2017-2018 Assessment Report College of Veterinary Medicine DVM Program

Auburn University's College of Veterinary Medicine (**AU CVM**) is an institution accredited by the American Veterinary Medical Association Council on Education (**AVMA COE**), a Council for Higher Education Accreditation (**CHEA**) and US Secretary of Education recognized accrediting body for colleges of veterinary medicine. In order to maintain accreditation, AU CVM must demonstrate that senior students have gained skills in nine core competencies, delineated in Student Learning Outcome (**SLO**) 3 below. Measurement of these competencies is left up to the discretion of the college.

In addition, the AVMA COE specifies "that 80% or more of each college's graduating senior students sitting for the NAVLE will have passed at the time of graduation." The North American Veterinary Licensing Examination (**NAVLE**) is a national multi-species examination that all veterinarians must pass in order to practice veterinary medicine in the United States. Successfully passing the NAVLE demonstrates the breadth and depth of knowledge necessary to achieve entry-level clinical expertise involving multiple species of domestic animals (results summarized specifically for dogs, cats, cattle, pigs, and horses). Student results are grouped not only by animal species, but also by biological system (e.g., respiratory, musculoskeletal).

AU CVM seeks to be a leader in veterinary medical education, exceeding the standards set by governing institutions. The educational mission of the AU CVM is to prepare individuals for careers of excellence in veterinary medicine, including private and public practice, industrial medicine, academics, and research. The SLOs for the DVM program are communicated to faculty through email and general faculty meeting discussions and to students through presentation in the VMED 9000 Orientation course. The SLOs, as well as curriculum maps, are available to all faculty, staff, and students on the college's internal website.

Comprehensive List of Student Learning Outcomes for the DVM Program

1. On the NAVLE, students will demonstrate knowledge of the following species that meets or exceeds the national average:
    a. Small Animal
        i. Canine
        ii. Feline
    b. Food Animal
        i. Bovine
        ii. Porcine
        iii. Equine
2. On the NAVLE, students will demonstrate knowledge of the following systems and activities that meets or exceeds the national average:
    a. Cardiovascular
    b. Endocrine
    c. Gastrointestinal
    d. Hemic & Lymphatic
    e. Integumentary
    f. Musculoskeletal
    g. Nervous
    h. Respiratory
    i. Special Senses
    j. Renal/Urinary
    k. Reproductive
    l. Multiple Organ Systems
    m. Data Gathering and Interpretation

n. Health Maintenance and Problem Management

3. At the time of graduation, students will be able to:
    a. Demonstrate comprehensive patient diagnosis (problem solving skills), appropriate use of diagnostic testing, and record management
    b. Demonstrate comprehensive treatment planning including patient referral when indicated
    c. Provide appropriate anesthesia and pain management, and maintain patient welfare
    d. Perform basic surgery skills and provide adequate case management
    e. Demonstrate basic medicine skills and provide adequate case management
    f. Provide emergency and intensive care case management
    g. Demonstrate an understanding of health promotion and biosecurity, prevention and control of disease including zoonoses and principles of food safety
    h. Effectively communicate with clients and demonstrate ethical conduct
    i. Critically analyze new information and research findings relevant to veterinary medicine.

Outcomes Assessed Pertaining to Defined SLOs

I. SLOs 1 & 2: Success rate on the North American Veterinary Licensing Examination (NAVLE)

Full Description of Expected Outcome: The AVMA COE requires "that 80% or more of each college's graduating senior students sitting for the NAVLE will have passed at the time of graduation." Auburn expects that (a) the initial pass rate for senior students taking the NAVLE for the first time, and (b) the ultimate performance on the NAVLE of Auburn students at graduation will equal or exceed national averages. When considering the percentage of NAVLE examination items correct by content category of species or organ system, performance of Auburn students is expected to consistently equal or exceed the national average.

Assessment Method #1: As results of Fall NAVLE examinations are made available to administration by the International Council for Veterinary Assessment (ICVA) in late February and final results of Spring re-takes and initial attempts are made available in August, an assessment will be made in March of each year of the initial pass rate for senior students taking the NAVLE for the first time, and an assessment will be made in August of the ultimate performance on the NAVLE of Auburn students at graduation.

Assessment Method Description: The passing rate for senior students taking the exam for the first time and the ultimate performance on NAVLE for all senior students from Auburn will be compared to the performance of senior students at all schools and colleges accredited by the AVMA COE. Realizing that each Auburn class may vary in the percentage pass rate, the exact 95% confidence interval will be calculated using the Clopper-Pearson binomial confidence interval. While this 95% confidence interval will be considered in the assessment methodology, the assessment will directly compare the pass rate of Auburn students to the pass rate of senior students at all accredited schools.

Findings: During the past five academic years, Auburn students have met or exceeded national averages for the NAVLE pass rate of students taking the exam for the first time and for the ultimate performance of students at graduation (Tables 1 & 2). In the most recent results, the initial pass rate of Auburn students exceeded the national average by two percent (93% Auburn initial pass rate compared to 91% national initial pass rate).

