufficient acquisition of some of Day One Competences in clinical sciences.

4. Facilities and equipment (see Standards 4.1 to 4.15 in Chapter 3)

4.1. Findings

4.1.1. Brief description of the location and organisation of the facilities used for the veterinary curriculum

The Establishment is based at the University's 1,000 acre Sutton Bonington campus, which comprises 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.

There have been 3 specific and bespoke major buildings developed for the Establishment, together with access to multiple animal and farm facilities and shared teaching and research facilities. Furthermore, through the Clinical Associates the Establishment has access to 9 clinical veterinary establishments.

The three-storey *Academic Building* is the main hub of the Establishment 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 as well as 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 and radiograph viewers together with 2 preparation rooms and an 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, 6 bay / 36-seat Clinical Teaching Lab extensively equipped with examination facilities and clinical equipment including ultrasound, ECG, anaesthetic monitors, 40-seat Clinical Skills Centre with equipment including an imitation practice, specialised resources such as a virtual reality rectal simulator (haptic cow), clinical training models and aids as well as clinical diagnostic equipment, 40-seat Surgical Skills Centre containing 12 operating tables, Simulated radiography suite, containing decommissioned full size and dental x-ray machines, Museum, Staff offices and support facilities including 8 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, staff offices and other offices, laboratories and facilities for the School of Biosciences.

The Establishment also utilises a new 200-seat campus high specification general teaching laboratory.

The Establishment has access to the on-site fully licensed abattoir with commercial facilities, 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 Establishment'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 hoists, large hydraulic post mortem tables, class 1 and 2 safety cabinets. The University has invested in upgrading and expanding facilities to include changing facilities including showers, new lairage, large walk-in cold room, staff 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. The facilities are shared with Poultry Health Services who involve students in interesting cases and teach poultry and large animal necropsies within the pathology rotation.

4.1.2. Description of the adequacy for the veterinary training of the premises for:

Clinical facilities

Clinical facilities are based at the Clinical Associate sites, where, dependent on the terms of the contractual relationship the Establishment has invested in facilities and equipment:

Bransby Horses

Bransby is one of the UK's largest equine welfare charities and is based on a 600-acre site near Lincoln. Equine facilities include stocks, recovery box, induction and recovery box, equine theatre, ultrasound, endoscopy and digital radiography, laboratory and pharmacy. There are hospitalisation places for 24 horses, an ICU barn, 2 intensive care boxes and 30 stables. Students at Bransby share study and amenity facilities with staff.

Defence Animal Centre

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The Defence Animal Centre (DAC), 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 DAC, whilst a further 260 can be at grass. There is an extensive equine training facility and the Army Establishment 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, seminar room, and 6 student bedrooms and social space.

Minster Veterinary Practice

The Minster Veterinary Practice (whose poultry arm has recently rebranded as Poultry Health Services) is housed within the Establishment's Pathology buildings and operates from 2 administrative offices; it utilises the Establishment Pathology facilities to support the provision of their clinical poultry service regionally.

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, 2 examination facilities with stocks, scintigraphy room, standing MRI facility, digital radiography room, post-mortem room, 23 horse boxes including isolation facilities, reproduction facilities including a dummy mare, farriery unit, menage, 2 trot-up areas, lunge pen, and a learning and teaching space for students. The site has 8 acres of grassland in small turnout paddocks and stabling for 22 horses, 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, isolation facility, kennels, separate cattery, teaching and seminar room. In addition, the shared facilities include a fully equipped laboratory. The dedicated student room comprises locker and changing facilities, kitchenette, IT facilities, soft seating and workspace areas.

PDSA

The Derby PDSA PetAid hospital consists a waiting room, 6 consulting rooms, 2 operating theatres, operating preparation area, radiography suite, kennelling for 29 animals, isolation ward, and staff area. Students at PDSA Derby share study and amenity facilities with staff. The Nottingham PDSA PetAid hospital consists 2 waiting rooms, 6 consulting rooms, 3 operating theatres, operating preparation area, radiography suite, kennelling for 30 animals,

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isolation ward and staff area. Students at PDSA Nottingham share study and amenity facilities with staff.

Pinfold Vets

Pinfold Vets is a 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, options for isolation and a laboratory area. Students share study and amenity facilities with staff.

Scarsdale Veterinary Group (Markeaton: Farm and Equine)

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 equine facilities include 16 stables, including isolation facilities, boxes for critical care patients and foaling boxes, an operating theatre and induction suite, stocks, trot up and hard lunge areas, and indoor Establishment. In addition, the facilities include a full range of ultrasound, digital and computerised radiography and endoscopy. The equine unit is a BEVA approved Artificial Insemination (AI) centre.

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

Scarsdale Veterinary Group

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, hydrotherapy and animal boarding facilities. Students have a dedicated student room with learning and teaching space, kitchenette, library, and IT facilities.

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 study and amenity facilities with staff.

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, a conference room and a seminar room, together with a dedicated student room.

Recreational, study, locker and food facilities available for staff

Each student has access within the Establishment to a dedicated 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 Establishment provides locker facilities for all veterinary students and staff.

Various food facilities are available on campus for use by both staff and students 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. The Establishment also provides vending machines which are available to both staff and students. A staff room is provided within the Veterinary Establishment for use by both staff and postgraduate students and includes sufficient soft seating areas and facilities for the preparation and consumption of food. A further campus staff room is available in the Barn Building. Students have 24 /7 access to the Atrium with soft seating.

The Sutton Bonington Sports Centre, opened in 2008, houses a range of sporting facilities for both staff and students, 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 recently 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.

Diagnostic Laboratories and Clinical Support Services

Across the Establishment and its Clinical Associates facilities are available for: Necropsy, Histopathology, Histology, Microbiology, Nutritional analysis, Clinical biochemistry, Haematology, Cytology, Immunohistochemistry, Parasitology, Serology, Endocrinology.

Necropsy Examinations

The Establishment Pathology unit is capable of handling a variety of companion, livestock, exotic, zoo and wildlife species. The post mortem room comprises two large rooms with different sized tables (five for smaller to medium sized animals up to 250kg, one large hydraulic table for horses or other large animals up to 1000kg), a large, walk-in cold storage room, several freezers, and all the usual equipment needed for performing full post-mortem examinations (band-saw, oscillating saw, knives, scrubs, wellingtons, etc.). Integrated within the post mortem room is a separate facility for poultry necropsies provided by Minster (Poultry Health Services). A seminar room with a 10 headed microscope with live projection onto a wide screen monitor for teaching purposes of cytological (clinical pathology) and histopathological (diagnostic pathology) sample analysis. A histology laboratory contains all the basic instruments for routinely processing slides for histological examination.

Further necropsy facilities are available at Twycross Zoo and Oakham (equine), while students may also undertake brief or partial necropsies on farms as part of the farm animal rotations, as this is often the case in private practice.

Histopathological Examination

Recovery of tissue from necropsy cases is carried out within the post mortem room. Histological processing and specialised staining is carried out by a Establishment technician. Specialised histochemical and immunocytochemical staining techniques are available through third parties as necessary Stained microscope slides are returned for examination by pathologists. Supervised reports are generated based on gross findings by rotation students. Transmission and scanning electron microscopy, microCT and MRI are available on an *ad hoc* basis as required, on the Sutton Bonington Campus or at University Park. Extensive facilities

for processing histology, histochemical and immunohistochemical stains also exist within the Establishment.

In addition, Scarsdale has a small cytology facility and there is a significant throughput of cytological cases at Dick White Referrals and this also forms a focal point of the clinical rotation teaching of this discipline.

Microbiology Diagnosis

Within the Establishment there are Containment Level 2 microbiology teaching facilities, including associated equipment. Diagnostic bacteriology, mycology and parasitological investigations arising from post mortem examinations are carried out using laboratory facilities at Scarsdale Pride Veterinary Centre or other private diagnostic labs like IDEXX or CTDS. Virology investigations for companion animal diseases use appropriate third-party specialist centres like IDEXX or CTDS. Diagnostic microbiology laboratories exist at Pride Veterinary Hospital with facilities including bacteriology, microscopy, microbial culture, etc.

Clinical Pathology

A clinical chemistry laboratory exists within the Establishment; it is primarily used for the assessment of the nutritional status of farm animals. It has links with the Clinical Pathology Laboratory at Scarsdale Veterinary Group and with Division of Environmental Sciences at University Park.

Clinical pathology is included as part of the clinical rotations at locations which possess clinical pathology laboratories: Oakham, Scarsdale, Pride and Dick White Referrals. Equipment at Dick White Referrals includes: an Olympus A400 wet chemistry analyzer, an Advia AD200 haematology analyzer and an Immulite 2000 for endocrine testing plus coagulation testing, blood gas analyser, various snap-ELISAs, blood typing etc. There are 3 qualified lab technicians plus a Clinical Pathologist Diplomate and a resident staffing the lab. At Pride, there is a Randox Daytona, clinical chemistry analyser, IDEXX Procyte Haematology analyser, a TOSOH immunoassay analyser and a teaching video screen microscopes and 3 dedicated laboratory technicians. Students also have access to multi-head high quality teaching microscope in the necropsy facility and also LCD screen microscopes in 2 student learning rooms (Year 5 hub and the Pride Student seminar room).

During the Equine Skills rotation, students spend one-day at the Pride lab under the supervision of a Establishment ECVCP Diplomate. During the Dick White rotation students has the opportunity to interact with 2 DipECVCP/FRCPath holders and/or clinical pathology residents. During the Elective Specialist EMS rotation students spend one-day at the Pride lab.

Central clinical support services

Clinical Associates host a range of facilities and equipment for clinical support including digital radiography, ultrasound, endoscopy, MRI, ECG, anaesthetic machines and monitoring, microscopes and laser thermometers.

Slaughterhouse facilities

The Establishment has access to the on-site fully licensed abattoir for teaching. Students experience the full slaughter and inspection process within this unit during the final year VPH rotation. In addition, in the final year rotation they review the butchering of carcasses. The abattoir is fully licensed for slaughtering of pigs, sheep and cattle, and has all the facilities which one would expect to find in a commercial slaughterhouse. There is a small lairage with a number of pens for holding animals from different units. There is a stunning facility for sheep and pigs and a stunning pen for cattle, 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

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facility has always been upgraded as necessary to be compliant with the changing regulations which govern slaughterhouse structure and function and is licensed to produce meat for human consumption. Equipment in the abattoir also includes guns and stunners for humane slaughter, hoists, winches, butchery equipment, and various other equipment (saws, mincers, grinders etc). In the final year VPH rotation, students also have day-long visits to a high throughput local red meat abattoir and a poultry processing plant. These are complementary to the low throughput facility based at the Campus.

The Establishment also currently utilises a number of local slaughterhouses (with 15-80 miles) to provide various cadavers and animal material for teaching in the VPH and other modules. In the final year veterinary public health rotation, students spend a day at Melton Mowbray Animal market – concentrating on transport and responsibilities relating to animal inspection and welfare within the market. A debrief is run at the Establishment to discuss animal health and welfare, as well as biosecurity aspects related to the visit to the animal market.

Foodstuff processing unit

During the final year Veterinary Public Health rotation students all spend a day visiting a dairy products manufacturer, either a dairy farm that makes cheese from unpasteurised milk, or a dairy cooperative producing a Protected Designation of Origin (PDO) cheese. The focus of this visit is the monitoring and inspection of these businesses and Hazard Analysis Critical Control Points (HACCP) analysis. The students identify and address the critical control points in these premises.

Table 4.1: Premises available for lecturing

School							
1 (A30)	2 (A29)	3 (A10)	4 (A14)	5 (LR9)	6 (LR2)	7 (LR3)	8 (LR4)
400	160	40	30	217	118	86	46
9 (LR11)	10 (SR5)	11 (SR6)	12 (SR7)	13 (SR8)	14 (B12)	15 (B13)	16 (Cwood)
65	18	24	26	16	66	36	120
17 (A28)	18 (B10)	19 (B08)	20 (B05)	21 (B09)	22 (A07)	23 (B01)	
30	12	14	23	26	120	120	
DAC		DWR	Oakham	Scarsdale FA & EQ	Scarsdale Pride		
1	2	1	1	1	1	2	3
100	40	40	40	30	60	20	8
Twycross							
1	2	3					
80	25	10					

Number of places in School lecture halls: 1813

Number of places in Clinical Associate lecture halls: 453

Table 4.2: Premises available for group work

School							
1 (A06)	2 (A07)	3 (A08)	4 (A09)	5 (A16)	6 (A17)	7 (A18)	8 (A19)
12	12	12	12	12	12	12	12
9 (A20)	10 (A21)	11 (A22)	12 (A62)	13 (A63)	14 (A64)	15 (A65)	16 (A66)

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12	12	12	12	12	12	12	12
17 (A67)	18 (A68)	19 (A70)	20 (A71)	21 (A72)	22 (A73)	23 (A74)	24 (A75)
12	12	12	12	12	12	12	12
24 (A08)	25 (Library 1)	26 (Library 2)	27 (Pathology)	28 (A22b)	29 (A22c)	30 (A13)	
12	30	10	6	12	12	12	
Bransby	DAC		Oakham	Scarsdale FA &EQ		Scarsdale Pride	Twycross Zoo
1	1	2	1	1	2	1	1
12	12	6	18	10	6	8	5

Number of places in School rooms for group work: 382

Number of places in Clinical Associate rooms for group work: 77

Table 4.3: Premises available for practical work

School							
1 (A42)	2 (A43)	3 (A49)	4 (B47)	5 (B63)	6 (B66)	7 (A05)	8 (A06)
15	25	50	10	10	8	35	35
9 (A12b)	10 (A59)	11 (A61)	12 (A52)	13 (A25)	14 (A27)	15 (A23)	16 (Superlab)
8	40	15	160	30	10	12	200
17 (Path 1)	18 (Path 2)	19 (A45)	20 (B62)	21 (B59)	22 (B52)	23 (C05)	
40	15	6	6	10	10	15	
Bransby	DAC	DWR	Oakham	Scarsdale Pride	Twycross Zoo		
1	1	1	1	1	1		
4	6	2	6	4	2		

Number of places in School rooms for group work: 765

Number of places in Clinical Associate rooms for group work: 77

Table 4.4: Places available for hospitalisation and isolation

		Bransby	DAC	DWR	Oakham	PDSA Derby	PDSA Notts	Pinfold	Scarsdale FA & EQ	Scarsdale Pride	Twycross Zoo
Hospitalisation	Cattle								2		
	Horses	24	21		24				16		
	Small ruminants		1						4		
	Pigs								2		
	Dogs		13	85	33	21	21	8		68	
	Cats			10	14	8	14	4		34	
	Other species								2	18	Various
Isolation	Small animals		45	4	4	5	7	1		21	Various
	Farm animals and horses	2	2		2				1	0	

Notes:

Defence Animal Centre: Stabling is also available for 140 horses and 200 dogs in total

Scarsdale Pride: 10 rabbit/small mammal, 5 vivaria and 3 parrot cages for hospitalisation

Twycross Zoo: Hospitalisation and isolation facilities are in different enclosures according to species.

