AMERICAN COLLEGE OF VETERINARY ANESTHESIA AND ANALGESIA

ACVAA
FOUNDED IN 1975

ACVAA Examination Committee
2016 Report of Activity

Examination Committee Composition for 2016:

Chair – Leigh Lamont (year 3)
Members – Marlis Rezende, Dean Riedesel, Sandra Perkowski (year 3); Patrick Burns, Tom Doherty, Lydia Love, Erin Wendt-Hornickle (year 2); Natalia Guerrero, Lori Bidwell, Shannon Beazley, Lois Wetmore (year 1); Kate Bailey (year 1 – stand-in member for oral examination only); Chris Egger (ACVAA President-Elect and BOD Liaison)

Examination Dates and Locations for 2016:

- Written Examination – Thursday May 12 and Friday May 13, 2016 at the Radisson Hotel Bloomington by Mall of America in Minneapolis, MN
- Oral Examination – Monday September 5 and Tuesday September 6, 2016 at the Gaylord Texan Resort Hotel and Convention Center in Grapevine, TX

Written and Oral Examiner Assignments:

Room	Room Leader	Group Members	Essay Examination Topics	Oral Examination Topics
A	Erin Wendt-Hornickle	Tom Doherty Shannon Beazley Lori Bidwell	▪ Cardiovascular physiology ▪ Monitoring equipment and circuits ▪ Other species	▪ Local and regional anesthetic techniques ▪ Pain management ▪ Case management of common domestic species ▪ TIVA
B	Patrick Burns	Natalia Guerrero Lydia Love Chris Eggers (written); Kate Bailey (oral)	▪ Pain physiology ▪ Pharmacology ▪ Core species (canine, feline, equine, ruminants, swine) ▪ Case management	▪ Monitoring – pulse oximetry, capnography, ECG, etc. ▪ Inhalant anesthesia ▪ Breathing circuits and systems ▪ Avian, zoo laboratory, and wildlife anesthesia
C	Marlis Rezende	Sandra Perkowski Dean Riedesel Lois Wetmore	▪ Respiratory physiology ▪ Fluids, electrolytes, acid-base ▪ Complications, CPR, euthanasia ▪ Pathophysiology of disease	▪ Radiographic and imaging interpretation ▪ Emergency therapy ▪ Interpretation and management of blood gases ▪ Acid base, electrolyte and metabolic disorders ▪ Fluid therapy

Essay Examination Development and Grading:

The Examination Committee (EC) began its work the first week of January 2016. As was piloted for the 2015 written examination, Room Chairs were given the essay question domains and tasked with drafting initial question stems for the 12 designated essay questions in collaboration with their room members. These initial question stems were shared among the EC Chair and the three room chairs to ensure that the scope of the overall essay examination was sufficient and that there was no duplication of questions. One essay question stem was then assigned to each examiner on EC. Examiners developed their questions and weightings and these were shared with all members of the room and revised as necessary in collaboration with the room chair and the EC Chair. Once the question was considered complete, the author of the question wrote the answer and these were shared with the other examiners in that room. Each room only viewed and graded exams assigned to their room to comply with the ACVAA Policies and Procedures.

Final discussions regarding question wording, weighting, answer details, and grading guidelines occurred for each room via email or teleconference prior to the examination. Essays were distributed to examiners the day after the examination concluded and were graded using the 5-point holistic approach. Each essay was graded by two examiners - the individual who wrote the question/answer and one other individual from the same examination room. The two grades were averaged to attain the final grade for that question. If the grade differential was greater than 1 point, the two original examiners were asked to re-grade that candidate's essay and report back to the EC Chair. If there was still greater than 1 point difference in the grades, a third individual graded the question and this grade was used as the final grade (as described by the ACVAA Policies and Procedures). All data entry and calculations were rechecked by the EC Chair for each candidate multiple times.

In total, 19 candidates sat the written examination and were instructed to submit 10 essays each (5 on each examination day). One candidate only submitted 4 essays on Day 1 of the examination, so 189 essays were submitted for grading. In total, 10 essays (5%) involving 3 of the 12 questions required regrading, and 6 these involved a single question. This regrade rate is comparable to previous years. The 6 essays requiring regrades for a single question also required grading by a third individual. The regrade scores from the third examiner were equal to the mean of the scores given by the two original examiners in all instances.