Auburn University CVM NAVLE statistics for pass rate (compiled 16-May-2018)

Table 1. Passing rate for senior students from Auburn and all accredited schools taking the exam for the first time.

Fall		2013	2014	2015	2016	2017
Auburn	% pass	94%	96%	96%	89%	93%
	pass/total	83/88	108/112	110/115	105/118	111/120
	# failed	5	4	5	13	9
	Exact 95% CI*	87.2 to 98.1	91.0 to 99.0	90.1 to 98.6	81.9% to 94.0%	86.2 to 96.5
All	% pass	90%	91%	90%	91%	91%
	pass/total	3554/3942	3406/3757	3673/4091	3368/3716	3543/3888
	# failed	388	351	418	348	345

Table 2. Ultimate performance on NAVLE for all AU CVM senior students and students at all accredited schools at graduation.

Class of		2014	2015	2016	2017	2018**
Auburn	% pass	99%	99%	98%	96%	98%
	pass/total	87/88	111/112	113/115	115/120	120/122
	# failed	1	1	2	5	2
	Exact 95% CI*	93.8 to 100.0	95.1 to 100.0	93.9 to 99.8	90.5 to 98.6	94.2 to 99.8
All	% pass	95%	96%	95%	95%	
	pass/total	3729/3942	3804/3983	3869/4091	3855/4072	
	# failed	213	179	222	217	

*The exact 95% confidence interval is calculated using the Clopper-Pearson binomial confidence interval available at http://statpages.org/confint.html.

**Numbers for 2018 will not be available until August 2018

Last year's unanticipated lower performance of the class of 2017 on the fall NAVLE exam prompted the collection and analysis of information concerning how students prepared for and performed on the fall NAVLE exam. The Office of Academic Affairs researched to see if there was a correlation between their GPAs (cumulative and clinical) and their score on the NAVLE, and circulated a survey to the class to see how they prepared for the exam with a resulting analysis of correlation of preparation techniques with exam outcome.

How are findings used for improvement? Information from the comparisons and surveys were summarized and presented to all interested faculty and the next class preparing to take the NAVLE. Since performance on the exam was not concentrated on a particular species or system, closer investigation of the deficits were held for the annual meeting of the Curriculum Committee in June. Students in the class of 2018 were encouraged to 1) utilize the test preparation software of their choice as an indicator of the areas in which they are weak and need to study more, 2) utilize the practice exam available through ICVA for a small fee to better understand how the questions will be written and where they need to spend more time studying, and 3) begin early in their clinical year to systematically prepare for the NAVLE.

In addition, the school's psychological counselor held seminars to assist students with approaches to preparation and strategies for test-taking. Examination results for the class of 2018 (taking the NAVLE initially in Fall 2017) show a return to an initial pass rate similar to previous years.

For the class of 2019, the Associate Dean for Academic Affairs has communicated the lessons learned from the experience of the class of 2017 via multiple emails as well as during mandatory in person meetings.

Assessment method #2: A final assessment will be made in August of each year of the percentage of NAVLE examination items correct by content category of species or organ system by comparing the performance of Auburn students to the performance of students at all accredited schools. Preliminary results for the fall NAVLE are reviewed as necessary by the curriculum committee.

Assessment Method Description: The percentage of correct NAVLE examination items by content category of species or organ system for all senior students from Auburn will be compared to the performance of senior students at all schools and colleges accredited by the AVMA COE. Realizing that the number of Auburn students in each class has the potential to create variability in the percentage of NAVLE examination items correct by content category of species or organ system, the standard deviations of each outcome and the performance over the last three years will be considered in determining the magnitude of the response to this assessment outcome. While standard deviations and performance by content category over the last three years will be considered in the assessment methodology, this assessment will directly compare the percentage of NAVLE examination items correct by content category of species or organ system between Auburn seniors and senior students at all accredited schools.

Findings: During the academic years from 2015 to 2018, the performance of students from AU CVM met or exceeded the national average for performance in 65.0% (41/63) of NAVLE content categories (Table 3). In the most recent preliminary results, the performance of students from Auburn met or exceeded the national average for performance in 76.2% (16/21) of NAVLE content categories (Table 3). In 2015-2016, the performance of students from Auburn met or exceeded the national average in 81.0% (17/21) of NAVLE content categories. In 2016-2017, the performance of students from Auburn met or exceeded the national average in 38.1% (8/21) of NAVLE content categories. In the 2016-2017 testing cycle, Auburn students met or exceeded the national average in the food animal and equine species, and the musculoskeletal, nervous, reproductive, and multiple organ systems categories. In that cycle, Auburn students were one to three percentage points below the national average in the other categories, with a standard deviation that ranged between eight and eighteen percent.