4.1.3. Description of the adequacy for the veterinary training of the vehicles used for students' transportation, ambulatory clinic, live animals and cadavers' transportation

The additional material provided by the Establishment indicated that school cars are available and students are able to drive these vehicles only on school business (e.g. driving to Clinical Associates). They are not available for social activities and they cannot be used at weekends by students. All drivers need to be over 21, possess a University permit and have held a licence for at least 3 years. Students are also required to complete a competency driving test if you wish to use the landrovers - the School will pay for students to take the test. Ambulatory clinic service is performed by the students starting from the location of the Clinical Associates, with available vehicles.

Gross teaching material can be stored chilled, frozen or in Klotz solution in the cold room, and general cadaver disposal is via skips that are removed by a licensed commercial service provider. A local 'knacker' provides a service for collection of equine carcasses, delivered to the post mortem room and final removal of waste material. Other material is transported between Clinical Associate sites and the Establishment by the Establishment technicians with other material transported to the post mortem room by clients. Material is securely stored in clinical waste bags and transported in a Establishment vehicle licensed for transport of this type of material. SOPs are available in the Pathology section of the Establishments safety workspace.

4.1.4. Description of the adequacy for the veterinary training of the equipment used for teaching purposes and clinical services

The equipment allocated for different teaching, diagnostic and research purposes is specified for each training or research facility.

Strategy and programme for upgrading and maintaining buildings and equipment

Establishment facilities are managed through a combination of in-house process and support from central University Estates; formal oversight is by the Establishment Technical and Facilities Manager. A reporting system exists within the Establishment so that any staff member can report a facilities issue/defect – in addition to this, regular walk-arounds 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 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 Establishment 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 staff provide input into design plans; these are monitored by the Establishment through regular meetings between clinical sub-deans and Clinical Associate partners.

4.1.5. Description of the adequacy of the biosecurity rules in the Establishment

Health and Safety measures and compliance

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.

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

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 Establishment undertakes to advise and assist Clinical Associates with implementation of policies and procedures. Staff and students receive a detailed induction and undertake to adhere to local protocols. Clinical Associate safety is reported to the Establishments Safety Committee by the Establishments Safety Officer who visits the Clinical Associates sites.

Students undertaking EMS 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 Establishment.

All incidents and near misses within the Establishment are reported and recorded online. All reported incidents are investigated by the Establishment Safety Officer and reviewed by the Central Safety Office. 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.

Annual safety audits of the Establishment 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, SSOs and the technical team to ensure compliance with safety policies and insurance requirements. Establishment-managed derogated CL3 facilities are audited biannually by the University Safety Office.

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

4.1.6. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of facilities, equipment and biosecurity rules of the Establishment

Staff, students and stakeholders intervene in development, implementation, assessment and revision of facilities, equipment and biosecurity rules of the Establishment at the level of different committees they are part of. In the case of the students, there are several committees they can take part in (Learning Community Forum, Teaching, Learning and Assessment Committee, Nottingham University Vet Society, The Association of Veterinary Students

(AVS), Sutton Bonington Committees and Societies).

4.2. Comments

The Lecture theatres, teaching laboratories and tutorial rooms are adequate in number and size for the current number of students. They are appropriately equipped for their purpose and are well maintained. Students have adequate access to self-learning, recreation, locker, sanitary and food services facilities. All core teaching sites provide adequate internet and textbook access.

The core clinical teaching facilities at Clinical Associate premises are sufficient in capacity and adapted for the number of students in clinical rotations in order to allow hands-on, evidence-based clinical training. They are high standard, well maintained and fit for purpose with one exception. At all facilities students have access to adequate pharmacy, diagnostic imaging, anaesthesia, clinical pathology, surgeries and treatment facilities for the caseload seen.

The students are encouraged to participate in 24/7 emergency services at some of the Clinical Associates, supervised by the staff trained to teach and assess.

The students have access to the equipment and facilities of the Clinical Associates and are able to use the information from the clinical cases for reflection and research. The staff have access to adequate facilities and patients for performing their clinical research although this appears to be reliant on the goodwill of the Clinical Associates

Offices, teaching preparation and research laboratories are sufficient for the needs of the academic and support staff and are fit for purpose. Level 2 biosafety laboratories are available. Both on the smallholding and in the teaching and research laboratories, health and safety, biosecurity and EU animal welfare and care standards are in place.

Mobile clinic services are available for student training purposes within the clinical rotations for equine and farm animals.

The transport of students, live animals, cadavers, materials from animal origin and other teaching materials complies with national and EU standards.

Establishment of further CL3 laboratory facilities on campus would enhance research opportunities.

4.3 Suggestions for improvement

Although teaching facilities in the School have been expanded to support the increase in student numbers there are only 2 lecture theatres available to accommodate the increased class size.

The University should be encouraged to increase lecture hall facilities.

Staff office and research space should be kept under review.

The School should encourage the Clinical Associates to maintain comfortable and uncluttered facilities.

The School must ensure that all of its Clinical Associate partners maintain a clinical working environment that enables best practice, which includes appropriate isolation facilities and timely resolution of any material damage to flooring and furniture.

4.4. Decision

The Establishment is compliant with Standard 4, except for substandards 4.7 and 4.13.

The Establishment is partially compliant with substandard 4.7 because of suboptimal maintenance, fitness for purpose, husbandry, welfare and and management practices in some of the distributed clinical teaching facilities.

The Establishment is non-compliant with substandard 4.13 because of no presence of relevant isolation facilities and biosecurity procedures in all clinical facilities.

5. Animal resources and teaching material of animal origin (see Standards 5.1 to 5.6 in Chapter 3)

5.1. Findings

5.1.1. Description of the global strategy of the Establishment about the use of animals and material of animal origin for the acquisition by each student of Day One Competences

The Establishment follows in using animals the principles of the Veterinary Surgeons Act of 1966, the Veterinary Surgeons (Practice by Students) Regulations 1967, amended in June 1981 by the Royal College Council. This would allow veterinary students to carry out treatment, tests or operations upon animals subject to such conditions as the regulations might impose (all tests, treatment or operations must be carried out under the direction, supervision or direct and continuous personal supervision respectively of a veterinary surgeon).

5.1.2. Description of the specific strategy of the Establishment in order to ensure that each student receives the relevant core clinical training before graduation, e.g. numbers of patients examined/treated by each student, balance between species, balance between clinical disciplines, balance between first opinion and referral cases, balance between acute and chronic cases, balance between consultations (one-day clinic) and hospitalisations, balance between individual medicine and population medicine

Caseload

Caseload data are compiled across Clinical Associates and are shown in tables 4.2, 4.3 and 4.4. There has been no material difference with previously reported numbers in relation to production animals, with the exception that there the number of dairy farms visited for routine work has declined slightly (largely due to economic pressure on the UK industry) but that provision of herd health consultancy advice has increased. Other farm species caseload remains low with year to year variation, however it is currently adequate for teaching purposes.

Equine hospital caseload has increased predominantly due to recent increased patient visit caseload through the Army, relating to cases now being managed in-house in association with University clinicians. These include herd health programmes involving the Defence Animal Centre, Kings Troop Royal Horse Artillery, and Household Cavalry Mounted Regiment.

There is a significant and increasing canine and feline caseload, particularly due to growth in the caseload at Pride Veterinary Hospital and the addition of Blue Cross charity work undertaken at Shelton Lock. When compared with the prior reported data, reported numbers show a drop, however the data reported in this SER show those with student involvement rather than the total.

Table 5.1: Number of necropsies over the past 5 years

Species		Number of necropsies undertaken					Estimated % of necropsies observed by or undertaken by veterinary students in 2016/17
		2016/17	2015/16	2014/15	2013/14	2012/13	
Food Producing Animals	Cattle	60	65	65	59	58	75%
	Small ruminants	52	56	57	54	53	81%
	Pigs	55	55	61	55	56	80%

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	Other	13	13	13	15	16	80%
Equine		36	50	49	59	54	90%
Poultry		1,064	1,078	1,076	1,083	1,080	50%
Rabbits		23	10	21	31	14	95%
Dogs		233	154	172	153	168	95%
Cats		109	84	101	76	71	95%
Other/exotic		24	24	31	27	32	95%

Number of students graduated in the last year / Cadavers necropsied by students = 111/1081 = 1/9.7

To ensure the student experience is not adversely affected with increased year and rotation group sizes, additional Clinical Associates have been recruited at Pinfold and Bransby Horses to facilitate excellent exposure to clinical cases. Further relationships are being developed to increase farm animal caseload and small animal caseload (RSPCA Strinesdale, Manchester).

Pathology

There is 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. 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.

The average number of post-mortems undertaken by a student would be around 10 per student based on the ratio calculated, however students on the pathology rotation work in small groups, and so assuming an equal spread throughout the year an individual student is likely to actively participate in 6 food producing animal post mortems, 1 horse, 30 poultry/rabbits, 12 dogs and cats, and 1 exotic.

Food hygiene and Public Health

Students gain practical teaching in food hygiene, inspection and technology in Year 3 during the Veterinary Public Health module and on Year 5 Veterinary Public Health rotation.

Students gain experience in a variety of situations including in the on-site abattoir, where they will be shown the complete process of slaughter from ante mortem inspection to post mortem and carcass examination. They also visit a number of local abattoirs (red and white meat). Each group of rotation students experiences approximately 100 red meat producing animals and over 15,000 birds being slaughtered at external abattoir visits in Year 5. Practical work in Year 3 includes ante mortem inspection, post mortem examination of fresh materials from ruminants, pigs and poultry collected from abattoirs, practical sessions in food microbiology to augment their lectures and small group learning in zoonoses and notifiable diseases and training in proper captive bolt guns use with cadaver specimens for the purpose of emergency/on-farm slaughter.

In Year 5, students spend two full days in the on-site abattoir, where the whole process of slaughter from ante-mortem inspection to butchering is reinforced. The School ensures that at least 2 pigs are procured for teaching purpose at slaughter every rotation; in addition Year 5 students are exposed to a variety of live animals at Melton Market and other abattoirs, and to bees at the School. The opportunities extensively reinforce their learning in veterinary public health including animal welfare, disease control and surveillance and residues control. Year 5 students also gain experience with raw meat, meat products, honey (and bee husbandry) and dairy products sourced from the School smallholding, University Farm, slaughterhouses, farms or food shops.

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-) number and diversity of healthy live animals used for pre-clinical training;

Anatomy

Fresh and preserved ethically sourced 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, including human. Further use of cadavers is made in the teaching of surgical techniques in Years 3, 4 and 5. Technical staff are trained in preservation techniques. Sourcing fresh companion animals cadavers remains a challenge, although the volume is currently adequate. Entire skeletons of each domestic species and a variety of high quality plastinated specimens, illustrative models and other learning materials are available in the museum, clinical building and dissection room. Each small group teaching room holds a skeleton of a dog and / or a cat, and various models. The School Museum also holds skeletons of less common and exotic species. This material is either bought or prepared by School technicians.

Live animals are normally used during anatomical classes and comprise dogs, cats, horses and exotic animals owned by the School, staff and students, together with cattle, sheep, pigs and chickens which form the Schools smallholding and also cattle from the Sutton Bonington Dairy Unit. Further access to live animals is provided by our partners giving sufficient numbers to allow students to practice clinical examination. Students also gain access to cadaveric material from our partners.

Table 5.2: Clinical Production Animal cases involving students, data to June 30 each year

Production Animals	(a) Received for consultation		(b) No. of hospitalised days		(c) No. of herds/flocks / average herd size		(d) No. of animals seen by students on farm/herd health visits		(e) Estimate % of first opinion vs. referral cases per species seen by students			
									First opinion		Referral	
	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16
Cattle	50	40	40	40	>300/90	350/90	47,089	47,879	99	99	1	1
Small ruminants	150	13	50	13	70/150	80/150	318	325	100	100	0	0
Pigs	15	6	5	2	0	0	12	9	90	90	10	10
Poultry	10	10	0	0	0	0	0	0	100	100	0	0

Note: These numbers do not include animals seen on the two week School-hosted Herd Health rotation which delivers consultancy advice to 14 farms (a total of just under 5,000 cows); each would typically receive 2-4 visits per year. These farms are clients of Scarsdale Veterinary Group or Farm Veterinary Solutions. Students on the Farm Animal Medicine and Skills rotation, may, when seasonal constraints allow, undertake a flock visit to a commercial flock in the local area and a flock health investigation of the University commercial flock during the rotation.

Table 5.3: Clinical Companion Animal cases involving students, data to June 30 each year

Companion Animals	(a) Received for consultation		(b) No. of hospitalised days		(c) No. of animals seen by students		(e) Estimate % of first opinion vs. referral cases per species seen by students			

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							First opinion		Referral	
	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16	16/17	15/16
Equine	7,527	7,494	4,119	4,364	7,527	7,494	69%	76%	31%	24%
Dogs	23,410	22,535	11,370	11,284	23,410	22,535	87%	86%	13%	14%
Cats	8,105	7,868	3,613	3,567	8,105	7,868	83%	84%	17%	16%
Caged pet mammals (Rabbits, gerbils etc)	435	391	78	60	435	391	100%	100%	0%	0%
Exotics and zoo animals	1,712	1,624	0	0	1,712	1,624	100%	100%	0%	0%

Table 5.4: Off-campus rotation information for each Clinical Associate

Placement name	Species	Duration of rotation	Number of rotations per year	No. students per year	Patient numbers	Students per rotation	Core
Bransby Horses	Equine	2 weeks	25	30	Rotation in development	0-2	Core but location optional instead of OVH
Defence Animal Centre	Equine	1 day (with 2 weeks as an option instead of 2 weeks at OVH Equine)	25	120	1,035*	4-6	Y
Dick White Referrals	Small Animal	2 weeks (or OVH)	25	60	2,000*	0-6	Core but location optional instead of OVH
Minster Veterinary Practice	Poultry and Farm Animal(Pathology)	2 weeks (with Pathology)	25	120	1,216***	4-6	Y
Oakham Veterinary Hospital (Equine)	Equine	4 weeks (with 2 weeks as an option at DAC)	25	120	6,412*	4-6	Y
Oakham Veterinary Hospital (Small Animal)	Small Animal	2 weeks (or DWR)	25	60	14,233*	0-6	Core but location optional instead of DWR
PDSA Derby	Small Animal	2 weeks (or PDSA Notts and Pinfold)	25	60	2,280*	2	Core but location optional instead of Nottingham / Pinfold
PDSA Nottingham	Small Animal	2 weeks (with Pinfold; or 2 weeks PDSA Derby)	25	60	3,389*	2-4	Core but location optional instead of Derby
Pinfold	Small Animal	2 weeks (with PDSA Notts; or 2 weeks PDSA Derby)	25	60	New rotation	0-2	Core but location optional instead of Derby
Scarsdale Veterinary Group (Farm)	Farm Animal	2 weeks	25	120	47,419**	4-6	Y

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Scarsdale Veterinary Group (Equine)	Equine	3.5 days	25	120	80*	4-6	Y
Scarsdale Veterinary Group (Pride)	Small Animal	3 weeks	25	120	11893*	4-6	Y
Scarsdale Veterinary Group (Shelton Lock)	Small Animal	1 week	25	120		4-6	Y
Twycross Zoo	Zoo	1 week	25	120	3,152*	4-6	Y

Note – Year size assumed to be 120 to indicate relative size of cohort that attends each rotation. Bransby and Pinfold patient numbers are not included as they are new rotations.