There were no core (i.e. required) essay questions again this year and the time allowed for the essay examinations was 5 hours each day.

Multiple Choice Examination Development and Grading:

The Multiple Choice Examination Committee (MCEC) works independently from the overall EC. The MCEC committee members include Mike Barletta (Chair), Bonnie Hay Krause, Becky Johnson, Maria Killos, Carolyn McKune and Christine Egger. Doris Dyson is the database manager. The MCEC met in Chicago from February 21 through 24, 2016 for a review session. The multiple choice examination was compiled by this committee and then sent to the EC Chair (Lamont) and the ACVAA Secretary (Kushner) for review and printing.

Grades from the data bank manager were submitted to the MCEC Chair after computerized grading of the scantron sheets. Statistical analysis, with point bi-serial scores, was included in the report to give objective data for question evaluation or removal. Several scenarios were considered, including incorporating all 300 questions, removing all new questions, removing new questions that had performed poorly, and giving all candidates credit for the 11 poorly performing new questions. Effects on final scores and pass/fail rates were evaluated. The scores were reported as raw scores and percentages after removing the poorly performing new questions (a total score of 289) and also using a system where everyone receives credit for the 11 poorly performing new questions (referred to as "score all" by Prometric). Previously used questions performing poorly were not excluded from the final grading. This information was shared with Prometric to aid in the cut score determination.

Standard Setting (Cut Score) Study Panel:

While grading of the essays and the multiple choice examination was in progress, a Standard Setting (Cut Score) Study Panel was convened to evaluate the examination and set the cut score. This process was conducted by Prometric via several teleconferences. A summation of the study and its results (titled ACVAA Cut Score Report) was sent to the EC Chair (Lamont) and distributed to all the members of the EC via email prior to a teleconference with Prometric staff.

Teleconference with Examination Committee to Determine Recommended Written Examination Cut Score:

A teleconference to explain the Cut Score Report and recommend an EC cut score for the examination was held Friday June 24, 2016 from 4 to 5 pm Eastern Daylight Time. It was led by Kathryn Hill from Prometric.

The teleconference included an explanation of the procedures employed to select the standard setting (cut score) study panel, the methods used in conducting the study, and the analyses performed for the study. Next the panel recommended passing scores and the possible adjustments were reviewed. A discussion followed concerning the scoring of the multiple choice exam and how the 11 poorly performing questions were treated. The EC agreed that a "score all" approach, in which the multiple choice examination is scored out of 300 questions with credit given to all test takers for the 11 new questions that performed poorly, would be used. This approach gives the advantage to the candidates and was used the previous year when candidates were given credit for 12 poorly performing new questions.

The EC then determined the cut score for the multiple choice section of the examination. The options were to accept the Cut Score Panel recommended cut score or 1 to 3 SEJs above or below the cut score. After some discussion, the EC voted to accept a cut score of 1 SEJ below the panel recommended cut score for the multiple choice exam, resulting in a cut score of 215 out of 300 or 72%.

The process of analyzing and rating the essays and recommending a cut score followed. After some discussion, the EC voted to accept a cut score of 1 SEJ below the panel recommended cut score for the essay exam, resulting in a passing cut score of 32 out of 50 or 64%.

Written Examination Results based on Examination Committee Recommendations:

A total of 19 candidates completed the ACVAA written examination in 2016. Twelve candidates were taking the examination for the first time, four candidates were taking the examination for the second time, two candidates were taking the examination for the third time, and one candidate was taking the examination for the third time but within a second 3-attempts exam cycle. Three candidates took the examination off site under the supervision of an ACVAA diplomate. The alternate sites were in the United Kingdom and Australia. The Exam Committee Chair (Lamont) was available for questions via telephone or email.

This year's examination was administered at a hotel in Bloomington, MN and was proctored by the EC Chair (Lamont) and another committee member (Wendt-Hornickle). On the morning of Day 1 of the examination, there was an issue with noise that may have negatively impacted the testing environment for approximately one hour. Fifteen of the 16 candidates writing in Bloomington were potentially affected by this distraction (one candidate received testing accommodations and wrote in a separate room). The issue was resolved by the Exam Committee Chair (Lamont) in collaboration with hotel staff and the 15 candidates were granted extra time to complete the multiple choice section for Day 1. Only one candidate used any of the extra time provided (approximately 20 minutes). Post-examination, three candidates elected to submit letters of grievance to the ACVAA Executive Secretary (Kushner) alleging that the noise distraction negatively impacted their performance. All three candidates were first time test takers and none of them took advantage of the extra time provided for the multiple choice section on Day 1. The Exam Committee Chair (Lamont) submitted a detailed report about the testing environment to the ACVAA President (Smith) on May 16, 2016. This issue was not discussed by the Exam Committee on the cut score determination teleconference of June 24, 2016.