In the 2017-2018 testing cycle, preliminary results obtained after the first offering of the NAVLE in the fall showed that Auburn students scored one percentage point below the national average in the feline species, an improvement of one percentage point over the last two testing cycles. Scores were also one percentage point below the national average in the musculoskeletal, nervous, and renal/urinary systems. Students scored two percentage points below the national average in the endocrine system, an improvement of two percentage points from last cycle with a slightly smaller standard deviation. Auburn students met or exceeded the average score in all other species, activities, and systems, as well as the total test. (See Table 3.)

Table 3. The average percentage of items correct on the North American Veterinary Licensing Examination (NAVLE) and standard deviation (SD) for all senior student first-time takers at all accredited schools and Auburn.

	Academic 2017-2018		Academic 2016-2017		Academic 2015-2016	
	All % (SD)	Auburn % (SD)	All % (SD)	Auburn % (SD)	All % (SD)	Auburn % (SD)
Total Test	70 (8)	71 (7)	69 (8)	69 (8)	71 (8)	72 (7)
Species						
Small Animal	71 (9)	71 (7)	71 (9)	68 (8)	72 (9)	71 (8)
Canine	72 (10)	73 (9)	71 (10)	70 (10)	73 (10)	74 (9)
Feline	72 (10)	71 (9)	71 (10)	69 (9)	73 (10)	71 (9)
Food Animal	68 (10)	70 (9)	68 (10)	69 (9)	69 (10)	71 (8)
Bovine	69 (11)	71 (9)	68 (11)	69 (10)	69 (11)	71 (8)
Porcine	66 (14)	67 (14)	66 (14)	66 (13)	68 (14)	69 (12)
Equine	70 (11)	72 (10)	70 (11)	71 (10)	72 (11)	76 (9)
Activity						
Data Gathering and Interpretation	70 (8)	71 (7)	70 (9)	68 (8)	71 (9)	72 (7)
Health Maintenance and Problem Management	69 (8)	69 (8)	69 (9)	68 (8)	70 (9)	71 (7)
Organ System						
Cardiovascular	72 (13)	73 (13)	72 (14)	71 (13)	74 (14)	74 (14)
Endocrine	73 (16)	71 (15)	70 (17)	66 (18)	75 (16)	75 (16)
Gastrointestinal	69 (10)	70 (9)	69 (10)	68 (10)	70 (10)	70 (9)
Hemic & Lymphatic	70 (13)	72 (12)	69 (13)	67 (13)	71 (13)	71 (11)
Integumentary	71 (11)	72 (10)	70 (12)	69 (11)	73 (12)	73 (11)
Musculoskeletal	70 (12)	69 (12)	69 (12)	69 (12)	70 (13)	73 (12)
Nervous	70 (12)	69 (13)	70 (12)	70 (12)	70 (12)	71 (11)
Respiratory	69 (12)	69 (11)	69 (12)	67 (13)	69 (12)	69 (11)
Special Senses	73 (16)	73 (15)	71 (16)	68 (15)	71 (16)	70 (16)
Renal/Urinary	69 (15)	68 (14)	69 (16)	68 (15)	71 (15)	70 (15)
Reproductive	69 (11)	73 (11)	69 (12)	71 (12)	70 (12)	76 (10)
Multiple Organ Systems	70 (9)	71 (8)	69 (10)	69 (9)	71 (9)	71 (8)

How are findings used for improvement? The college curriculum committee is charged with oversight to centrally manage the professional curriculum in the College of Veterinary Medicine. This committee maintains a comprehensive curricular map (updated June, 2018) and meets yearly to review the results of five different assessment tools as well as a focused review of a specific year of the four-year curriculum. With regard to the NAVLE results, attention is focused on those content categories in which Auburn students have scored below the minimum for two consecutive years, or the score is ≥3% below the average, and the content is concentrated in a specific course. Focused discussion at this year's review focused on the following four content categories: feline, endocrine, and renal/urinary.

A. Feline Species Category – The need to improve content in this category was discussed in last year's meeting. Improvement compared to the national average was made in the most recent cycle in this category though additional improvement is necessary to meet college goals. Faculty will continue to be encouraged to include feline examples, where available and applicable, in their lectures. The Student Chapter of the American Association of Feline Practitioners continues to send out weekly NAVLE style questions about felines to the student body. Although the student score has improved, there is concern about student performance as the ICVA plans to slightly increase the percentage of the exam dedicated to canine and feline species in the future.
B. Endocrine – After the final numbers for the 2016-2017 testing cycle were released, Auburn students had scored four percentage points below the national average. The committee requested the academic dean

to speak with the course coordinator to ensure adequate coverage of the relevant diagnoses as listed on the NAVLE job analysis report (report available at https://www.icva.net/image/cache/2010_Diagnoses.pdf). Scores for the 2017-2018 testing cycle have improved by two percentage points, but remain below the national average. To further ensure adequate preparation of our students in the endocrine system, the committee has charged the academic dean to facilitate collaboration between Endocrine, Physiology II, Histology, Clinical Pathology, and Anatomic Pathology course coordinators to review and potentially revise curricular coverage of pertinent diagnoses listed in the NAVLE job analysis report.

