



**2017/18 VETERINARY TECHNICIAN CERTIFICATE COURSE  
IN PRINCIPLE TECHNIQUES OF SMALL ANIMAL ANESTHESIA, PERIOPERATIVE  
ANALGESIA & CRITICAL PATIENT CARE**



**Number of attendees: 15 (Minimum) - 40 (Maximum)**

**Prerequisites: Certified Veterinary Nurse or Animal Health Care Technician, respectively - preferentially with 2-3 years of veterinary practice experience**

**Course Director: Dr. B. Driessen, Dipl. ACVAA, Dipl. ECVPT, University of Pennsylvania & Narkovet Consulting LLC.**

**Organization: NARKOVET CONSULTING, LLC. & ETHOS VETERINARY HEALTH /VETBLOOM**

**Location: Basilian Spirituality Conference Center at Manor College, 710 Fox Chase Road, Fox Chase Manor, PA 19046 & Cornell University, College of Veterinary Medicine, Simulation Center, Ithaca, NY 14853**

**RACE Continued Education Credits: TBD Endorsement: American College of Veterinary Anesthesia & Analgesia (ACVAA) and Academy of Veterinary Technicians in Anesthesia & Analgesia (AVTAA)**

**ACVAA-/ACVECC-Lecturers: S. Allweiler, S. D. Brunson, L. Campoy, A. Caniglia, L. Chiavaccini, B. Driessen, D. Fletcher, G. Gianotti, R. Goggs, A. Looney, G. Truchetti; VTS-Anesthesia & Analgesia/VTS-Lab-Animal: K. Averill, S. Cital, K. Cooley, T. McNerney**

**Module I: Course days 1-3 (Oct 12 - 14, 2017) at Basilian Spirituality Conference Center at Manor College**

**Module II: Course days 4-6 (Nov 30 - Dec 02, 2017) at Basilian Spirituality Conference Center at Manor College**

**Module III: Course days 7-9 (March 22-24, 2018) at Cornell University**

**Module IV: Course days 10-13 (May 30 - June 02, 2018) at Basilian Spirituality Conference Center at Manor College plus one additional day (course day 14; September 01, 2018) for 4th part of the MCQ-based certificate exam.**

| Module | Day | Date      | Time           | Location                                | Course hour (50 min) | Instructor | Subject                | Topics covered during lecture   |  |  |
|--------|-----|-----------|----------------|---|----------------------|------------|------------------------|---|--|--|
| I      | 1   | 12-Oct-17 | 8:30 AM        | Basilian Spirituality Conference Center | 0                    | Driessen   | Welcome                | Welcome and introduction into the course (structure of the course and topics covered in the course; teaching goals; MCQ testing, inter-module work and webinars).   |  |  |
|        |     |           | 9:00 AM        |   | 1                    | Driessen   | Introduction           | Building a Successful Anesthesia Service Team (Functioning of an anesthesia team within the framework of legal rules, anesthesia guidelines, RVT - DVM communication requirements, and appropriate tasks of RVTs within the team) |  |  |
|        |     |           | 10:00 AM       |   | 2                    | Driessen   | Preanesthetic period   | Preanesthetic animal evaluation, physical status and risk assessment; animal preparation  |  |  |
|        |     |           | 11:00 AM       |   | 3                    | Driessen   | Preanesthetic period   | Applied Pharmacodynamics for the Anesthetist (Principles of Drug Interactions with the Organism; Drug Efficacy; Drug Safety)  |  |  |
|        |     |           | 12:30 -1:30 PM | Lunch break                             |                      |            |                        |   |  |  |
|        |     |           | 1:30 PM        | Basilian Spirituality Conference Center | 4                    | Driessen   | Injectable anesthetics | Applied Pharmacokinetics for the Anesthetist - Part I (Delivery, distribution & elimination of injectable agents used in anesthesia)  |  |  |
|        |     |           | 2:30 PM        |   | 5                    | Driessen   | Preanesthetic period   | Pharmacology of premedication drugs ( $\alpha_2$ -Agonists; Phenothiazines - Part I)  |  |  |
|        |     |           | 3:30 PM        |   | 6                    | Driessen   | Preanesthetic period   | Pharmacology of premedication drugs ( $\alpha_2$ -Agonists; Phenothiazines - Part II)   |  |  |