* number of consultations seen, ** number of animals seen on herd /flock visits, *** number of necropsies

-) number of visits in herds/flocks/units of food-producing animals;

Data is provided by Clinical Associates for 2016/17 and 2012/13 with interpolation for intermediate years. These numbers do not include animals seen on the two week School-hosted Herd Health rotation which delivers consultancy advice to 14 farms (a total of just under 5,000 cows); each would typically receive 2-4 visits per year.

Table 5.5: Herd health programme, data to 30 June each year

Herd health programmes provided through private owned animals										
Animal Species	2016/17		2015/16		2014/15		2013/2014		2012/2013	
	Sites	Animals	Sites	Animals	Sites	Animals	Sites	Animals	Sites	Animals
Dairy	82	15,000	88	16,000	91	16,500	96	17,250	100	18,000
Beef cow-calf	250	25,000	233	23,333	225	22,500	213	21,250	200	20,000
Beef feedlots	5	3,000	4	2,667	4	2,500	3	2,250	2	2,000
Sheep	80	20,000	87	20,000	90	20,000	95	20,000	100	20,000
Goat	50	200	67	267	75	300	88	350	100	400
Pig	0	0	0	0	0	0	0	0	2	600
Poultry	0	0	0	0	0	0	0	0	0	0
Fish	0	0	0	0	0	0	0	0	0	0
Horses	0	0	0	0	0	0	0	0	0	0

These farms are clients of Scarsdale Veterinary Group or Farm Veterinary Solutions. Students on the Farm Animal Medicine and Skills rotation, may, when seasonal constraints allow, undertake a flock visit to a commercial flock in the local area and a flock health investigation of the University commercial flock during the rotation. These numbers also do not include visits to military horse herds.

-) number and diversity of patients examined/treated by each student; balance between species, between clinical disciplines, between first opinion and referral cases, between acute and chronic cases, between consultations and hospitalizations, between individual medicine and population medicine

Animal handling/husbandry

All major species of farmed animals and companion animals are available on Campus. In addition, contractual links have been made with local organizations and Clinical Associates to ensure a wide availability of a variety of animals for teaching basic sciences, animal husbandry

and clinical subjects.

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

Establishment, staff and student owned animals (horses, dogs, cats, rabbits, birds, hamsters, lizards, tortoises, fish, etc.) are used for a wide variety of classes (e.g. ophthalmology, cardiology, animal handling). The Establishment has a register of normal and clinical case teaching animals that belong to students, staff and the local public that are available to be used in teaching. Students are able to livery their horses at the Establishment, and the Establishment 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. A £6million expansion at the Dairy Unit is nearing completion which will result in an increase in herd size of 50% (currently 220 cows and 290 followers). The new unit will provide state-of the-art teaching and research facilities and will include a variety of technology-based sensor equipment

The School also has a separate 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

Horses (250) and dogs (200) are provided at the Defence Animal Centre, Melton Mowbray, and are used to teach animal handling and animal health and welfare, including farriery

Rodents and rabbits are provided on site for handling and animal health and welfare teaching

Visits to local farms e.g. Underhill Farm, Standord-on-Soar, for bovine rectal palpation as part of routine fertility treatments

Clients of local practitioners visit with animals for practical and client communication sessions (e.g. endocrine disorders)

Poultry are available at Anslow Park Broiler Unit for husbandry and management

Ante-mortem inspection to butchering of pigs at the Establishment abattoir and visits to a number of local abattoirs (red and white meat)

Suitable EMS placements will be arranged for any student expressing interest in Fish farming or other fish related industries

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

The clinical cases handled and treated by the students are described in Tables 4.2-4.5.

5.1.3.a. Description of the organization and management of the teaching farm(s) and the involvement of students in its running

It is not the case.

5.1.3.b. Description of the organization and management of the VTH and ambulatory clinics

It is not the case for the VTH. Ambulatory clinics are provided by Clinical Associates.

5.1.4. Description of the group size for the different types of clinical training and of the hands-on involvement of students in clinical procedures in the different species

The number of students /rotation as well as that of the patients seen is dependent on the placement (see Table 4.5).

5.1.5. Description of the patient record system and how it is used to efficiently support the teaching, research, and service programs of the Establishment

Each Clinical associate has its own recording program and software.

5.1.6.. Description of the procedures developed to ensure the welfare of animals used for educational and research activities

Both on the smallholding and in the teaching and research laboratories, health and safety, biosecurity and EU animal welfare and care standards are in place.

5.1.8. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the number and variety of animals and material of animal origin for pre-clinical and clinical training, and the clinical services provided by the Establishment

The teachers propose the number and variety of animals and animal materials to be used for optimal training. The material derives mainly from the slaughterhouse (animal materials), the Clinical Associates and Establishment's smallholding and also cattle from the Sutton Bonington Dairy Unit (healthy animals for preclinical hands on) and it doesn't seem that the students are involved in the recruitment of this kind of material.

5.2. Comments

The School is adequately involved in providing teaching via the Clinical Associates. This provides students with excellent opportunities for learning alongside interns and residents. The number of animals is adequate for learning in the preclinical years. The new Centre for Dairy Science and Innovation will expose students to wider experience in animal and herd management.

Enhancing the tracking capability to assist undergraduates expressing particular interest in certain animal sectors offers possibilities to optimize animal use.

5.3. Suggestions for improvement

Consequent to the increasing year size, the adequacy of animal resources should be kept under close review.

5.4. Decision

The Establishment is compliant with Standard 5.

6. Learning resources (see Standards 6.1 to 6.4 in Chapter 3)

6.1 Findings

All staff and students have access to all University libraries (<https://www.nottingham.ac.uk/library>), part of the Libraries, Research and Learning Resources (LRLR) function. The James Cameron Gifford (JCG) Library based at Sutton Bonington occupies 1,126m² floor space, and offers seating for 324. Opening hours are: Monday to Friday 8am - 9.45pm; Saturday 9am - 4.45pm; Sunday 9.30am - 4.45pm. The library is open 24 hours at key points of the year, including during examination periods. There is wireless access throughout the library and self-service printing and photocopying facilities are available. There is also self-service check out and return facilities.

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. The JCG holds at least one copy of all the books on student reading lists, and multiple copies of key text books, together veterinary journals and access to veterinary eBooks, eJournals and databases.

Table 6.1: Library statistics (5 year comparison)

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Year	2016/17	2015/16	2014/15	2013/14	2012/13
Total Budget	£13,912,000	£11,388,033	£11,604,458	£11,081,845	£11,948,459
Total book budget	£1,330,350	£1,152,000	£1,113,000	£1,040,000	£1,039,025
JCG Library staff (FTE)	6.1	6.1	6.3	6.3	6.3
Library staff (FTE)	163.7	166.3	152.4	171.1	151.4
Vet School book budget	£22,000 plus share of £245,000 e-book budget	£12,321	£11,634	£10,191	£9,470
Total number of paid-for journals	42,074	42,825	39,945	24,402	22,983
Total journal subscriptions (£)	£4,768,000	£4,485,526	£4,325,000	£4,065,543	£3,997,565
Acquisitions *(Total)	£6,098,350	£5,637,526	£5,438,000	£5,105,543	£5,036,590

Note: Historical information is not available on volumes held, however the JCG currently provides access to:

Hard copy books: 26,681 total, of which 6,210 are veterinary specific

Hard copy journals: 73 total, of which 17 are veterinary specific

Electronic journals: 42,000 total, of which 145 are veterinary specific

Staff and students are able to access a 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. The University library policy includes the purchase of eBooks where possible and has a total holding of 486,080 at present.

Establishment information resources

Students have 24-hour access to a range of learning resources in their small group teaching room mini-libraries. 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. 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.

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 and staff can access Moodle on and off campus through the internet. The Establishment also uses audio recording (pod casting) and video recording (vodcasting), including Echo360 lecture capture, to support the learning experience and to disseminate information.

IT Infrastructure

All students on the 5 year course are provided with a laptop computer by the Establishment for their own use at all times. Postgraduate students are provided with a desktop or laptop computer, as required for their research. In addition, all students are able to access Establishment and Campus Computer Rooms on a 24 hour basis (1 room with 22 computers in Establishment, and a further 5 computer rooms across SB Campus). This provides opportunity for all students to undertake self-study and access educational and research resources as required. 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 networks throughout the campus buildings. Internet access is provided to all students through the Eduroam wireless service which is available in all teaching and communal areas of the University. The School has established a dedicated high-speed data network between the School and Clinical Associates, which mirrors the learning environment of the Establishment to the Clinical Associates, such that students (and 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.

Lecture theatres across campus are fully equipped with the high quality audio visual facilities including video and slide projection, amplifiers, electronic visualisers, lecture capture facilities (Echo360) and audio capture for podcasting. Investment in state-of-the-art audio-visual facilities has been made throughout the teaching rooms of the Establishment such that electronic whiteboards are commonplace alongside usual AV equipment in lecture theatres, seminar rooms, small-group teaching rooms and laboratories. Additional facilities include teaching microscopes, overhead high definition visualisers, and electronic voting handsets. Students are able to borrow digital video and photography equipment in relation to course activities. Teaching rooms at Clinical Associates include computing facilities and in some cases electronic whiteboards or LCD screens for presentations.

Learning and information technology support

The JCG Library is staffed by 6.1 FTE customer services staff who are available during core hours. The staff comprise one full time supervisor plus a team of Library Advisors who offer the front line service to students. Further support is offered by 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) with the Library team leader for the JCG Library. On a quarterly basis, the TLA Team 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) is considered when formulating a list of requirements. The School is also represented by the Head of Operations on the Campus Operations Committee which provides a function to quality assure, monitor and review learning opportunities, and provide a mechanism for two way feedback.

The School Teaching, Learning and Assessment (TLA) team which comprises 7.0 FTE experienced administrative staff, support all academics, including providing specialist advice on development of new learning technologies and techniques. The TLA team liaises closely with the LRLR specialist Learning Technologies team who provide a systems, content and special projects function. The remit of the Learning Technology department of LRLR is to support staff and students in the area of technology enabled learning. This includes: developing, maintaining and upgrading the core University teaching and learning systems; providing multi-media and video production services for staff to develop creative and interactive learning resources; and providing consultancy support to students and staff in the use of learning technology

The University has a central IT Services function responsible for all aspects of IT provision, supported operationally by local campus based teams. IT Services operate an email and telephone helpline, which is manned 24 hours. The local IT Support team provide support for a wide range of equipment and operating systems and operate an open door policy for students 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.

6.2 Comments

Access to information resources is clearly defined and implemented by the University both on and off campus.

There is an adequacy of information retrieval resources with a comprehensive programme of refurbishing, upgrading and expanding the information resources available to students and staff.

The IT and library staff are highly engaged, with adequate qualifications. There is good accessibility for students and academic staff on site and remotely.

There is a process to identify new needs and resources for the development of instructional materials aligned with the teaching programme with good support at Faculty and University level. Further, there is a clear process to evaluate the effectiveness of innovations.

6.3 Suggestions of improvements

None

6.4. Decision

The Establishment is compliant with Standard 6.

7. Student admission, progression and welfare (see Standards 7.1 to 7.15 in Chapter 3)

7.1. Findings

7.1.1. Brief description of the admission procedures for standard and for full-fee students

The Establishment has a formal Admissions policy, approved by the Admissions Committee, which comprises Establishment and University staff, external veterinary professionals and local secondary teachers. The policy defines admissions requirements and processes, including the requirement for training of assessors. The Committee reviews data relating to the prior admissions cycle yearly and reviews proposed changes for future cycles.

The admissions policy aims to encourage a more diverse range of people to apply and gain admission to study Veterinary Medicine at Nottingham.

The Establishment provides a range of information to pre-applicants: UK Secondary Establishments receive a Establishment brochure; comprehensive information is available on the Establishment website (<http://nottingham.ac.uk/vet/prospectivestudents/index.aspx>); the Establishment visits secondary Establishments and career fairs and holds 4 interactive Open Days for pre-applicants per year. A summer workshop provides support to prospective students from disadvantaged backgrounds.

Information provided describes the personal, financial and academic demands on students and expectations for regulated veterinary professionals.

Admissions process

To be admitted, students must meet the stated academic requirements, demonstrate motivation, practical aptitude, communication, enthusiasm, and other attributes that are linked to professional success and provide evidence of a minimum of 4 weeks' animal-related work experience. These selection requirements are linked to the attributes and qualities required of a new veterinarian as articulated in the RCVS 'Day One Competences' and 'Code of Professional Conduct for Veterinary Surgeons'.

Phase 1 – Academic Review: All Students must apply through UCAS. Applications are reviewed to ensure they meet minimum academic standards.

Phase 2 – Non Academic Personal Qualities Review: Personal and Referees Statements on the UCAS form are scored for understanding of the profession, motivation and interests.

Phase 3 – Widening Participation and Work Experience Detail Collection (via online survey): Information related to Widening Participation criteria and work experience, collected by on-line survey, is assessed.

Phase 4 – Motivation, ability, attitude and attribute assessment: The online questionnaire collects further information on the applicant's motivation, ability, attitudes and attributes for a career in the veterinary profession; as well as other experiences or achievements (e.g. sporting achievements, expeditions, music etc). The questionnaire is marked by veterinary qualified staff and is derived from RCVS Guide to Professional Conduct.

Phase 5 – Situational Judgement Test: The Situational Judgement Test (SJT) is a set of hypothetical scenarios relevant to the veterinary profession that applicants complete on-line. Applicants make judgements about possible responses and are assessed for competency in four attributes; empathy and building client relationships, professional integrity and trust, resilience and team work.

Phase 6 – Assessment Centre:

Candidates are ranked and top applicants attend the Assessment Centre.

An interview is conducted by two members of staff, one of whom is a veterinary professional. The interview uses a scoring scheme to evaluate motivation, insight into a veterinary career and interest in veterinary topics together with communication skills, animal orientation and personal attitudes and attributes. Non-EU international applicants may be interviewed by Skype.

A practical aptitude assessment is undertaken by UK and EU applicants. 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.

A team working exercise is conducted with domestic applicants in a group situation to assess the individual's ability to work with a peer group

Staff involved in admissions assessments receive initial training, are offered refresher training yearly and are briefed in detail at every Assessment Centre session.

Phase 7 – Offers: Assessment Centre data is standardised to reduce differences in marking between assessors, and students are then ranked. The information is reviewed by the Admissions Team and Admissions Sub-Deans. Applicants are considered solely on the basis of 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 other irrelevant distinction. Successful applicants are made a conditional or unconditional offer by telephone, or are rejected by letter. Any offer is made subject to an Occupational Health assessment. All students offered a place on the course are required to accept the Veterinary Establishment Code of Practice by signing a Student Entry Agreement.