C. Renal/Urinary – This is the third cycle in which our students have scored one percentage point below the national average. Other assessment tools (e.g., course evaluations, alumni or employer surveys) have shown no problems with the Urinary System course taught in the third year of the DVM curriculum. Similar to the recommendation for the endocrine system, the academic dean was charged to facilitate collaboration between Renal/Urinary, Physiology I, Microanatomy I, Clinical Pathology and Anatomic Pathology course coordinators, as well as other faculty members who may have teaching responsibility for portions of the system in other courses, to review and potentially revise curricular coverage of pertinent diagnoses listed in the NAVLE job analysis report.

In addition to the recommendations contained in the points above, fourth-year class officers will be encouraged to request that faculty conducting class-wide NAVLE reviews emphasize specific NAVLE content areas as discussed in the curriculum committee yearly review.

Last year the special senses category (primarily ophthalmology) showed a decrease in performance from one percentage point to three percentage points below the national average. The committee charged the academic dean to investigate the possible duplication of some material within the Special Senses course with other, earlier, courses in the curriculum and to meet with the course coordinator to ensure that all relevant diagnoses listed on the job analysis report of the NAVLE are adequately covered in the course. Duplicated material was removed from the course freeing up time to provide an additional lab as requested by the course coordinator. This year's testing results show that Auburn students' scores improved, matching the national average.

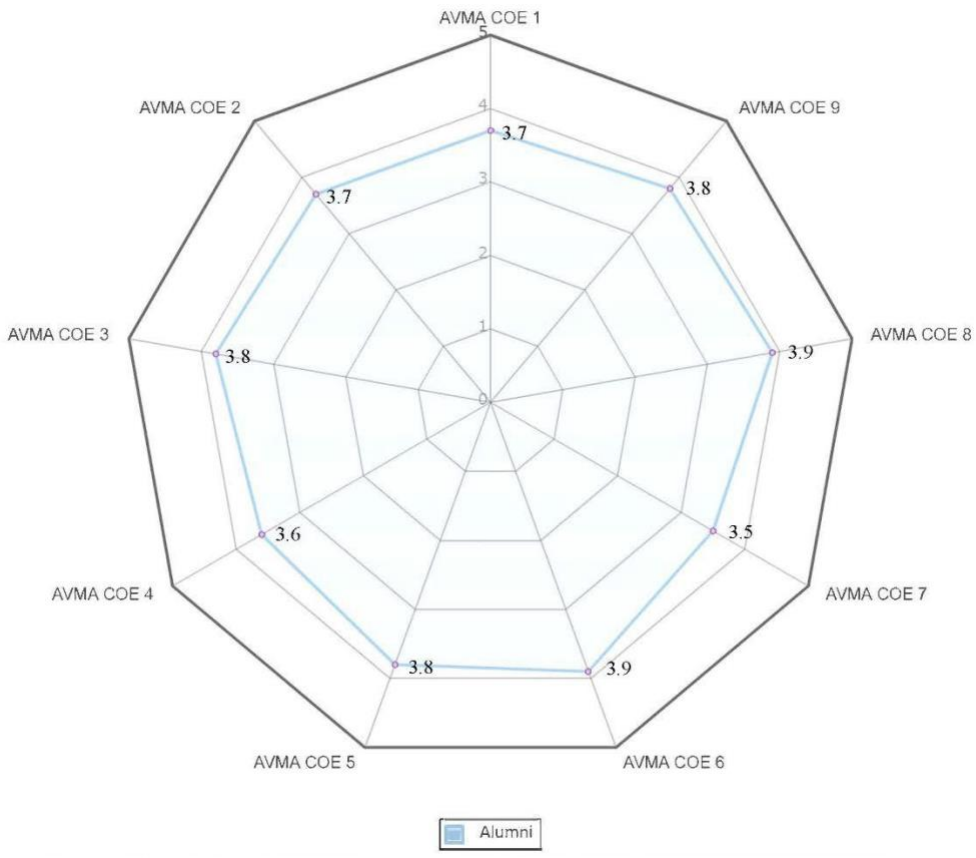
II. SLO 3: Achievement of American Veterinary Medical Association (AVMA) clinical competencies prior to graduation

Full Description of Expected Outcome: Each of the nine AVMA COE competencies is composed of multiple procedures and skills which students must master in order to complete the program. These procedures and skills are directly assessed by faculty clinicians during the clinical year of the program. In addition, beginning March 2013, the college refined indirect assessments (Figure 1) to improve standardization, permit central compilation, and provide clarity of feedback regarding individual students and the curriculum as a whole. This process results in students being assessed using indirect assessments of defined criteria organized according to the AVMA competencies for each clinical rotation. Each criteria is ranked based on 5=top 5% of students, 4=next 25% of students, 3=expected, 2=below expected, and 1=far below expected. The expected outcome is that Auburn students will meet or exceed the expectations of internal assessors (faculty within the teaching hospitals) and external assessors (supervisors of externship and preceptorship opportunities) in each of the defined AVMA competencies in more than 95% of assessments. Remediation of the clinical rotation by the individual student is required in any situation where assessments result in performance considered to be "far below expected".