| Module | Day | Date      | Time              | Location                                   | Course hour<br>(50 min) | Instructor | Subject   | Topics covered during lecture   |  |  |
|--------|-----|-----------|-------------------|--|-------------------------|------------|---|---|--|--|
| I      | 2   | 13-Oct-17 | 8:30 AM           | Basilian Spirituality<br>Conference Center | 7                       | Driessen   | Preanesthetic period                                  | Pharmacology of premedication drugs (Opioids)   |  |  |
|        |     |           | 9:30 AM           |  | 8                       | Driessen   | Preanesthetic period                                  | Pharmacology of premedication drugs (Benzodiazepines, Anticholinergics)                                 |  |  |
|        |     |           | 10:30 AM          |  | 9                       | Gianotti   | Preanesthetic period                                  | Purpose of premedication and selection criteria for various premedication protocols using case examples |  |  |
|        |     |           | 11:30 AM          |  | 10                      | Driessen   | Injectable anesthetics                                | Pharmacology of injectable anesthetics ([Thiopental], Propofol, Alfaxalone, Etomidate)                  |  |  |
|        |     |           | 12:30 -1:30<br>PM | Lunch break                                |                         |            |   |   |  |  |
|        |     |           | 1:30 PM           | Basilian Spirituality<br>Conference Center | 11                      | Driessen   | Injectable anesthetics                                | Pharmacology of injectable anesthetics (Ketamine, Tiletamine-Zolazepam; [Opioids])                      |  |  |
|        |     |           | 2:30 PM           |  | 12                      | Gianotti   | Induction of anesthesia with injectable anesthetics   | Drug protocols used for induction of anesthesia in small animals & selection criteria                   |  |  |
|        |     |           | 3:30 PM           |  | 13                      | Gianotti   | Maintenance of anesthesia with injectable anesthetics | Total (TIVA) & partial intravenous anesthesia (PIVA) for maintenance of anesthesia - Part I             |  |  |

| Module                              | Day | Date      | Time           | Location                                | Course hour (50 min)   | Instructor | Subject   | Topics covered during lecture  |  |  |
|-------------------------------------|-----|-----------|----------------|---|--|------------|---|--|--|--|
| I                                   | 3   | 14-Oct-17 | 8:30 AM        | Basilian Spirituality Conference Center | 14   | Gianotti   | Maintenance of anesthesia with injectable anesthetics                 | Total (TIVA) & partial intravenous anesthesia (PIVA) for maintenance of anesthesia - Part II   |  |  |
|                                     |     |           | 9:30 AM        |   | 15   | Driessen   | Inhalant anesthetics  | Pharmacology of inhalant anesthetics (Isoflurane, sevoflurane, [desflurane]; N <sub>2</sub> O) Part I  |  |  |
|                                     |     |           | 10:30 AM       |   | 16   | Driessen   | Inhalant anesthetics  | Pharmacology of inhalant anesthetics (Isoflurane, sevoflurane, [desflurane]; N <sub>2</sub> O) Part II   |  |  |
|                                     |     |           | 11:30 AM       |   | 17   | Driessen   | Inhalant anesthetics  | Applied Pharmacokinetics for the Anesthetist - Part II (Uptake, distribution & elimination of inhalant anesthetics using computer simulations) |  |  |
|                                     |     |           | 12:30 -1:30 PM | Lunch break                             |  |            |   |  |  |  |
|                                     |     |           | 1:30 PM        | Basilian Spirituality Conference Center | 18   | Driessen   | Inhalant anesthetics  | Principles of low and high flow anesthesia with inhalant anesthetics   |  |  |
|                                     |     |           | 2:30 PM        |   | 19   | Gianotti   | Case presentations to apply information acquired in previous lectures | Course hours 9-18  |  |  |
|                                     |     |           | 3:30 PM        |   | 20   | Gianotti   | Case presentations to apply information acquired in previous lectures | Course hours 9-18  |  |  |
| Self-study inbetween modules I & II |     |           |                | Ethos/Vet Bloom (Looney)                | VetBloom Webinar 1 supplementing lecture # 2: <i>Anesthesia risk assessment and risk assignment: how to determine this for each patient</i>  |            |   |  |  |  |
|                                     |     |           |                |   | VetBloom Webinar 2 supplementing lectures # 5-8: <i>Premedication agents</i>   |            |   |  |  |  |
|                                     |     |           |                |   | VetBloom Webinar 3 supplementing lecture # 9: <i>Basics of supportive care during sedation and general anesthesia</i>  |            |   |  |  |  |
|                                     |     |           |                |   | VetBloom Webinar 4 supplementing lectures # 10 & 11: <i>Induction agents</i>   |            |   |  |  |  |
|                                     |     |           |                |   | VetBloom Webinar 5 supplementing lecture # 12 : <i>Anesthesia risk assessment and risk assignment: How does risk affect drug selection?</i>  |            |   |  |  |  |
|                                     |     |           |                |   | VetBloom Webinar 6 supplementing lectures # 15-18: <i>Inhalant agents and maintenance of gas anesthesia</i>  |            |   |  |  |  |
|                                     |     |           |                | Driessen                                | 6 Quizzes with 8-12 MCQ and exercises, respectively to help course attendees to stay focused when reviewing module 1 course handouts and supplemental reading material in preparation of certificate exam 1. |            |   |  |  |  |