For international students, the applicant may be interviewed by Skype, and may not undertake the practical or team assessments, and the full 4 weeks' work experience may not be required.

International applicants must meet English language criteria (British Council IELTS test with a minimum score of 7.5 and 7.0 in each element).

Widening participation and enhancing diversity

The Establishment remit to increase diversity in the veterinary profession in the UK, is addressed by a range of recruitment, admissions and access measures (e.g. summer workshops, Establishment visits, contextual offers, Preliminary Year course). Students who are identified as “widening participation” are made flexible contextual offers, still at the standard of grades AAB, but they are able to achieve the B grade in Biology or Chemistry.

Table 7.1: Undergraduate student demographic data (5 year course only)

Year	2016/17	2015/16	2014/15	2013/14	2012/2013
Deprived home location	10.0%	10.4%	7.9%	7.3%	5.3%
First generation to go to University	31.8%	32.9%	28.3%	27.6%	28.7%
Black and Minority Ethnic	3.9%	4.8%	6.0%	6.5%	6.8%
Disabled	12.8%	12.9%	12.8%	10.0%	9.7%
Male	27.6%	27.9%	28.7%	28.9%	32.1%

7.1.2. Description of how the Establishment adapts the number of admitted students to the available educational resources and the biosecurity and welfare requirements

The Establishment offers 2 undergraduate BVM BVS veterinary programmes, a 5-year course and a 6-year course including a Preliminary Year (for widening participation and also high achieving non-science students). The Establishment aims to recruit 24 students for the Preliminary Year. International students are accepted to this Year, if for example they do not have science qualifications at the level required for direct entry to the 5 year course, however normally all students are from the UK, and occasionally EU. These HEU students are state subsidised or may be self-funding in the case of graduates. Progression is automatic to year 1 on meeting a high level of attainment across each module. On average 10-20% of the Preliminary Year exit the course due to failure to progress academically.

The majority of students are from the UK, with normally <10 from EU countries and <5 from other international countries in each year group. International students pay full fees.

Table 7.2: Applications, offers and acceptances data for the 5 year course

Year	UK and EU students		Overseas students		Total students	
	A/P*	O/A	A/P	O/A	A/P*	O/A
2016/17	1,485	296/158	128	9/1	1,613/160	305/159
2015/16	1,387	183/127	126	12/3	1,513/145	195/130
2014/15	1,491	144/125	94	7/2	1,585/135	151/127
2013/14	1,639	161/116	120	8/4	1,759/131	169/120
2012/13	1,491	129/102	94	15/8	1,585/130	144/110

A/P Applications/Places available O/A Offers made/Acceptances, *P Places are not assigned to home or overseas students, as the Establishment will admit the best student irrespective of home location

The Establishment has increased cohort size for the 5-year course to 160; there are no plans to increase student 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 24 to ensure quality applicants for the course.

The teaching facilities in the Establishment have been, and continue to be, expanded to support the increase in student numbers. However, there are only 2 lecture theatres available that will accommodate the increased class size. Timetabling currently ensures access as required but the Establishment continues to make representation to the University to increase lecture hall facilities. As a result of offering new options for rotation tracks from 2018, the Establishment is able to accommodate increased student numbers at existing Clinical Associates, with the exception of Farm rotations, where an additional local Clinical Associate will be utilised; to facilitate improved choice of tracks a further small animal charity Clinical Associate (RSPCA Strinesdale, Manchester) will be utilised. Clinical Associate facilities provide an exceptional clinical experience for students, although there are plans to improve support facilities.

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 Establishment has funded 2 students to intercalate PhDs, and yearly offers 2 MRes positions and 3 PGCertificate in Veterinary Education intern positions. Students are also able to intercalate at other universities, albeit they need to self-fund or be successful in gaining other funding.

Table 7.3: Students enrolled on the undergraduate veterinary programme

Year	2016/17	2015/16	2014/15	2013/14	2012/2013
Prelim year	24	24	26	24	14
First year	163	135	140	132	132
Second year	138	128	119	123	102
Third year	131	116	121	105	105
Fourth year	111	125	99	104	94
Fifth year	120	95	100	86	93
# graduated	120	95	99	84	90

In addition the Establishment runs a module in Principles of Animal Health and Disease for up to 60 students in years 2 and 3 from the Establishment of Biosciences. These students utilise the small holding, stables and teaching laboratory facilities for a total of 12 hours per year in addition to a 3 hour session run at the Dairy Centre.

Postgraduate students

Intern students study for a 1 year PGCertificate in Veterinary Medicine, except the intercalated Veterinary Education Intern positions who study for a PGCertificate in Veterinary Education (Table 6.3). The number of Interns has fluctuated over the years, as the Establishment has been successful in gaining external funding from Dick White Referrals, Merial, and Hills Pet Foods. The Establishment funds Interns at DWR and Oakham, and Vet Education interns. Clinical students are based at our Clinical Associates where they gain access to a wide caseload.

Table 7.4: Students enrolled on veterinary Intern programmes

Year	Small Animal	Equine	Farm	Vet Education
2016/17	10	2	0	5
2015/16	15	3	0	0
2014/15	16	3	2	0
2013/14	7	3	1	0
2012/13	4	2	0	0

Resident postgraduate students normally register for a 3 year MVM or MVS degree (Table 6.4). It is possible to convert (with extra study) from MVM to PhD. The Establishment funds 2 farm Residents at Scarsdale Veterinary Hospital and 2 in Pathology. Two Oakham staff members are being supervised for residencies. Other positions are funded from external funders such as Crown Pet Foods. Students are based at our Clinical Associates where they gain access to a wide caseload. Numbers of Residents are low and relate to contractual relationships at Scarsdale Veterinary Hospital (Farm), with growth in Pathology Residents due to growth in the Pathology service and research.

Table 7.5: Students enrolled on veterinary Residency programmes

Year	Small Animal	Equine	Farm	Farm + PhD	Pathology
2016/17	1	2	3	1	3
2015/16	0	1	2	1	1
2014/15	0	1	3	1	1
2013/14	0	1	2	0	0
2012/13	0	0	2	0	0

Students can also register on other postgraduate programmes (Table 6.5). A PGCert in Small Animal Rehabilitation was offered in conjunction with, and delivered by 2 outside providers, the course closed in 2015/16, as it was felt this was not core business for the Establishment. Numbers are small on the DVetMed and are likely to remain so, with the Establishment funding 2 students based at Twycross Zoo on DVetMed degrees. MPhil is normally the exit degree from a PhD for students that fail to progress. The Establishment invests in MRes positions and also PhD positions, particularly through matched funding. Example external funding sources for PhDs include BBSRC, TEAGASC, AHDB Dairy and commercial/industrial sponsors such as Zoetis. PhD numbers fluctuate in relation to success with funding and grant applications.

Table 7.6: Students enrolled on other postgraduate programmes

Year	PGCertificate Small Animal Rehabilitation	MRes	PhD	MPhil	DVetMed
2016/17	0	4	67	0	2
2015/16	2	5	69	0	1
2014/15	14	5	71	1	2
2013/14	10	3	76	3	2
2012/13	8	0	74	3	2

7.1.3. Description of the progression criteria and procedures, the available remediation and supports, the rate and main causes of attrition

Progression requirements

Progression criteria are provided in student handbooks and yearly through the circulation of an addendum to the handbook which covers all aspects of assessment (assessment timetables, detail on types of assessment, extenuating circumstance claim processes and progression criteria etc.)

Table 7.7: Attrition of veterinary students

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Entering class	Total Students	Reason for relative attrition			Absolute attrition		Total Attrition	
		Academic failure	Personal	Transfer to other UoN courses	Academic	Personal	n	%
2012	132	1 (0.8%)	3 (2.3%)	6 (4.5%)	0	4	14	10.6%
2013	132	2 (1.5%)	1 (0.8%)	6 (4.5%)	2	5	16	12.1%
2014	140	3 (2.1%)	8 (5.7%)	2 (1.4%)	0	2	15	10.7%
2015	135	2 (1.5%)	2 (1.5%)	0	2	1	7	5.2%
2016	163	0	0	0	0	2	2	1.2%

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

For students on the 5 year course, to progress between years students must pass all modules at 50%. In all years there are non-mark bearing 'must pass' elements (OSPEs, Portfolio and Skills Diaries). For year 2 OSPEs and year 3 OSCEs students are required to pass 70% of stations. Students without valid extenuating circumstances have one opportunity to resit their assessments before they are required to leave the 5-year veterinary course, with the exception of AHDOPS (Animal Handling Directly Observed Procedural Skills), held in years 1 to 3 where there is no limit to the number of resits available.

In addition to passing all year 3 exams, students are required to have passed all Animal Husbandry DOPS, completed Animal Husbandry EMS and gained a minimum of a 2.2 BVMedSci degree in order to progress to year 4.

The average attrition rate in the veterinary program is 4.6%. 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 long term ill health or career change. The reasons for attrition are monitored to inform admissions requirements and welfare support.

7.1.4. Brief description of the services available for students

Student services and support

The Establishment, 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.

Students are provided with a wide range of information to help induction and enculturation into the Establishment (e.g. campus map, clothing and equipment brochure, voucher to buy a laptop computer, 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 Establishment.

A welcome week (Fresher's Week) provides a wide variety of induction events including an Opening Ceremony, Establishment 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, Establishment structure, the curriculum, assessment, student support and EMS. In addition, students receive profiles of all staff members, together with their equipment and clothing.

The Establishment 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, Establishment philosophy and teaching reinforces core values (e.g. professionalism).

Academic support

Academic support is provided predominantly by the Establishment, and provides support to learning utilising:

- Pre-registration information packs and online registration
- Pre-term animal husbandry training for international students
- Establishment-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, 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
- Pairings of clinical and non-clinical Personal Tutors
- Student Progress Committee for support of students with academic difficulties
- Students in higher years (via the veterinary family and Vet Soc run Big Vet, Little Vet system)
- Staff 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), Twitter and Flickr resources
- Provision of a laptop computer 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, supported by Senior Tutors providing pastoral support and advice
- 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 staff and students in the Establishment 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
- Welfare Week to promote support available across the Establishment and University

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- 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 Warden and 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 Establishment complies with the Faculty's dual 'Expression of Concern' process, which is divided into welfare and discipline issues. Any student or member of staff may raise a concern relating to a student's academic abilities, including performance on a clinical rotation, or for any other matter. The Concern is then reviewed by Senior Tutors and is acted on as appropriate to the circumstances (e.g. 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 Establishment as well as campus Postgraduate Society. Complementary to the support provided by the two Postgraduate Sub-Deans, the Establishment has appointed a Senior Tutor, 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

All students are expected to declare any requirements for disability support (including dyslexia) early in the attrition

s process, in order that the Establishment can evaluate and implement support needs throughout the admissions process and/or as soon as the student commences the courses. The Establishment 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 the 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 Establishment 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.

Students who become ill or disabled during the course are supported in Establishment by the Student Welfare Team or out of Establishment 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 Establishment 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 Establishment which can make recommendations to the relevant Exam Board that the student should be allowed a further attempt at the affected assessment.

Methods used to identify and remediate failing students

All students gain feedback for all forms of summative assessment; this is provided individually for failing students in a discussion with the module leader (in years 1-4). Students who fail examinations are also invited to attend the Student Progress Committee who consider reasons for failure and mechanisms for remediation. Specifically during 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). In addition students who fail end of year assessments in year 5, may be able to repeat rotations prior to reassessment.

Students may also be recognised as struggling with the course, mentally or physically, in which case a Concern Form may have been raised by a concerned staff member or peer which is then formally addressed, or alternatively the Welfare Manager or Senior Tutor may informally meet with a student.

Careers and employment support to graduates

Career development and job selection and application techniques are taught within the Year 4 Personal and 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.

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.

The Establishment has developed an optional Nottingham Advantage Award module “Careers skills for vet students”. This module aims to provide students with knowledge and a range of

skills that will allow them to reflect upon issues surrounding personal development and professional aims in relation to a career in the veterinary profession.

Undergraduate and Postgraduate students can access support from the University Careers Service. Year 5 students have a Careers noticeboard where positions are advertised (and they are also circulated electronically). Alumni have an active Facebook group where job offerings are posted.

Mechanisms for student suggestions, comments and complaints

Students are involved in quality assurance at national, University and Establishment 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. Students are able to influence the Establishments 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 Establishment's direction, providing suggestions, comments and complaints by the following methods, with consideration and action as appropriate:

- Attendance at staff 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 Establishment 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 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 Establishment 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
- Confidential feedback can be provided direct via CAR to 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 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 Establishment 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 box in reception

Undergraduate students elect a Establishment 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 three Establishment funded Veterinary Education interns act as Student Liaison Officers, liaising between staff and students to help improve teaching and pastoral support.

In all routes of student feedback the relevant Establishment Committee consider information and implement any required actions, with the exception of any negative feedback received as a result of student evaluation of teaching, in which case the Dean and member of staff 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.

The Establishment 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.

7.1.5. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the admission procedures, the admission criteria, the number of admitted students and the services to students

Academic misconduct and fitness to practice

Suspected cases of academic misconduct during teaching or examinations are regulated by University of Nottingham procedures. Following initial investigation by the Dean or nominated representative proven allegations may result in either a Establishment-imposed penalty such as a written warning or the award of a mark of zero. More serious offences may be referred to the University Academic Misconduct Committee for consideration under the University of Nottingham Student Code of Discipline. In the most serious cases University Ordinances allow for exclusion of a student from the University.

Fitness to Practise is regulated by the University of Nottingham Faculty of Medicine and Health Sciences Fitness to Practise Board, which is attended by two members of Establishment staff. Investigations into allegations are initially undertaken in Establishment with preparation of a report which is considered by the Faculty of Medicine and Health Sciences Fitness to Practise Board which may recommend Establishment based sanctions or escalation to a formal Committee investigation. The formal committee has the power to apply sanctions up to and including exclusion from the course. More minor, non-Fitness to Practice disciplinary issues are considered by Senior Tutors, which may result in a formal warning or if the disciplinary

issue is outside Establishment operations then it is considered under the University Code of Discipline.

Policy for appeals

The Establishment abides by the University policy for appeals against academic decisions and progression. Students cannot appeal matters of academic judgement of an individual or Exam Board.

Students are made aware of the appeals procedure through their student handbook, in an assessment addendum (detailing examinations timetable, progression information etc) and are also given advice as required by their Personal Tutor, Examinations Officer or Teaching, Learning and Assessment Sub-Dean.

7.2. Comments

In 2016 the Establishment increased the cohort size for the veterinary course to 160. It appears that the Establishment facilities, resources and staff are able to accommodate this increased number.

National Student Survey data indicates 100% overall satisfaction with the student experience by the students.

There is a strong community in which students, staff, support staff and the leadership work together in an open atmosphere and mutual feedback is appreciated.

The Establishment has numerous and effective mechanisms available to provide students with comprehensive support. The Personal and Clinical Tutor system is well developed and staff appear highly engaged in this role. Pastoral and academic support is clearly organised and students understand how to access this support. Mutual feedback and reflection are provided and taken seriously throughout the whole programme, contributing greatly to the effectiveness of learning and professional development.