Figure 1. A radar chart comparison of averages providing an overview of the indirect assessments of AVMA competencies for clinical students in the class of 2018 who graduated in May 2018 from the Auburn University curriculum. The scale for the radar chart is 5 (outer ring) = top 5% of students, 4 = next 25% of students, 3 = expected, 2 = below expected, and 1 = far below expected. An assessment of far below expected for any student

on any criterion of a competency results in remediation by the student of the two-week clinical rotation. This chart summarizes 51,654 indirect assessments categorized by nine AVMA competencies from 237 questions regarding the performance of 113 individual students compiled from 6-March-2017 until 4-March-2018.

Fig.1



Assessment Method #1: Assessments of clinical performance

Assessment Method Description: The college developed and instituted a comprehensive system of direct assessment of individual student achievement using E*Value educational software beginning in March 2013. All 13 required two-week rotations involve required and core direct assessments. Many elective two-week rotations have also instituted required and core direct assessments. All required direct assessments and a designated numerical subset of all core direct assessments must be completed by each student. Students enter procedures which they have completed for direct assessment in E*Value. Faculty, house officers, and staff accept or reject procedures as having been competently completed. Educators often use individual opportunities to remediate and refine students' abilities to competently complete the designated procedures prior to student entry. For those procedures which have not merited approval, students must repeat the procedure, undergo re-assessment, and re-enter the procedure in the system. All procedures must be accepted as competently completed in order for the student to pass the rotation and continue in the program. Students who are unable to pass these direct assessments are withdrawn from the program.

Because student performance is remediated prior to entry of the direct assessments in the system, the curriculum committee does not review the rate of unacceptable evaluations as with other assessment tools.

Each year clinical faculty review the required and core procedures that are the focus of direct assessments for their respective rotations and make revisions as needed.

Assessment Method #2: Assessments of clinical performance that did not meet expectations

Assessment Method Description: For each of the nine AVMA competencies which are assessed indirectly using multiple questions on each clinical rotation, the percentage of assessments which are below expectations (i.e., result in unmet expectations) will be calculated by adding the number of assessments resulting in "1=far below expectations" and the number of assessments resulting in "2=below expectations". This sum will then be divided by the number of all assessments for each AVMA competency to determine the rate of clinical assessments which did not meet or exceed expectations (Table 4).

Findings: Based on indirect assessments of AU CVM students (excluding students from Ross University and Saint George's University completing their clinical year at Auburn) during their clinical year of training, student performance met or exceeded expectations of clinical faculty in all but 1.27% (692/54,331) of assessments (Table 4). This table summarizes the indirect assessments for all 124 members of the class of 2018, including those who will graduate in August or December.

Table 4. The number and rate of clinical indirect assessments for Auburn veterinary students that result in an outcome of unmet expectations during the clinical year of training at Auburn University College of Veterinary Medicine (based on 54.331 clinical indirect assessments March 2017 to March 2018).

Report pulled 25 June 2018, for the 124 members of the class of 2018.

AVMA Competency	Assessments resulting in "Far Below Expected"	Assessments resulting in "Below Expected"	Assessments resulting in "Far Below Expected" or "Below Expected"	Total number of assessments
	n (%)	n (%)	n (%)	n
#7. Health promotion, disease prevention/biosecurity, zoonosis & food safety	0 (0.00)	9 (0.23)	9 (0.23)	3,944
#4. Basic surgery skills	0 (0.00)	34 (0.69)	34 (0.69)	4,910
#8. Client communication & ethical conduct	2 (0.03)	69 (0.91)	71 (0.94)	7,590
#3. Anesthesia & pain management	1 (0.02)	47 (1.05)	48 (1.07)	4,466
#6. Emergency & intensive care case management	1 (0.05)	23 (1.18)	24 (1.24)	1,942
#2. Treatment planning including referral	3 (0.05)	97 (1.48)	100 (1.53)	6,540
#1. Patient Dx, clinical lab testing, record management	7 (0.06)	184 (1.49)	191 (1.55)	12,344
#5. Basic medicine skills	3 (0.04)	129 (1.57)	132 (1.61)	8,202
#9. Critical analysis of new info & research findings	0 (0.00)	83 (1.79)	83 (1.79)	4,393
Cumulative	17 (0.03)	675 (1.24)	692 (1.27)	54,331

How are findings used for improvement? The curriculum committee reviews the indirect assessments following the completion of each clinical year. Focused attention is given to any AVMA competency in which the "Below Expected" and "Far Below Expected" assessments combined are ≥ 5% of all assessments, or where this combined value has increased "by ≥ 2.5% compared to the average for similar assessments for the prior three years." For the 2017-2018 clinical year, none of the rates of student performance in the below and/or far below expectation categories resulted in the necessity of action by the curriculum committee.