A detailed candidate scoring file was submitted to the BOD on June 27, 2016 and a summary of results is provided below based on the EC recommended cut core. The passing scaled score of 650/900 resulted in 12/19 (63.2%) candidates passing and 7/19 (36.8%) candidates failing this year's written examination.

- First-time test-takers: 8/12 passed
- Second-time test-takers: 3/4 passed
- Third-time test-takers: 0/2 passed
- Multiple cycle test takers: 1/1 passed (candidate was taking the exam for the third time in a second 3-attempt cycle)

Six of seven individuals failing the exam failed both the multiple choice and essay sections. One individual who failed the exam passed the multiple choice section by failed the essay section. Two individuals scoring below passing on the multiple choice section scored high enough on the essay section to result in a passing grade overall. No candidate who passed the exam failed the essay section.

Regarding the three candidates that submitted letters of grievance to the Executive Secretary, one candidate passed and two candidates failed. Of the candidates that failed, both failed both multiple choice and essay sections.

One candidate (a first-time test-taker) had a raw score of 405 (407 points passing) and a scaled score 647.4. The data entry for this candidate was reviewed by the EC Chair (Lamont) after the teleconference but, as the EC did not have this information during their teleconference, no recommendation concerning the candidate was made to the BOD.

Teleconference with ACVAA Board of Directors to Determine Final Written Examination Cut Score:
The EC Chair (Lamont) presented the report of results to the BOD via teleconference on Monday June 27 from 5 to 6 pm Eastern Daylight Time. The BOD was sent the report of results to review prior to the teleconference.

After considerable discussion, the BOD voted to lower the cut score for both the MC and essay exams by 1 SEJ each. This resulted in a cut score of 210 out of 300 (70%) for the MC exam and 31 out of 50 (62%) for the essay exam. With this overall cut score 13/19 (68.4%) candidates passed and 6/19 (31.6%) candidates failed this year's written examination.

- First-time test-takers: 9/12 passed
- Second-time test-takers: 3/4 passed
- Third-time test-takers: 0/2 passed
- Multiple cycle test takers: 1/1 passed (candidate was taking the exam for the third time in a second 3-attempt cycle)

Oral Examination Development and Scoring:
The EC began working on developing oral examination questions the last week of June 2016. Room Chairs were given the oral question domains as well as a list of previous oral examination questions to circulate to their members. Members were also asked to review the essay questions from the current year's exam to prevent duplication. Each member was asked to develop two to three questions, including the alternate, and these were revised in collaboration with the other room members. Draft questions were shared among the EC Chair and the three room chairs to ensure that the scope of the overall oral examination was adequate.

The EC met in person on Sunday September 4 between 9 am and 5 pm to organize and prepare the examination and conduct mock examinations involving EC members. This session also provided an opportunity to review the ACVAA Oral Examiner Guidelines and ensured a well-designed and fair

examination.

After the examinations were administered, the Acting EC Chair (Egger) compiled scores from each of the three rooms and a post-examination EC meeting was held on Wednesday September 7, 2016. The performance of each candidate was reviewed and discussed and recommendations to the BOD were finalized.

2016 Oral Examination Results based on Examination Committee Recommendations:
In total, 16 candidates sat the oral examination. Thirteen of these were first-time test-takers who had passed the 2016 written examination. One candidate was taking the oral examination for a second time and two candidates were taking it for a third time. The examination was given over two days with eight candidates examined each day.

A detailed candidate scoring file was submitted to the BOD on September 7, 2016 but a summary of results is provided below based on the EC recommendations. Overall, the pass rate was 14/16 (87.5%).

- First-time test-takers: 11/13 passed
- Second-time test-takers: 1/1 passed
- Third-time test-takers: 2/2 passed

Respectfully submitted,
Leigh A. Lamont, DVM, MS, Diplomate ACVAA
2016 Examination Committee Chair