There are well established routes to enable students to give their views and to take responsibility for personal choices and decisions. The university-wide student participation programme (Students as Change Agents) is also implemented at the Establishment where students can discuss problems, ideas and suggestions with clinical and administrative staff.

Information for students is structured, clear and well organised.

Students are strongly focussed on a clinical career within the UK. Many students do not appear aware or interested in the opportunities available to further their broader development outside the UK veterinary profession (e.g 'Vet students as Global Citizens').

To enhance widening participation of students from a disadvantaged background as well as high achieving non-science students, the Establishment offers a 6 year programme (about 24 student a year) as well as the standard 5 year course.

Some internship and residency programmes are in place, however the number is low.

The student and staff community has little diversity in some respects. A small number of staff appeared to have limited skills in cultural competency.

The Establishment has a diverse and innovative range of methods used during the selection process and good engagement of staff and applicants with this process.

The Establishment has a cohort of students which progresses well throughout the veterinary programme, receives targeted support relevant to individual needs, and graduates with strong employment outcomes and employer feedback.

The widening participation programmes have increased participation of disadvantaged and first generation university students, but rates of ethnic diversity are low and declining. International student admissions have declined.

The number of students admitted has risen and the cohort could reach the recently revised target of 160.

7.3. Suggestions for improvement

The Establishment should investigate and address factors limiting application and admission of individual applicants from ethnic and non-English speaking backgrounds.

The Establishment should improve the range of clinical residency programmes and invest in clinical supervisors.

The Establishment should establish a programme to develop a broader and more international orientation among students, and challenge students to look further than the present strong focus on a career in practice.

The Establishment should continue to advocate the importance of diversity among staff and students. To increase ethnic diversity in the student population the Establishment could explore further different initiatives aimed at encouraging applicants with different religious and racial backgrounds to overcome some of the cultural inhibitions which may reduce their interest in veterinary medicine as a career.

7.4. Decision

The Establishment is compliant with Standard 7.

8. Student assessment (see Standards 8.1 to 8.9 in Chapter 3)

8.1. Findings

8.1.1. Brief description of the student's assessment strategy of the Establishment

The Establishment 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 and EAEVE Day 1 competencies. The strategy is designed to assess day 1 competences and skills and underpinning professionalism and knowledge across all 5 years of the course by employing educationally valid assessment methods, applicable to the learning outcomes being assessed.

All members of staff teaching on a module or rotation are required to submit questions for a module's formative and summative online assessments and other examinations. The assessment for each module is blueprinted to the module learning objectives. All staff are trained in the relevant assessment technique prior to acting as an assessor for a summative assessment. All questions and examination papers are reviewed before sign-off by External Examiners.

In Years 1 to 4, skills, behaviours and knowledge are assessed through a variety of summative examinations. In Year 5 students undertake a range of work place based assessments examining practical and clinical skills and professionalism. End of year online examinations assess clinical reasoning ability and knowledge, and professionalism.

Assessment strategy

The assessment strategy was devised by an Assessment Working Group of the Teaching, Learning and Assessment (TLA) Committee, and is kept under constant review by the Deputy TLA Sub-Dean. 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 One Competences.

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, for OSPEs. Various contingency plans are in place to deal with any problems if they arise.

MCQ questions are standard set, using Ebel's method. The assessment marks are normalised to the required 50% pass mark.

Other assessments, for example OSPEs, OSCEs, spot tests are trialled against marking criteria, ahead of the assessment being delivered.

The end-of-year MCQ based exams are delivered online using bespoke eAssessment software (Rogo). This allows staff access pre- and post-examination and review of questions by External Examiners, and tracking of question modification and performance over time.

8.1.2. Description of the assessment methodology to ensure that every graduate has achieved the minimum level of competence, as prescribed in the ESEVT Day One Competences.

Years 1 to 4

Knowledge is principally assessed in the examinations which are held online in formats including single best answer, Extended Matching Questions (EMQs), drag and drop, "fill in the blanks", and unidirectional clinical reasoning. Other knowledge based assessment includes short answer clinical reasoning examinations, short answer exams, and spot tests.

The Establishment ensures a blueprinted range of skills and behaviours are demonstrated via examination, and uses assessment types such as coursework, presentations, Objective Structured Practical Examinations (OSPEs), Objective Structured Clinical Examinations (OSCEs), Animal Handling Directly Observed Procedural Skills (AHDOPS), individual research projects, reflective Portfolios, a structured Portfolio viva assessments and completion of a Skills Diary. Students are required to demonstrate that they are competent in handling small animals (cat or dog, small mammal or exotics), horse, cattle, sheep or pig before progressing into year 4 of the course, and there is no limit to the number of resits available for these assessments.

Year 5

End of Year 5 examinations (Finals) evaluate knowledge through an on-line MCQ examination. This is a higher level multiple choice examination around a series of cases scenarios or clinical vignettes. These abilities are further examined via an online, uni-directional clinical reasoning (written) exam.

Core clinical skills are assessed through Directly Observed Procedural Skills (DOPS) using case material and assessed by an appropriate clinician. There are 52 skills each representing core skills defined by the RCVS/EAEVE Day One Competences. If a student fails a DOPS examination they must undertake and pass an additional resit in that skill area, as well as a resit and pass of the failed skill.

To qualify to sit the Finals examination, students must have certified themselves as competent in all 52 skills, and ten DOPS must have been examined and passed, with one from each of ten skill areas, but carry no marks towards Finals.

At each clinical rotation a Rotational Professionalism Assessment is undertaken by all staff working with the student with reference to the professional skills and behaviours of each student related to the RCVS Code of Professional Conduct. Failure results in an action plan which may or may not entail repeating that rotation. The professionalism of students is also assessed through their Portfolio viva on five portfolio pieces, and assessment of the written content which consists of case studies, action plans and reflective pieces.

8.1.3. Description of the processes for providing to students a feedback post-assessment and a guidance for requested improvement

The University has developed a system to track assessment of learning objectives which is integrated with Rogo, and provides relevant feedback to students

Examination guidelines are provided in the Student Handbook and are supplemented by information available online in the University's Quality Manual. The assessment type and progression requirements for the programme overall and each module are published on SATURN (the University's student administration system), and reinforced at the start of each module. The Student Handbook details clear criteria and expectations across the range of available marks (i.e. 0 - 100%).

An ePortfolio (PebblePad) is developed by all students throughout the course, and the content is submitted for a "must pass" assessment at the end of each year. 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.

8.1.4. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the student's assessment strategy

Assessment training is a core component of general teacher training. Generic and introductory courses are available through the University's Professional Development Unit, and staff undertake the compulsory PGCHE qualification. Specific school courses are delivered throughout the year, and ad hoc training as required. Scoring range (overall performance) and assessment data including failure rate per module is collected and analysed.

Procedures to ensure fairness, validity and reliability of assessment, including moderation processes

A standardisation process has been put in place to ensure consistent use of mark schemes and to improve inter-rater reliability; this process is applied to all written assessments, including spot tests, clinical reasoning exams, short answer questions and coursework. There is an effective internal quality assurance and control process associated with the marks for modules and rotations.

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.

The role of External Examiners is to ensure that marking and classifications are of an appropriate standard, and that degrees and other awards are comparable in standard to those in similar subjects in Veterinary Schools in the UK.

8.2. Comments

The School has developed a range of methods for delivering fair and effective assessments, directly aligned to programme and module outcomes, throughout the programme, particularly utilising online assessments with robust QA processes.

Students' achievement of learning outcomes, other than professionalism, are directly assessed by DOPS but not by other methods during intramural clinical rotations.

8.3. Suggestions for improvement

Sampling of key practical skills through DOPS, in general, provides an adequate means of assessing practical skills. However, assessing the physical examination of a single organ system cannot assess a students' ability to conduct a full clinical examination in all species. Whilst formative feedback on this skill is likely to be provided during clinical rotations, the School should consider methods of assessing the complete examination of both small and large animals.

Explicit indirect assessment of students' clinical competence, in addition to professionalism should occur in final year clinical settings.

8.4. Decision

The Establishment is compliant with Standard 8.

9. Academic Teaching & Support Staff (see Standards 9.1 to 9.6 in Chapter 3)

9.1. Findings

There are currently 140.5 FTE / 159 headcount staff in the Establishment, of which 51.2 FTE / 61 headcount are vets (27.7 FTE / 32 headcount of are Specialists (possessing a Diploma)). 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; Wholly or mainly involved in research; Wholly or mainly involved in teaching and learning.

The Establishment is organised into three Academic Divisions and an Administrative Division, which primarily act to provide a line management structure. The Divisions of Veterinary Medicine, Veterinary Surgery and Animal Health and Welfare contribute teaching and clinical input throughout all years of the course. Each of these academic divisions comprises academic staff from all grades; there is no sub-structure to the Divisions (albeit Postdoctoral Research Assistants and Postgraduate students report to their supervisors). Allocation to Divisions is made on similarity between research and teaching interests of the individuals.

There are 26.8 FTE technical staff and 18.8 FTE administrative staff in the Establishment; in addition, there are 24.6 FTE of central University Professional Services staff that support the Establishment. 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 technician in the Establishment. There are 6 levels of administrative staff in the Establishment, who undertake a range of activities.

Staff are appointed to permanent or fixed term contracts. The majority of staff are appointed on permanent contracts, funded by the Higher Education Funding Council for England and Student Fees. No staff are appointed in relation to Clinical income (as this is retained by the Clinical Associate), staff theoretically may be employed from service income, however there are no staff funded in this way. Staff on fixed term contracts are predominantly recruited to Research Associate/Fellow positions on fixed term research grants, or recruited to provide cover for example maternity leave.

Staff recruitment and retention challenges

The Establishment 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 staff 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. Clinical supplements partly meet the difference between academic and commercial salaries, however there are additional tangible and intangible benefits associated with employment in an academic institution (e.g. academic environment, pension scheme, sports facilities etc).

A number of Establishment staff are employed on part time contracts, in particular 0.2 FTE roles for staff facilitators of clinical relevance sessions. Part time staff are treated as members of University staff.

There are a variety of University policies designed to maintain a stable cohort of academic and support staff. The Establishment supports requests for part-time or other flexible working arrangements. Divisional Heads develop bespoke programmes for individuals.

Staff support and development

At the annual appraisal meeting Divisional Heads review workload and approve personal development plans. The University Professional Development Unit provides development advice and courses for all staff through 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 web based training, forums and traditional courses.

Each academic member of staff has a yearly fund to attend scientific meetings or professional development. A centrally held training budget can subsidise additional attendance at relevant professional development opportunities where there is justification that attendance would aid a member of staff's personal development. The Establishment supports staff to undertake academic qualifications, currently 3 staff are undertaking PhDs, and 2 are also undertaking study for the DipECVPH. Support staff also access this funding to undertake professional development.

A 'buddy' Peer Observation of Teaching process is in place. All academics are assigned to work in a group of 2-4 and are encouraged to observe teaching of other members of the group on a yearly basis. All academic members of staff are aligned with a senior staff research mentor with whom they meet once a semester to discuss research and funding opportunities, to identify and cultivate collaborations and discuss career opportunities and development.

Funding for relief teaching, examining, or administrative duties up to a maximum of £5,000 is provided by the Establishment to support research development and sabbatical visits. The sabbatical scheme supports visits for a period of 3 to 6 months or shorter.

Promotion policies

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 learning activity: 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.

Academic service: 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.

There are no promotion opportunities for support staff. They can apply for a higher-grade role or roles may be regraded.

Table 9.1: Establishment staff support for teaching and research

	Technical staff FTE	Administrative and other staff FTE
Responsible for the care and treatment of animals	15.3	0
Responsible for the preparation of practical and clinical teaching		0
Responsible for administration, general services, maintenance etc	0	17.8
Support staff primarily engaged in research	11.5	1.0
Total	26.8	18.8

The teaching technical team care for Establishment teaching animals (approximately 0.2 FTE) and prepare for practical teaching so the category is merged. In addition there are 24.6 FTE staff based in central University functions (e.g. Student Services, Estates, HR, Dairy Farm, and Finance etc.) that directly support the Establishment.

Table 9.2: Non Veterinary qualified FTE staff

Status	Title	Non degree (and unassigned for Clinical Associates)	Bachelor degree	Bachelor + PhD	Bachelor + Masters + PhD	Higher Degree and Fellows
Full time (>75%)	Administrator					
	Professor			2.0		4.0
	Associate Professor			6.0	4.0	2.0
	Assistant Professor			5.0	5.8	1.0
	Teaching Fellow	2.0				
	Research Fellow		1.0	5.0	2.0	
Part time (<75%)	Administrator					
	Professor			0.4	0.5	
	Associate Professor				0.6	
	Assistant Professor					
	Teaching Fellow	1.2		0.5		
	Research Fellow			0.5		
	Clinical Associate Staff	0.6				
Total		3.8	1.0	19.4	12.9	7.0
Total non veterinarians		44.1				

Higher degree is DSc; Fellows include FRCPath, FRSB, FRSC, these staff possess other qualifications (e.g. Bachelors and PhD). Clinical Associate staff include veterinary nurses, farriers, and army staff and are not differentiated into categories.

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Table 9.3: Veterinary qualified FTE staff employed

Status	Title	Vet degree only (and unassigned for Clinical Associates)	Vet degree + Masters	Vet degree + PhD	Vet degree + Masters + PhD	Vet degree + RCVS Cert	Vet degree + Masters + RCVS Cert	Vet degree + PhD + RCVS Cert	Vet degree + EU/RCVS/American Diploma	Vet degree + Masters EU/RCVS/American Diploma	Vet degree + PhD + EU/RCVS/American Diploma	Higher degrees and Fellows
Full time (>75%)	Dean											1.0
	Professor								1.0		3.8	4.0
	Associate Professor			1.0	1.0	1.0		1.0	2.0		6.0	2.0
	Assistant Professor	3.0		3.0					2.0		6.0	3.0
	Teaching Fellow	4.7	2.0									
Part time (<75%)	Administrator											
	Professor											
	Associate Professor							0.2	0.7			
	Assistant Professor					0.5				0.4		
	Teaching Fellow	0.4	0.4			0.1	0.3		0.2			
	Research Fellow										0.6	
	Postgraduates	1.0	1.0									
	Clinical Associate Staff	14.1										
Total		23.2	3.4	4.0	1.0	1.6	0.3	1.2	5.9	0.4	16.4	10.0
Total veterinarians		67.4				Total Establishment specialist veterinarians				27.7		

Diploma holders may also possess Certificates

Fellows include FRCVS and FRCPath. These staff possess other qualifications (e.g. Bachelors, PhD, Certificates and Diplomas).

Clinical Associate staff include many staff with Certificates and Diplomas however it is overly complicated to assign the FTE per Clinical Associate to qualification categories

Postgraduates include 2 farm residents and 2 zoo DVetMed students

No external teaching deliverers, apart from Clinical Associate effort, is included.

9.2. Comments

Total academic and support staff numbers are sufficient for the School's programmes. Qualifications of the academic and support staff address the breadth of veterinary disciplines, however some disciplines are less well represented in number and seniority amongst the School's academic staff (for example small animal surgery, equine surgery and diagnostic imaging). Close to half of all veterinary surgeons involved in teaching are specialists, and approximately two-thirds hold a PhD.