A summary of all outcomes assessments and planned, or enacted, actions resulting from the review of the assessments with request for consideration and feedback to the college outcomes assessment committee was sent to all faculty of the college in June 2018. Actions resulting from consideration of the outcomes assessments by the college curriculum committee and actions of the outcomes assessment committee resulting from the collected faculty feedback are to be presented by the Associate Dean for Academic Affairs to all college faculty in an early

fall faculty meeting. Actions resulting from consideration of the outcomes assessments by the college curriculum committee will be presented to students during class meetings with the Associate Dean for Academic Affairs.

Components By Activity Crosstab

Component Type: AVMA COE Competencies
Components: All Components

Components / Activity	AVMA COE 1 Patient Diagnosis	AVMA COE 2 Treatment Planning	AVMA COE 3 Anesthesia and pain management, patient welfare	AVMA COE 4 Basic surgery skills, experience, and case management	AVMA COE 5 Basic medicine skills, experience and case management	AVMA COE 6 Emergency and intensive care case management	AVMA COE 7 Health promotion, disease prevention/biosecurity, zoonosis, and food safety	AVMA COE 8 Client communications and ethical conduct	AVMA COE 9 Critical analysis of new information/research relevant to veterinary medicine	Totals
9000 Orientation	0	0	0	0	0	0	0	1	1	2
9010 Veterinary Ethics & Law	1	1	0	0	0	0	0	1	0	3
9030 Epidemiology	0	0	0	0	0	0	1	1	1	3
9040 Food Safety	0	0	0	0	0	0	1	1	1	3
9062 ClinPath Conf. I (P/F)	1	1	1	1	1	1	1	1	1	9
9110 Physiology I	0	0	0	0	1	0	0	0	1	2
9111 Veterinary Anatomy I	1	0	0	1	1	0	0	0	0	3
9120 Physiology II	0	0	0	0	0	0	0	0	1	1
9121 Veterinary Anatomy II	1	0	0	1	0	0	0	0	1	3
9131 Basic Microanatomy	1	0	0	0	0	0	0	0	1	2
9141 Organology	1	0	0	0	0	0	0	0	2	3
9150 Diagnostic Imaging	1	0	0	0	0	0	0	0	0	1
9151 Veterinary Neurosciences	1	0	1	0	1	1	0	0	0	4
9180 Veterinary Ethology	1	1	0	0	1	1	1	1	1	7
9190 Intro to Veterinary Pharmacology	0	0	0	0	1	0	0	1	1	3
9200 Veterinary Parasitology I	1	1	0	0	1	0	1	1	1	6
9210 Veterinary Parasitology II	1	1	0	0	1	0	1	0	1	5
9220 Principles Veterinary Pathology	1	0	0	0	1	0	1	0	1	4
9230 Veterinary Clinical Pathology	1	0	0	0	1	1	1	0	1	5
9240 Principles Veterinary Immunology	1	1	0	0	1	1	1	0	1	6
9250 Virology & Prions	1	0	0	0	0	0	1	0	1	3
9260 Veterinary Pharmacology	1	1	1	0	1	1	1	1	1	8
9270 Intro. to Cytology	1	0	0	0	0	0	0	1	0	2
9280 Bacteriology & Mycology	1	0	0	0	0	0	1	0	1	3
9301 Physical Diagnosis I	1	0	0	0	1	0	1	0	0	3
9310 Intro to Surgery	1	0	0	1	0	0	0	0	1	3
9311 Surgery Practicum	1	1	1	1	0	0	0	1	0	5
9320 Large Animal Nutrition	1	1	0	0	0	0	1	0	1	4
9330 Exotic Animal Medicine	1	1	1	1	1	1	1	1	0	8
9340 Emergency & Critical Care	1	1	0	1	0	1	1	0	1	6
9350 Veterinary Toxicology	1	1	1	0	0	1	1	0	0	5
9360 Production Medicine	1	0	0	0	0	0	1	0	1	3
9370 Oncology	1	1	0	1	1	1	1	1	1	8
9380 Physical Diagnosis II	1	1	0	0	1	0	1	1	1	6
9420 Small Animal Nutrition	0	1	0	0	1	0	0	1	1	4
9430 Poultry Medicine	1	1	0	0	0	0	1	1	1	5
9510 Hemolymph System	1	1	0	0	1	1	1	0	1	6
9520 Cardiovascular System	1	0	0	0	1	0	1	0	1	4
9530 Respiratory System	1	1	0	1	1	1	1	0	1	7
9540 Small Animal GI	1	1	1	1	1	1	1	0	1	8
9550 Urinary System	1	1	0	1	1	1	1	0	1	7
9560 Endocrine System	1	1	0	0	1	1	0	1	1	6
9570 Reproductive System	1	1	1	1	1	1	1	1	1	9
9580 Nervous System	1	1	1	1	1	1	1	1	1	9
9590 Musculoskeletal Systems	1	1	1	1	0	1	0	0	1	6
9640 Large Animal GI	1	1	0	0	1	1	1	0	0	5
9670 Special Senses Systems	1	1	0	1	0	1	1	1	1	7
9700 Intro to Anesthesia	1	0	1	0	0	0	0	0	1	3
9810 Integumentary System	1	1	0	1	0	0	0	0	1	4
Totals:	42	27	11	16	26	20	30	20	40	