The recent restructuring of administrative support for student services has led to some concern from staff that there may be an impact on the availability of support but student and recent staff experience did not confirm this has translated into any noticeable drop in service.

Staff in academic, clinical, administrative and technical roles are dedicated to teaching of veterinary students, and students recognise their teaching skills and commitment.

A comprehensive programme of staff development was in evidence, including mandatory programmes for teaching, inclusivity and wellbeing support. Mentoring in research and teaching peer support programmes put in place by the School are considered effective.

Academic and clinical staff veterinary surgeons contribute to the wider profession through service to specialist groups and associations.

Explicit promotion policies have supported career progression, and have rewarded achievement to professorial level in teaching. Staff, including clinical teachers, are supported to pursue further teaching qualifications.

The School has yet to achieve fully its ambitions for a diverse workforce (for example ethnicity, non-English speaking background), however it has demonstrated success in career advancement.

Staff have been recognised by a broad range of teaching and professional awards.

9.3. Suggestions

The School should progress recruitment of academic staff to ensure core disciplines have expert academic leadership and expertise.

Processes to enable the development and progression of technician and administrative staff will enable the School to retain them and advance their careers.

It is positive to note that all staff have had training in unconscious bias and the School is encouraged to ensure lessons learnt from this training are implemented.

9.4. Decision

The Establishment is compliant with Standard 9.

10. Research programmes, continuing and postgraduate education (see Standards 10.1 to 10.4 in Chapter 3)

10.1 Findings

Research is central to the activities of the Establishment, 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 and postgraduate students.

In the 2014 national Research Excellence Framework (REF) exercise, the Establishment, in a joint submission with the School of Biosciences, was assessed as being second in the UK for research power; 37% of work was assessed as world-leading and 80% was of internationally excellent quality. Four major Strategic Research Areas (SRAs) have recently been selected as foci for research excellence. All staff across all SRA's are encouraged to integrate latest research methods and results into teaching:

- Diagnostics and Therapeutics
- Functional Pathogen Genomics

- One Virology
- Ruminant Population Health

All staff 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 staff on 0.2 FTE facilitator contracts (Table 11.1). All staff are expected to teach on the curriculum with the exception of Research Associates/Fellows who are recruited on fixed term contracts to deliver on research grants, however these will normally be expected to contribute to the supervision of year 3 research project students in laboratory-based projects. The variance in research active staff is mostly related to fluctuations in the number of Postdoctoral Research Associates/Fellows.

Table 10.1: Summary of research programmes in the veterinary school and outputs

Year	Total academic staff FTE	Total FTE academic staff involved in research who teach on the veterinary degree	Total FTE research active staff	No. of original, peer-reviewed research publications	No. of original book chapters
2016	95.3	82.7	94.4	216	5
2015	107.8	88.2	106.7	225	3
2014	95.4	82.1	94.1	198	12

Table 10.2: Research award data

	UK Research councils		Charities		UK & EU government		Industry and commerce		Other		Pate nts
	No.	£k	No.	£k	No.	£k	No.	£k	No.	£k	No.
2016/17	5	73	14	641	12	1,778	10	296	1	54	1
2015/16	6	578	10	430	7	1,442	10	462	3	155	1
2014/15	12	1,756	4	281	6	643	3	118	1	35	0

Postgraduate programmes

The Establishment offers opportunities to study on an academic track for MRes and PhD degrees, in a wide range of veterinary, biomedical, biological and statistical research fields. Postgraduate studentships are established under the SRAs in the school. In addition the School offers a PG Certificate course in Veterinary Education. Studentships are available through University-funded and externally-funded sources. The Establishment does not currently offer taught MSc programmes. The School has developed a clinical track which comprises a PG Certificate course aimed at new or recent veterinary graduates to develop further clinical experience through an Internship, and clinical MVM / MVS and DVetMed / DVetSurg degrees which are commonly combined with a clinical Certificate or Diploma (awarded by a European Specialty College), with students normally based for the majority of their studies at one or more of the Establishment’s Clinical Associates.

Programme specifications have been detailed for each of the postgraduate programmes offered (academic and clinical track). The assessment type (and progression requirements) for each programme overall and any components is published in the Quality Manual. All postgraduate students are provided with a Student Handbook that specifies examination regulations and guidelines; this is available online and in hard copy.

Applications are accepted in response to advertised studentships or following speculative applications for all academic and clinical track postgraduate positions. All applications must be made online and applicants must complete a personal statement for their proposed area of research, and forward copies

of qualifications to the Establishment. Applicants for clinical postgraduate programmes are required to hold a veterinary degree, and be a Member or Fellow of the Royal College of Veterinary Surgeons with a legal ability to practise veterinary medicine in the UK. They are required to have attended an EAEVE approved Veterinary Establishment and have undertaken a minimum of 26 weeks clinical practice.

All postgraduate students are integrated into the University of Nottingham’s Graduate School. The Graduate School based at University Park has a satellite centre at the Sutton Bonington Campus. This centre offers facilities including social and study spaces, computer facilities and seminar rooms. All postgraduate students are encouraged to develop a portfolio of generic skills. The acquisition of these skills is supported by a range of training programmes run by the Establishment, the Faculty of Medical and Health Science, the Graduate School and Professional Development.

The Postgraduate Committee, on which there is student representation, monitors student progress and also discusses student welfare, support and operational issues associated with postgraduates. The TLA Committee is the main quality assurance process route for all programme matters associated with taught postgraduate programmes (PG Certificates and taught component of DVetMed DVetSurg), after review by the Postgraduate Committee. Postgraduate students are also represented on the Learning Community Forum and Safety Committee, which are able to discuss any matters (academic, welfare or social). Postgraduates are also able to specifically raise any issues directly to the Sub-Dean for Clinical Postgraduates and Sub-Dean for non-Clinical Postgraduates and with a dedicated Senior Tutor for Postgraduates.

The Postgraduate Sub-Deans meet each postgraduate student individually on a needs basis; regular monthly coffee mornings are also held with the Postgraduate Administrator. The School requires all postgraduates to attend a quarterly meeting, at which students present work to their peer group and discuss progress and have an opportunity to meet each other academically and socially. In addition, postgraduates are assigned to a SRA and have the opportunity to present their work in a more informal setting amongst colleagues in their own discipline. All postgraduates are required to present their work at an annual postgraduate symposium held in conjunction with the School of Biosciences.

Academic track postgraduate programmes

Table 10.3: Academic track postgraduates (2016/17)

Qualification	No of students on Taught courses	No of students on Research courses	Duration of training
PG Certificate Veterinary Education	5	0	1 year
MRes	0	4	1 year
PhD	0	67	3 or 4 years

Clinical track postgraduate programmes

Table 10.4: Clinical track postgraduates (2016/17)

Clinical Discipline	No of Interns	No of Residents	No of DVetMed / DVetSurg students	Diploma title
Farm	0	3	0	DipECBHM
Small Animal	10	1	0	DipECVIM
Pathology	0	3	0	DipECVP
Equine	2	2	0	DipECVS
Zoo	0	0	2	

Note: 1 student shown as a Farm Resident is now studying for PhD not MVM MVS alongside a Diploma.

Integration of research activities with the veterinary programme

The Establishment has incorporated a significant 40 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 the practice of evidence based veterinary medicine
- Acquisition of new technical skills
- 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

All academic staff are expected to supervise undergraduate projects.

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

Students are able to undertake 6 weeks of research as part of EMS

Students are able to undertake summer research projects at the Establishment, either unpaid or subsidised by a stipend by the supervisor. Competitive funding has been available from the University and commercial and charitable organisations for students to undertake vacation research projects

Students are able to volunteer to assist with research projects.

The Establishment has funded 2 intercalated PhD students, and on an ongoing basis funds 2 MRes and 3 PGCertificate (Veterinary Education) positions for intercalating year 3 or 4 students

The Establishment won a substantial INspire grant from The Academy of Medical Sciences 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

The Establishment 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’, this is formally stated on their degree paperwork and awarded at the graduation ceremonies. Therefore, all students can get formal recognition for organising, volunteering at or attending research related activities

Support for research activities does not cease once our students have graduated. The Establishment 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 can write papers with staff, collect samples to contribute. This programme is being extended after consultation with alumni and will include mentoring opportunities and further research activities.

Continuing Education

The Establishment aims to provide the highest quality Continued Professional Development (CPD) for veterinary surgeons and allied professionals. The School offers courses at the basic, intermediate and advanced levels to suit the CPD requirements of the profession. The programme is strategically overseen by the CPD Sub-Dean and operationalised by the CPD Manager who undertakes all aspects of the programme administration (communication with deliverers and attendees, scheduling, organisation and evaluation analysis). The CPD Sub-Dean and Manager have undertaken a number

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of national surveys to determine the needs of the veterinary profession and within this context, individual courses are initiated by individual clinicians in discussion with the Sub-Dean.

Table 10.5: Veterinary student's involvement in research projects and levels intercalating

Acade-mic year	Total number of students on 5 year veterinary programme	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 2	Year 3	Year 4	Year 5		PhD	Masters	PGCert
2016/17	663	10	131	5	0	79	0	3	3
2015/16	599	16	116	5	0	76	2	1	0
2014/15	579	21	121	7	1	88	2	0	0

Table 10.6: CPD courses provided by the School in 2016/17

Course title	No. of participants	Course hours
Avian medicine and surgery	11	8
Engaging with your sheep farmer clients - providing a veterinary service they will value	11	8
Small animal geriatric medicine	11	8
Applied musculoskeletal anatomy of the dog	9	6
Practical exotic and avian day	12	8
Bovine mastitis	20	19
Intermediate small animal abdominal ultrasound	20	16
All you ever wanted to know about immune-mediated diseases	15	8
Sources of evidence for practitioners	6	8
A surgical tour of the abdomen	16	8
Masterclass in the surgical management of laryngeal disease in the dog	10	8
Just give it a wiggle and a push! - Getting the most out of small animal endoscopy	20	8
Back yard poultry	12	8
Introduction to small animal ultrasound	46	8
Polyuria and polydipsia	23	8
Practical farm animal surgery	10	8
Critical care for small animals	16	8
Ouch that hurts! - a practical approach to acute and chronic pain management in small animals	12	8
Best practice at lambing time	8	8
Using and evidence-based approach in your practice	9	65
Basic medical and surgical oncology	17	8
Bovine lameness	7	19
Endoscopy masterclass	10	16
Practical hip surgery	5	8
Practical stifle surgery	7	8
Raptors - emergency care and rehabilitation	7	8
Anaesthesia - the next steps: Practical ways to improve your anaesthetic practice	30	8
Canine fixation masterclass	6	16

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Ruminant mineral nutrition investigation incorporating copper: deficiency and two toxicities	13	16
Husbandry, medicine and surgery of the pet rabbit	5	8
Bleeding small animals!	11	8
Focussing on frustrating felines	6	8
Practical small animal echocardiography	12	8
All you ever wanted to know about diseases of the liver and pancreas	19	8
Masterclass in the surgical management of ear disease	2	8

Involvement of interns, residents and research students in teaching

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, but ultimately feedback, with academic staff and other members of Clinical Associates about student performance to Rotation Leaders. Residents may undertake year 5 DOPS assessment but 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, for example Residents may undertake the Associate Teacher Programme and gain HEA status.

Interns and Residents are involved in case management and teaching at several Clinical Associates. Interns and Residents in all cases work as part of a team managed by a senior clinician, typically a board-certified specialist, who will manage conflicts in relation to case management. All Residents have a supervisor who is a senior clinician, typically a board-certified specialist, who will ensure any research elements required of the residency programme are completed.

10.2 Comments

It is encouraging to see that four major Strategic Research Areas have been selected as foci for research excellence; implementation is just starting and will support cross Faculty co-operation.

Undergraduate students are offered an excellent research experience through the third-year research project. Additionally, students are offered opportunities to participate in research meetings and an encouraging number choose to intercalate.

The new Centre for Dairy Science Innovation facility is an important opportunity for the Establishment to innovate and partner with industry and other academic institutions.

Access to clinical records for clinical research relies on the goodwill of the Clinical Associates and is currently limited to individual small-scale projects.

10.3 Suggestions for improvement

Considering the Strategic Research Areas have only just been implemented, it is suggested that a structured programme of review with clear expectations and measures of success is put in place at the earliest possible opportunity.

One Virology is the clearest example of One Health research and the School is encouraged to explore other One Health opportunities

The School should formalise access to clinical case records for research purposes.

10.4. Decision

The Establishment is compliant with Standard 10.

11. Outcome Assessment and Quality Assurance (see Standards 11.1 to 11.10 in Chapter 3)

11.1. Findings

11.1.1. Description of the global strategy of the Establishment for outcome assessment and Quality Assurance (QA):

The School uses a number of quality-related outcome assessment measures:

To assure the quality and standard required for a veterinary degree as determined by the RCVS and EAEVE.

To ensure standards and implementation of best practice across the Establishment's operations

To facilitate delivery and dissemination of education and research which addresses the needs of stakeholders.

Employment rates of graduates

HESA collect information via the annual Destinations of Leavers from Higher Education survey and shows information for all UK domiciled graduates at 6 month's post-graduation. The average employment (and further study) rate is 98% over the last 5 years and ranges from 97% to 100%.

Table 11.1: Employment rates (HESA data)

Graduating class	Full time employ	Part time employ	Further study only	Work and study	Unemployed	Other	Total respondents
2011/12	56	1	0	1	2	0	60
2012/13	58	0	3	1	1	0	63
2013/14	60	1	3	0	1	1	66
2014/15	72	1	1	0	0	1	75
2015/16	60	0	2	0	2	1	65

The Establishment also collected destination data from 2017 graduates on Graduation Day. 78.9% of graduates had already secured employment in veterinary practice, 11.9% were due to undertake advanced further study (Internships/Residencies) and 0.9% in advanced academic training. Of the 109 respondents, 8.3% had not found jobs by Graduation and 4.8% were preparing to work outside the UK.

Alumni have been surveyed since the first graduating cohort in 2011. Year 1 graduates have been surveyed annually by the School on their achievement of learning outcomes. Graduates reported being well prepared across a broad range of areas, with consistent trends of less effective preparation in emergency care, veterinary public health, practice management, and veterinary legislation. HESA data (Table 12.2) from 2011-2016 showed the large majority of graduates felt prepared for employment with 6-7% in the past two years not feeling well prepared.

The data from the graduate survey led to some changes to the curriculum

The Establishment has commenced a survey of graduates 5 and 6 years' post-graduation.

The Establishment has participated in the Veterinary Schools Council new survey of employers based on the 'Day One Competences' defined by the RCVS.