Components By Activity Crosstab

Component Type: NAVLE Activity
Components: All Components

Components / Activity	NAVLE 1 Data Gathering & Interpretation	NAVLE 2 Health Maintenance & Problem Management	NAVLE 3 Professional Behavior	Totals
9000 Orientation	0	1	1	2
9010 Veterinary Ethics & Law	0	1	2	3
9030 Epidemiology	1	1	1	3
9040 Food Safety	1	1	0	2
9062 ClinPath Conf. I (P/F)	1	1	1	3
9110 Physiology I	1	0	0	1
9111 Veterinary Anatomy I	0	0	1	1
9120 Physiology II	1	0	1	2
9121 Veterinary Anatomy II	1	0	1	2
9131 Basic Microanatomy	1	0	1	2
9141 Organology	1	0	1	2
9150 Diagnostic Imaging	1	0	1	2
9151 Veterinary Neurosciences	1	0	0	1
9180 Veterinary Ethology	0	1	0	1
9190 Intro to Veterinary Pharmacology	1	0	1	2
9200 Veterinary Parasitology I	1	1	0	2
9210 Veterinary Parasitology II	1	1	0	2
9220 Principles Veterinary Pathology	1	1	0	2
9230 Veterinary Clinical Pathology	1	1	0	2
9240 Principles Veterinary Immunology	1	1	0	2
9250 Virology & Prions	0	1	0	1
9260 Veterinary Pharmacology	1	1	1	3
9270 Intro. to Cytology	1	0	0	1
9280 Bacteriology & Mycology	1	1	0	2
9301 Physical Diagnosis I	1	1	0	2
9310 Intro to Surgery	1	1	1	3
9311 Surgery Practicum	1	1	1	3
9320 Large Animal Nutrition	1	1	0	2
9330 Exotic Animal Medicine	1	1	1	3
9340 Emergency & Critical Care	1	1	0	2
9350 Veterinary Toxicology	1	1	1	3
9360 Production Medicine	1	1	0	2
9370 Oncology	1	1	1	3
9380 Physical Diagnosis II	1	1	1	3
9420 Small Animal Nutrition	1	1	1	3
9430 Poultry Medicine	1	1	1	3
9510 Hemolymph System	1	1	0	2
9520 Cardiovascular System	1	1	0	2
9530 Respiratory System	1	1	0	2
9540 Small Animal GI	1	1	0	2
9550 Urinary System	1	1	0	2
9560 Endocrine System	1	1	1	3
9570 Reproductive System	1	1	0	2
9580 Nervous System	1	1	1	3
9590 Musculoskeletal Systems	1	1	0	2
9640 Large Animal GI	1	1	0	2
9670 Special Senses Systems	1	1	0	2
9700 Intro to Anesthesia	1	1	1	3
9810 Integumentary System	1	1	0	2
Totals:	44	39	24	

NAVLE Species and Systems Map
AY 2017-2018

Data Pulled 6/1/2018

	NAVLE Species								NAVLE Systems											
	Small Animal		Food Animal																	
Activity	Canine	Feline	Bovine	Porcine	Equine	Public Health	Non-Species Specific	All Major Domestic Species	Cardiovascular	Endocrine	Gastrointestinal	Hemic & Lymphatic	Integumentary	Musculoskeletal	Nervous	Respiratory	Special Senses	Renal/Urinary	Reproductive	Multiple Organ Systems	Non-System Specific
Didactic Course Totals:	457	359	196	96	201	133	415	469	139	68	142	143	59	138	144	83	43	83	145	694	318
9000 Orientation	0	0	0	0	0	1	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20
9010 Veterinary Ethics & Law	0	0	0	0	1	0	22	3	0	0	0	0	0	0	0	0	0	0	0	1	24
9030 Epidemiology	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	1	0	0	0	10	7
9040 Food Safety	0	0	14	11	0	21	0	2	0	0	0	0	0	0	0	0	0	0	0	15	8
9062 ClinPath Conf. I (P/F)	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	12	0
9110 Physiology I	13	13	0	0	7	0	41	26	46	10	0	15	0	5	19	10	0	21	0	16	4
9111 Veterinary Anatomy I	57	57	0	0	0	0	0	0	5	0	0	1	0	17	3	0	0	0	0	35	0
9120 Physiology II	1	1	5	0	1	0	36	13	0	20	15	0	0	0	0	0	0	0	17	5	0
9121 Veterinary Anatomy II	0	0	11	3	25	0	0	0	1	0	4	0	3	12	3	0	0	3	6	12	7
9131 Basic Microanatomy	0	0	0	0	0	0	24	18	6	0	0	6	0	8	0	2	0	5	0	0	15
9141 Organology	0	0	0	0	1	0	24	4	0	2	8	4	4	0	0	0	0	0	10	1	0
9150 Diagnostic Imaging	22	22	0	0	2	0	9	1	3	0	0	0	0	5	0	0	0	0	0	15	11
9151 Veterinary Neurosciences	15	14	0	2	0	0	17	28	1	0	0	0	3	13	49	0	17	1	0	5	0
9180 Veterinary Ethology	5	2	2	2	1	0	0	6	0	0	0	0	0	0	15	0	0	0	0	7	0
9190 Intro to Vet.Pharmacology	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
9200 Veterinary Parasitology I	7	7	8	4	10	25	0	19	0	0	1	0	0	0	0	0	0	0	0	37	0
9210 Veterinary Parasitology II	1	1	1	0	0	31	0	29	0	0	0	0	0	0	0	0	0	0	0	31	0
9220 Principles Vet.Pathology	0	0	0	0	0	9	33	42	7	0	0	0	0	0	0	0	0	0	0	42	0
9230 Veterinary Clinical Pathology	0	0	0	0	0	0	0	52	0	7	6	21	0	0	0	0	0	6	1	14	0
9240 Principles Vet.Immunology	0	0	0	0	0	0	26	18	0	0	0	37	0	0	0	0	0	0	1	38	5
9250 Virology & Prions	7	7	9	9	8	5	7	2	0	0	0	1	2	0	1	1	0	0	0	14	6
9260 Veterinary Pharmacology	0	0	0	0	0	0	1	47	10	1	4	2	0	0	2	1	0	2	0	28	2
9270 Intro. to Cytology	11	8	1	0	5	0	2	0	0	0	0	8	0	0	0	0	0	1	0	7	0
9280 Bacteriology & Mycology	9	6	10	9	5	18	16	14	0	0	4	2	4	1	3	4	0	0	3	20	14
9301 Physical Diagnosis I	37	6	25	0	0	0	0	0	6	0	3	0	1	8	5	5	1	5	5	45	9
9310 Intro to Surgery	0	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30
9311 Surgery Practicum	33	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	29	0	33
9320 Large Animal Nutrition	0	0	10	1	6	0	0	3	0	0	8	2	0	0	0	0	0	1	2	24	2
9330 Exotic Animal Medicine	0	0	0	0	0	0	0	0	1	0	1	2	0	0	1	1	0	0	2	21	1
9340 Emergency & Critical Care	10	10	4	2	6	0	5	3	15	1	10	16	0	2	8	8	3	5	0	23	2
9350 Veterinary Toxicology	0	0	0	0	0	0	35	0	1	0	3	1	0	1	1	1	0	1	1	0	25
9360 Production Medicine	0	0	21	22	0	5	2	0	0	0	0	0	0	0	1	1	0	0	2	41	4
9370 Oncology	1	1	0	0	0	0	10	6	0	0	0	1	0	0	0	0	0	0	0	0	16
9380 Physical Diagnosis II	18	0	0	0	21	0	0	1	0	0	0	0	0	0	0	0	0	0	0	38	0
9410 Applied Clinical Imaging	23	23	1	0	4	0	3	0	3	0	1	2	0	8	0	4	0	1	1	4	0
9420 Small Animal Nutrition	27	26	0	0	0	0	0	0	0	1	2	0	2	0	0	0	0	2	0	24	2
9430 Poultry Medicine	0	0	0	0	0	0	0	0	0	0	2	3	2	0	0	3	0	0	1	6	5
9510 Hemolymph System	6	8	3	3	1	0	0	7	0	0	0	19	0	0	0	0	0	0	0	0	0
9520 Cardiovascular System	15	15	4	4	4	0	12	0	32	0	0	0	0	0	0	0	0	0	0	0	0
9530 Respiratory System	14	14	5	1	10	0	0	9	0	0	0	0	0	0	0	41	0	0	0	0	0
9540 Small Animal GI	26	25	1	2	3	0	0	9	2	0	34	0	0	0	0	0	0	0	0	21	0
9550 Urinary System	10	10	3	3	2	0	0	11	0	0	0	0	0	0	0	0	0	27	0	0	0
9560 Endocrine System	17	19	3	3	6	0	0	2	0	25	0	0	0	1	0	0	0	1	0	22	0
9570 Reproductive System	12	11	17	4	15	0	0	19	0	0	0	0	0	0	0	0	0	0	64	0	0
9580 Nervous System	8	8	2	0	5	0	0	18	0	0	0	0	0	6	33	0	0	1	0	17	0
9590 Musculoskeletal Systems	19	18	4	0	16	0	0	10	0	0	0	0	0	49	0	0	0	0	0	12	0
9640 Large Animal GI	0	0	18	0	16	0	1	0	0	0	36	0	0	1	0	0	0	0	0	31	0
9670 Special Senses Systems	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	21	0	0	0	0
9700 Intro to Anesthesia	14	5	5	5	10	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	50
9810 Integumentary System	19	18	9	6	10	0	0	9	0	1	0	0	38	1	0	0	1	0	0	0	0