Table 11.2: HESA data ‘how well did the graduates overall experience in higher education prepare for employment’

Year of graduation	No. of respondents	Very well	Well	Not very well	Not at all	Can't tell
2011/12	32	59%	38%	3%	0%	0%
2012/13	42	60%	38%	0%	0%	2%
2013/14	39	79%	21%	0%	0%	0%
2014/15	46	80%	13%	7%	0%	0%
2015/16	54	67%	26%	2%	4%	2%

Institutional outcomes

The Establishment undertakes activities to gain outcome information, benchmarking through 5 main mechanisms:

National Student Survey (NSS) for the Higher Education Funding Council. The School has achieved high overall satisfaction relative to the University average and all UK veterinary schools (Appendix 25). In 2016/7 the School led in each of the 27 categories, with 100% overall satisfaction with the course and 100% completion rate. This survey showed high rates of student satisfaction with their course, learning resources, support, assessment and student voice.

External Examiners provide benchmarking and quality assurance

The University undertakes Educational Enhancement and Assurance Reviews (EEARs). These 3-yearly reviews of academic programs include external representation.

Less formal feedback is obtained from staff acting as External Examiners elsewhere, members of accrediting teams, membership of cross-University and Veterinary School Committees.

11.1.2. Brief description of the specific QA processes for each ESEVT Standards

The SER describes a number of different processes and a series of methods used for QA. The process for the QA of programmes/courses is clear. There are specific assessments which contribute to the enhancement of the quality areas defined by the EAEVE Standards.

- admission statistics
- student achievements monitored and available in the information system
- monitoring of the curriculum (teacher, student, external)
- course and program evaluations by students
- analysis of training in the light of Day-One-Competences and development of the veterinary programme accordingly

Staff is considered the key element to quality work, and a number of assessments are made in connection with them:

- competence development and pedagogical training for teaching and (student-related) staff
- promotion in areas of research, training and academic services for teaching staff
- staff survey
- Also see staff involvement in QA below.

11.1.3. Brief description of the process and the implication of staff, students and stakeholders in the development, implementation, assessment and revision of the QA strategy of the Establishment

Outcome assessment at Establishment level is an ongoing activity that results in a regular appraisal of data in order to monitor and inform curriculum development and graduate competency and associated Establishment strategy and includes data collected from students, staff and external stakeholders. Data are collected at year, module and activity level (e.g. facilitated and practical sessions), methods are employed are:

- Establishment /University managed undergraduate, graduate, employer surveys
- University all student survey (NSES). External: NSS)

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- Data analysis (assessment results, admissions qualifications)
- Individual stakeholder feedback (e.g. student, staff, External Examiners, EMS host)
- Establishment Committees
- Ad-hoc focus groups convened around particular topics
- Peer observation

Outcome findings are considered and responded to through ongoing operations or 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, a decision informed by lower assessment attainment compared to other courses, student SEM feedback, External Examiner feedback
- Accommodation provided by the School for one clinical rotation, a decision informed by student NSS and rotation feedback
- Compulsory out of hours emergency care rotation incorporated into year 5 rotations, a decision informed by graduate survey
- Students are able to gain online assessment feedback based on attainment against module learning objectives, a decision driven by student feedback in year survey, NSS and staff feedback

11.2. Comments

The School has robust, comprehensive quality assurance processes in place for its veterinary programme.

Academic staff, members of School committees and Module convenors respond to feedback and quantitative measures (for example exam performance) and address areas identified for improvement. Staff understanding of the School's goals and mission and the alignment of these with School action and operating plans was variable.

Graduates and employers are highly satisfied with the veterinary programme and the professional and personal attributes, Day One skills and practical competence of the School's graduates.

Indirect assessment of achievement of clinical competence in the final year is limited to placement supervisor feedback on professionalism, a reflective portfolio and final year written and oral examinations.

The admission process has not achieved the School's goals of attracting a fully diverse student cohort to serve all sectors of UK society

Internationalisation of the curriculum content and student experiences is limited.

11.3. Suggestions for improvement

The School should engage staff with review and alignment of the School action plans, operating plans, mission and goals.

The School should implement increased explicit indirect measures to evaluate students' clinical competence.

11.4. Decision

The Establishment is compliant with Standard 11.

12. ESEVT Indicators

12.1. Findings

Data is primarily compiled from information shown in relevant tables throughout the SER. No data from EMS is included. Companion animals seen on Intra Mural Rotations are also seen extra mural

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to the University and as such the same caseload data are shown in both intra and extra mural categories.

Calculated ESEVT Indicators

Name of the Establishment:		School of veterinary Medicine and Science Nottingham UK			
Date of the form filling:		October 24, 2017			
Calculated Indicators from raw data		Establishment values	Median values¹	Minimal values²	Balance³
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students	0.158	0.16	0.13	0.032
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually	0.625	0.87	0.59	0.035
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually	0.650	0.94	0.57	0.083
I4	n° of hours of practical (non-clinical) training	739.333	905.67	595.00	144.333
I5	n° of hours of clinical training	1163.667	932.92	670.00	493.667
I6	n° of hours of FSQ & VPH training	181.000	287.00	174.40	6.600
I7	n° of hours of extra-mural practical training in FSQ & VPH	30.000	68.00	28.80	1.200
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually	293.516	70.48	42.01	251.507
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually	1.010	2.69	0.46	0.546
I10	n° of equine patients seen intra-murally / n° of students graduating annually	69.484	5.05	1.30	68.186
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually	21.350	3.35	1.55	19.805
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually	293.516	6.80	0.22	293.293
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually	469.634	15.95	6.29	463.339
I14	n° of equine patients seen extra-murally / n° of students graduating annually	54.662	2.11	0.60	54.067
I15	n° of visits to ruminant and pig herds / n° of students graduating annually	35.592	1.33	0.55	35.045
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually	0.115	0.12	0.04	0.070
I17	n° of companion animal necropsies / n° of students graduating annually	2.602	2.07	1.40	1.202
I18	n° of ruminant and pig necropsies / n° of students graduating annually	1.038	2.32	0.97	0.068
I19	n° of equine necropsies / n° of students graduating annually	0.430	0.30	0.09	0.337
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually	10.672	2.05	0.69	9.979
I21 *	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually	0.292	0.20	0.06	0.229
I22 *	n° of PhD graduating annually / n° of students graduating annually	0.105	0.15	0.09	0.017

12.2. Comments

The Indicators, as provided by the Establishment, are not calculated in full agreement with the ESEVT SOP, which as a result some aberrant data when compared to other Establishments.

12.3. Suggestions for improvement

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The calculation of the ESEVT Indicators should take into account the ESEVT definition of a patient, i.e. an animal officially recorded in the electronic patient record system of the Establishment and individually examined/treated by at least 1 student under the supervision of at least 1 member of staff.

13. ESEVT Rubrics (summary of the decision on the compliance of the Establishment for each ESEVT Standard, i.e. (total or substantial) compliance (C), partial compliance (PC) (Minor Deficiency) or non-compliance (NC) (Major Deficiency))

The compliance with the ESEVT rubrics was transcribed from the RCVS Rubrics (see below for a better comparison).

Standard 1: Objectives and Organisation	C	PC	NC
1.1. The Establishment must have as its main objective to provide, in agreement with the EU Directives and ESG recommendations, adequate, ethical, research-based, evidence-based veterinary training that enables the new graduate to perform as a veterinarian capable of entering all commonly recognised branches of the veterinary profession and to be aware of the importance of lifelong learning.	X		
1.2. The Establishment must develop and follow its mission statement which must embrace all the ESEVT standards.		X	
1.3. The Establishment must be part of a university or a higher education institution providing training recognised as being of an equivalent level and formally recognised as such in the respective country.	X		
1.4. The person responsible for the veterinary curriculum and the person(s) responsible for the professional, ethical, and academic affairs of the Veterinary Teaching Hospital (VTH) must hold a veterinary degree.	X		
1.5. The organisational structure must allow input not only from staff and students but also from external stakeholders.	X		
1.6. The Establishment must have a strategic plan, which includes a SWOT analysis of its current activities, a list of objectives, and an operating plan with timeframe and indicators for its implementation.	X		
Standard 2: Finances			
2.1. Finances must be demonstrably adequate to sustain the requirements for the Establishment to meet its mission and to achieve its objectives for education, research and services.	X		
2.2. The finance report must include both expenditures and revenues and must separate personnel costs, operating costs, maintenance costs and equipment.	X		
2.3. Resources allocation must be regularly reviewed to ensure that available resources meet the requirements.	X		
2.4. Clinical and field services must function as instructional resources. Instructional integrity of these resources must take priority over financial self-sufficiency of clinical services operations. Clinics must be run as efficiently as possible.	X		
2.5. The Establishment must have sufficient autonomy in order to use the resources to implement its strategic plan and to meet the ESEVT Standards.	X		
Standard 3: Curriculum			
3.1. The curriculum must be designed, resourced and managed to ensure all graduates have achieved the graduate attributes expected to be fully compliant with the EU Directive 2005/36/EC as amended by directive 2013/55/EU and its Annex V.4.1.	X		
3.2. The learning outcomes for the programme must be explicitly articulated to form a cohesive framework.	X		
3.3. Programme learning outcomes must be communicated to staff and students and: -) underpin and ensure the effective alignment of all content, teaching, learning and assessment activities of the degree programme; -) form the basis for explicit statements of the objectives and learning outcomes of individual units of study; -) be regularly reviewed, managed and updated to ensure they remain relevant, adequate and are effectively achieved.	X		
3.4. The Establishment must have a formally constituted committee structure (which includes effective student representation), with clear and empowered reporting lines, to oversee and manage the curriculum and its delivery. The committee(s) must: -) determine the pedagogical basis, design, delivery methods and assessment methods of the curriculum, -) oversee QA of the curriculum, particularly gathering, evaluating, making change and responding to feedback from stakeholders, peer reviewers and external assessors, and data from examination/assessment outcomes, -) review the curriculum at least every seven years by involving staff, students and stakeholders, -) identify and meet training needs for all types of staff, maintaining and enhancing their competence for the on-going curriculum development.	X		
3.5. The curriculum must include the subjects (input) listed in Annex V of EU Directive 2005/36/EC and must allow the acquisition of the Day One Competences (output) (see Annex 2). This must concern all groups of subjects, i.e. Basic Sciences, Clinical Sciences, Animal Production, Food Safety and Quality, and Professional Knowledge.			X
3.6. External Practical Training (EPT) are training activities organised outside the Establishment, the student being under the direct supervision of a non-academic person (e.g. a practitioner). EPT cannot replace the core intramural training nor the extramural training under the close supervision of academic staff (e.g. ambulatory clinics, herds visits, practical training in FSQ).	X		
3.7. Since the veterinary degree is a professional qualification with Day One Competences, EPT must complement and strengthen the academic education by enhancing for the student the handling of all common domestic animals, the understanding of the economics and management of animal units and veterinary practices, the communication skills for all aspects of veterinary work, the hands-on practical and clinical training, the real-life experience, and the employability of the prospective graduate.	X		
3.8. The EPT providers must have an agreement with the Establishment and the student (in order to fix their respective rights and duties, including insurance matters), provide a standardised evaluation of the performance of the student during their EPT and be allowed to provide feedback to the Establishment on the EPT programme.	X		

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3.9. There must be a member of the academic staff responsible for the overall supervision of the EPT, including liaison with EPT providers.	X		
3.10. Students must take responsibility for their own learning during EPT. This includes preparing properly before each placement, keeping a proper record of their experience during EPT by using a logbook provided by the Establishment and evaluating the EPT. Students must be allowed to complain officially or anonymously about issues occurring during EPT.	X		
Standard 4: Facilities and equipment			
4.1. All aspects of the physical facilities must provide an environment conducive to learning.	X		
4.2. The veterinary Establishment must have a clear strategy and programme for maintaining and upgrading its buildings and equipment.	X		
4.3. Lecture theatres, teaching laboratories, tutorial rooms, clinical facilities and other teaching spaces must be adequate in number, size and equipped for the instructional purposes and must be well maintained. The facilities must be adapted for the number of students enrolled.	X		
4.4. Students must have ready access to adequate and sufficient study, self-learning, recreation, locker, sanitary and food services facilities.	X		
4.5. Offices, teaching preparation and research laboratories must be sufficient for the needs of the academic and support staff.	X		
4.6. Facilities must comply with all relevant legislation including health, safety, biosecurity and EU animal welfare and care standards.	X		
4.7. The Establishment's livestock facilities, animal housing, core clinical teaching facilities and equipment must: -) be sufficient in capacity and adapted for the number of students enrolled in order to allow hands-on training for all students -) be of a high standard, well maintained and fit for purpose -) promote best husbandry, welfare and management practices -) ensure relevant biosecurity and bio-containment -) be designed to enhance learning.		X	
4.8. Core clinical teaching facilities must be provided in a VTH with 24/7 emergency services at least for companion animals and equines, where the Establishment can unequivocally demonstrate that standard of education and clinical research are compliant with all ESEVT Standards, e.g. research-based and evidence-based clinical training supervised by academic staff trained to teach and to assess, availability for staff and students of facilities and patients for performing clinical research and relevant QA procedures. For ruminants and pigs, on-call service must be available if emergency services do not exist for those species in a VTH. The Establishment must ensure state-of-the-art standards of teaching clinics which remain comparable with the best available in the private sector.	X		
4.9. The VTH and any hospitals, practices and facilities (including EPT) which are involved with the curriculum must meet the relevant national Practice Standards.	X		
4.10. All core teaching sites must provide dedicated learning spaces including adequate internet access.	X		
4.11. The Establishment must ensure students have access to a broad range of diagnostic and therapeutic facilities, including but not limited to: pharmacy, diagnostic imaging, anaesthesia, clinical pathology, intensive/critical care, surgeries and treatment facilities, ambulatory services and necropsy facilities.	X		
4.12. Operational policies and procedures (including biosecurity, good laboratory practice and good clinical practice) must be taught and posted for students, staff and visitors.	X		
4.13. Appropriate isolation facilities must be provided to meet the need for the isolation and containment of animals with communicable diseases. Such isolation facilities must be properly constructed, ventilated, maintained and operated to provide for animal care in accordance with updated methods for prevention of spread of infectious agents. They must be adapted to all animal types commonly handled in the VTH.			X
4.14. The Establishment must have an ambulatory clinic for production animals or equivalent facilities so that students can practise field veterinary medicine and Herd Health Management under academic supervision.	X		
4.15. The transport of students, live animals, cadavers, materials from animal origin and other teaching materials must be done in agreement with national and EU standards, to ensure the safety of students and staff and to prevent the spread of infectious agents.	X		
Standard 5: Animal resources and teaching material of animal origin			
5.1. The number and variety of healthy and diseased animals, cadavers, and material of animal origin must be adequate for providing the practical training (in the area of Basic Sciences, Clinical Sciences, Pathology, Animal Production, Food Safety and Quality) and adapted to the number of students enrolled.	X		
5.2. It is essential that a diverse and sufficient number of surgical and medical cases in all common domestic animals and exotic pets be available for the students' clinical educational experience and hands-on training.	X		
5.3. In addition to the training provided in the Establishment, experience can include practical training at external sites, provided this training is organised under direct academic supervision and at the same standards as those applied in the Establishment.	X		
5.4. The VTH must provide nursing care skills and instruction in nursing procedures.	X		
5.5. Under all situations students must be active participants in the workup of patients, including physical diagnosis and diagnostic problem oriented decision making.	X		
5.6. Medical records must be comprehensive and maintained in an effective retrieval system (preferably an electronic patient record system) to efficiently support the teaching, research, and service programmes of the Establishment.	X		
Standard 6: Learning resources			
6.1. State-of-the-art learning resources must be available to support veterinary education, research, services and continuing education. Timely access to learning resources, whether through print, electronic media or other means, must be available to students and staff and, when appropriate, to stakeholders. State-of-the-art procedures for bibliographical search and for access to databases and learning resources must be taught to undergraduate students.	X		
6.2. Staff and students must have full access on site to an academic library, which is administered by a qualified librarian, an Information Technology (IT) unit, which is managed by an IT expert, an e-learning platform, and the relevant human and physical resources necessary for development by the staff and use by the students of instructional materials.	X		
6.3. The Establishment must provide students with unimpeded access to learning resources which include scientific and other relevant literature, internet and internal study resources, and equipment for the development of procedural skills (e.g. models). The use of these resources must be aligned with the pedagogical environment and learning outcomes	X		

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within the programme, and have mechanisms in place to evaluate the teaching value of innovations in learning resources.			
6.4. The relevant electronic information, database and other intranet resources must be easily available for students and staff both in the Establishment's core facilities via wireless connection (Wi-Fi) and from outside the Establishment via Virtual Private Network (VPN).	X		
Standard 7: Student admission, progression and welfare			
7.1. The selection criteria for admission to the programme must be consistent with the mission of the Establishment. The number of students admitted must be consistent with the resources available at the Establishment for staff, buildings, equipment, healthy and diseased animals, and materials of animal origin.	X		
7.2. In relation to enrolment, the Establishment must provide accurate information in all advertisements regarding the educational programme by providing clear and current information for prospective students. Further, printed catalogue and electronic information must state the purpose and goals of the programme, provide admission requirements, criteria and procedures, state degree requirements, present Establishment descriptions, clearly state information on tuition and fees along with procedures for withdrawal, give necessary information for financial aid programmes, and provide an accurate academic calendar.	X		
7.3. The Establishment's website must mention the ESEVT Establishment's status and its last Self Evaluation Report and Visitation Report must be easily available for the public. Not applicable.	X		
7.4. The selection and progression criteria must be clearly defined, consistent, and defensible, be free of discrimination or bias, and take account of the fact that students are admitted with a view to their entry to the veterinary profession in due course.	X		
7.5. The Establishment must regularly review and reflect on the selection processes to ensure they are appropriate for students to complete the programme successfully, including consideration of their potential to meet all the ESEVT Day One Competences in all common domestic species (see Annex 2).	X		
7.6. Adequate training (including periodic refresher training) must be provided for those involved in the selection process to ensure applicants are evaluated fairly and consistently.	X		
7.7. There must be clear policies and procedures on how applicants with disabilities or illnesses will be considered and, if appropriate, accommodated in the programme, taking into account the requirement that all students must be capable of meeting the ESEVT Day One Competences by the time they graduate.	X		
7.8. The basis for decisions on progression (including academic progression and professional fitness to practise) must be explicit and readily available to the students. The Establishment must provide evidence that it has mechanisms in place to identify and provide remediation and appropriate support (including termination) for students who are not performing adequately.	X		
7.9. The Establishment must have mechanisms in place to monitor attrition and progression and be able to respond and amend admission selection criteria (if permitted by national or university law) and student support if required.	X		
7.10. Mechanisms for the exclusion of students from the programme for any reason must be explicit.	X		
7.11. Establishment policies for managing appeals against decisions, including admissions, academic and progression decisions and exclusion, must be transparent and publicly available.	X		
7.12. Provisions must be made by the Establishment to support the physical, emotional and welfare needs of students. This includes, but is not limited to, learning support and counselling services, careers advice, and fair and transparent mechanisms for dealing with student illness, impairment and disability during the programme. This shall include provision of reasonable accommodations/adjustments for disabled students, consistent with all relevant equality and/or human rights legislation.	X		
7.13. There must be effective mechanisms for resolution of student grievances (e.g. interpersonal conflict or harassment).	X		
7.14. Mechanisms must be in place by which students can convey their needs and wants to the Establishment.	X		
7.15. The Establishment must provide students with a mechanism, anonymously if they wish, to offer suggestions, comments and complaints regarding compliance of the Establishment with the ESEVT standards.	X		
Standard 8: Student assessment	X		
8.1. The Establishment must ensure that there is a clearly identified structure within the Establishment showing lines of responsibility for the assessment strategy to ensure coherence of the overall assessment regime and to allow the demonstration of progressive development across the programme towards entry level competence.	X		
8.2. The assessment tasks and grading criteria for each unit of study in the programme must be clearly identified and available to students in a timely manner well in advance of the assessment.	X		
8.3. Requirements to pass must be explicit.	X		
8.4. Mechanisms for students to appeal against assessment outcomes must be explicit.	X		
8.5. The Establishment must have a process in place to review assessment outcomes and to change assessment strategies when required.	X		
8.6. Programme learning outcomes covering the full range of professional knowledge, skills, competences and attributes must form the basis for assessment design and underpin decisions on progression.	X		
8.7. Students must receive timely feedback on their assessments.	X		
8.8. Assessment strategies must allow the Establishment to certify student achievement of learning objectives at the level of the programme and individual units of study.	X		
8.9. Methods of formative and summative assessment must be valid and reliable and comprise a variety of approaches. Direct assessment of clinical skills and Day One Competences (some of which may be on simulated patients), must form a significant component of the overall process of assessment. It must also include the quality control of the students logbooks in order to ensure that all clinical procedures, practical and hands-on training planned in the study programme have been fully completed by each individual student.	X		
Standard 9: Academic and support staff			
9.1. The Establishment must ensure that all staff are appropriately qualified and prepared for their roles, in agreement with the national and EU regulations. A formal training (including good teaching and evaluation practices, learning and e-learning resources, biosecurity and QA procedures) must be in place for all staff involved with teaching. Most FTE academic staff involved in veterinary training must be veterinarians. It is expected that greater than 2/3 of the instruction that the students receive, as determined by student teaching hours, is delivered by qualified veterinarians.	X		
9.2. The total number, qualifications and skills of all staff involved with the programme, including teaching staff, 'adjunct' staff, technical, administrative and support staff, must be sufficient and appropriate to deliver the educational programme and fulfil the Establishment's mission.	X		

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9.3. Staff who participate in teaching must have received the relevant training and qualifications and must display competence and effective teaching skills in all relevant aspects of the curriculum that they teach, regardless of whether they are full or part time, residents, interns or other postgraduate students, adjuncts or off-campus contracted teachers.	X		
9.4. Academic positions must offer the security and benefits necessary to maintain stability, continuity, and competence of the academic staff. Academic staff should have a balanced workload of teaching, research and service depending on their role; and should have reasonable opportunity and resources for participation in scholarly activities.	X		
9.5. The Establishment must provide evidence that it utilises a well-defined, comprehensive and publicised programme for the professional growth and development of academic and support staff, including formal appraisal and informal mentoring procedures. Staff must have the opportunity to contribute to the Establishment's direction and decision making processes.	X		
9.6. Promotion criteria for academic and support staff must be clear and explicit. Promotions for teaching staff must recognise excellence in, and (if permitted by the national or university law) place equal emphasis on all aspects of teaching (including clinical teaching), research, service and other scholarly activities.	X		
Standard 10: Research programmes, continuing and postgraduate education			
10.1. The Establishment must demonstrate significant and broad research activities of staff that integrate with and strengthen the veterinary degree programme through research-based teaching.	X		
10.2. All students must be trained in scientific method and research techniques relevant to evidence-based veterinary medicine.	X		
10.3. All students must have opportunities to participate in research programmes.	X		
10.4. The Establishment must provide advanced postgraduate degree programmes, e.g. PhD, internships, residencies and continuing education programmes that complement and strengthen the veterinary degree programme and are relevant to the needs of the profession and society.	X		
Standard 11: Outcome Assessment and Quality Assurance			
11.1. The Establishment must have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders must develop and implement this policy through appropriate structures and processes, while involving external stakeholders.	X		
11.2. The Establishment must have processes for the design and approval of their programmes. The programmes must be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme must be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.	X		
11.3. The Establishment must ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach.	X		
11.4. The Establishment must consistently apply pre-defined and published regulations covering all phases of the student "life cycle", e.g. student admission, progression, recognition and certification.	X		
11.5. The Establishment must assure themselves of the competence of their teachers. They must apply fair and transparent processes for the recruitment and development of staff.	X		
11.6. The Establishment must have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided.	X		
11.7. The Establishment must ensure that they collect, analyse and use relevant information for the effective management of their programmes and other activities.	X		
11.8. The Establishment must publish information about their activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible.	X		
11.9. The Establishment must monitor and periodically review their programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews must lead to continuous improvement of the programme. Any action planned or taken as a result must be communicated to all those concerned.	X		
11.10. The Establishment must undergo external quality assurance in line with the ESG on a cyclical basis.	X		
<i>C: (total or substantial) compliance; PC: partial compliance (Minor Deficiency); NC: non-compliance (Major Deficiency)</i>			

Executive Summary

The School of Veterinary Medicine and Science (SVMSN) at the University of Nottingham was established in 2006 and is based at the University's 1,000 acre Sutton Bonington campus. Three major buildings have been developed for the Establishment, together with access to multiple animal and farm facilities and shared teaching and research facilities. The SVMSN 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. The strategic choice to have no hospital on site led to a particular teaching model used by the Establishment in year 5, which is a community-based lecture-free clinical period, the clinical teaching being delivered at a number of Clinical Associates.

The Establishment's outcomes-based programmes are adjusted to RCVS, EAEVE and AVMA competences and the curriculum is delivered in vertically (clinically) and horizontally (subject) integrated programmes and include a strong research component.

The Establishment has already undergone an ESEVT Visitation in 2011 and achieved full accreditation, and was last visited by the RCVS in 2014.

Some changes in infrastructure occurred since the last Visitation, a 200-seat teaching laboratory being developed on campus, and 6 new small group teaching rooms, a year 5 teaching hub, new Cadaver Skills Centre, a larger Clinical Skills Centre and Dissection room resulting from remodelling of room space. Similarly, the study program has changed in its organisation to improve student experience and the assessment validity.

The SER was well written, complete and provided on time to the Visitation Team. Since the Establishment and additional information asked for was provided to the team on site.

The Visitation was well prepared, well organised and carried out in a cordial and professional atmosphere. The liaison officer and his team were efficient and always helpful. The programme of the Visitation was easily adapted when requested by the Visitation Team who had full access to all the information, facilities and individuals they asked for.

Areas worthy of praise (i.e. Commendations):

- The Establishment is commended for successfully implementing a Community Based Teaching Model.
- The Establishment and University are to be commended on their innovative and student-focussed approach to teaching content accessibility via their on-line learning platform.
- The Establishment has an ethos where student learning and personal and professional development are of prime importance, with clear evidence of staff engagement with the Establishment's teaching and learning philosophy.
- The opportunity to review the basic sciences taught in Years 1 and 2 during the teaching of clinical disciplines in Year 4 reinforces student learning.
- The Self-Directed learning activities in small groups promote co-operative working and embed Life-long Learning skills in students.
- The curriculum mapping software is a powerful tool, and its integration with the students' Virtual Learning Environment (Moodle) allows them to see how the intended learning outcomes map to the Day One Competences.
- The organisation of EMS and the support and feedback offered to students is excellent.
- In many areas the development and implementation of modern, innovative assessment methods can be considered best practice and exemplars for other veterinary educational establishments.

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- Bespoke eAssessment software (Rogo) provides a secure method of providing online assessments with appropriate statistical tools for analysis of student and question performance.
- The Establishment is commended for the financial support for the student third year projects and congratulated on the high proportion of these that progress to abstract presentation and publication.

List of partial compliances with ESEVT Standards (i.e. Minor Deficiencies):

- The Establishment is partially compliant with substandard 1.2 because of sub-optimal presence of clear and detailed objectives, accountability and timelines in the Operating plan.
- The Establishment is partially compliant with substandard 4.7 because of suboptimal maintenance, fitness for purpose, husbandry, welfare and and management practices in some of the distributed clinical teaching facilities.

List of non-compliances with ESEVT Standards (i.e. Major Deficiencies):

- The Establishment is non-compliant with substandard 4.13 because of no presence of relevant isolation facilities and biosecurity procedures in all clinical facilities.
- The Establishment is non-compliant with substandard 3.5 because of no compulsory training in 24/7 emergency services for all students resulting in insufficient acquisition of some of Day One Competences in clinical sciences.

Glossary

(Please use the same terminology and abbreviations as in the ESEVT SOP when possible)

EAEVE: European Association of Establishments for Veterinary Education

EBVS: European Board of Veterinary Specialisation

ECOVE: European Committee on Veterinary Education

EPT: External Practical Training

ESEVT: European System of Evaluation of Veterinary Training

ESG: Standards and Guidelines for Quality Assurance in the European Higher Education Area

FSQ: Food Safety and Quality

FTE: Full-Time Equivalent

IT: Information Technology

QA: Quality Assurance

SER: Self Evaluation Report

SOP: Standard Operating Procedure

VPH: Veterinary Public Health

VTH: Veterinary Teaching Hospital

Standardised terminology

Accreditation: status of an Establishment that is considered by ECOVE as compliant with the ESEVT Standards normally for a 7 years period starting at the date of the last (full) Visitation;

Establishment: the official and legal unit that organise the veterinary degree as a whole, either a university, faculty, school, department, institute;

Ambulatory clinic: clinical training done extra-murally and fully supervised by academic trained teachers;

Establishment's Head: the person who officially chairs the above described Establishment, i.e. Rector, Dean, Director, Head of Department, President, Principal, ...;

External Practical Training: clinical and practical training done extra-murally and fully supervised by non-academic staff (e.g. practitioners);

Major Deficiency: a deficiency that significantly affects the quality of education and the Establishment's compliance with the ESEVT Standards;

Minor Deficiency: a deficiency that does not significantly affect the quality of education or the Establishment's compliance with the ESEVT Standards;

Visitation: a full visitation organised on-site in agreement with the ESEVT SOP in order to evaluate if the veterinary degree provided by the visited Establishment is compliant with all ESEVT Standards; any chronological reference to 'the Visitation' means the first day of the full on-site visitation;

Visitation Report: a document prepared by the Visitation Team, corrected for factual errors and finally issued by ECOVE; it contains, for each ESEVT Standard, findings, comments, suggestions and identified deficiencies.

Decision of ECOVE

The Committee concluded that the following Major Deficiencies were identified:

- Non-compliance with substandard 3.5 because of no compulsory training in 24/7 emergency services for all students resulting in insufficient acquisition of some of Day One Competences in clinical sciences;
- Non-compliance with substandard 4.13 because of no presence of relevant isolation facilities and biosecurity procedures in all clinical facilities.

The School of Veterinary Medicine and Science, University of Nottingham is therefore classified as holding the status of: **NON-ACCREDITATION**.