| Module | Day | Date      | Time           | Location                                | Course hour (50 min) | Instructor                       | Subject   | Topics covered during lecture  |  |  |
|--------|-----|-----------|----------------|---|----------------------|----------------------------------|---|--|--|--|
| II     | 4   | 30-Nov-17 | 8:30 AM        | Basilian Spirituality Conference Center | E1                   | Driessen                         | Multiple Choice Test (30 case-based MC questions) covering course hours 1-20. |  |  |  |
|        |     |           | 9:30 AM        |   | 21                   | Chiavaccini                      | General anesthesia: Inhalant anesthetic equipment & techniques                | Anesthesia machine, anesthesia circuits, vaporizers & related equipment; Part I  |  |  |
|        |     |           | 10:30 AM       |   | 22                   | Chiavaccini                      | General anesthesia: Inhalant anesthetic equipment & techniques                | Anesthesia machine, anesthesia circuits, vaporizers & related equipment; Part II   |  |  |
|        |     |           | 11:30 AM       |   | 23                   | Chiavaccini                      | General anesthesia: Inhalant anesthetic equipment & techniques                | Endotracheal intubation & related equipment  |  |  |
|        |     |           | 12:30 -1:30 PM | Lunch break                             |                      |                                  |   |  |  |  |
|        |     |           | 1:30 PM        | Basilian Spirituality Conference Center | 24                   | Driessen, Chiavaccini, Mc Nerney | General anesthesia: Inhalant anesthetic equipment & techniques                | Workshop in small groups: Assembly of anesthesia machines and rebreathing circuits, leak check & function testing, common machine failures |  |  |
|        |     |           | 2:30 PM        |   | 25                   |                                  |   |  |  |  |
|        |     |           | 3:30 PM        |   | 26                   | Driessen                         | Anesthetic depth monitoring   | Signs of anesthesia, assessment of anesthetic depth and record keeping using anesthesia records  |  |  |

| Module | Day | Date     | Time           | Location  | Course hour (50 min) | Instructor                             | Subject  | Topics covered during lecture   |  |  |
|--------|-----|----------|----------------|---|----------------------|--|--|---|--|--|
| II     | 5   | 1-Dec-17 | 8:30 AM        | Center for Animal Referral and Emergency Services (CARES) | 27                   | Driessen                               | Inhalant anesthetic gas monitoring   | Principles and techniques of gas and inhalant anesthetic concentration measurements in in- and expired gases    |  |  |
|        |     |          | 9:30 AM        |   | 28                   | Driessen, Caniglia, Mc Nerney, Averill | General anesthesia: Inhalant anesthetic techniques of <i>high flow</i> versus <i>low flow</i> anesthesia | <i>High flow/low flow</i> demonstrations in small groups using computer simulations and clinical demonstrations |  |  |
|        |     |          | 10:30 AM       |   | 29                   |  |  |   |  |  |
|        |     |          | 11:30 AM       |   | 30                   | Caniglia, Mc Nerney                    | General anesthesia: Inhalant anesthetic equipment & techniques   | Videodemonstration of assisted intubation techniques  |  |  |
|        |     |          | 12:30 -1:30 PM | Lunch break   |                      |  |  |   |  |  |
|        |     |          | 1:30 PM        | Center for Animal Referral and Emergency Services (CARES) | 31                   | Driessen, Caniglia, Mc Nerney, Averill | General anesthesia: Inhalant anesthetic equipment & techniques   | In small groups demonstration/operation of state of the art anesthesia workstations                             |  |  |
|        |     |          | 2:30 PM        |   | 32                   |  |  |   |  |  |
|        |     |          | 3:30 PM        |   | 33                   |  |  |   |  |  |

| Module                                | Day  | Date     | Time           | Location  | Course hour (50 min)  | Instructor                | Subject  | Topics covered during lecture   |  |  |
|---------------------------------------|--|----------|----------------|---|---|---------------------------|--|---|--|--|
| II                                    | 6  | 2-Dec-17 | 8:30 AM        | Basilian Spirituality Conference Center   | 34  | Driessen                  | Principles of cardiovascular system functioning & hemodynamic monitoring | Physiology of the cardiovascular system & common cardiovascular monitoring techniques |  |  |
|                                       |  |          | 9:30 AM        |   | 35  | Cooley                    | Cardiovascular system functioning during anesthesia                      | Causes and recognition of hemodynamic impairments during anesthesia                   |  |  |
|                                       |  |          | 10:30 AM       |   | 36  | Driessen                  | Cardiovascular system functioning during anesthesia                      | Monitoring and treatment of hemodynamic impairments                                   |  |  |
|                                       |  |          | 11:30 AM       |   | 37  | Brunson                   | Cardiovascular system functioning during anesthesia                      | Principles of ECG recording and reading - Recognition of cardiac arrhythmias          |  |  |
|                                       |  |          | 12:30 -1:30 PM | Lunch break with Q/A session regarding the AVTAA credentialing process with Kristen Cooley, BA, CVT, VTS (Anesthesia/Analgesia) |   |                           |  |   |  |  |
|                                       |  |          | 1:30 PM        | Basilian Spirituality Conference Center   | 38  | Brunson, Driessen, Cooley | Cardiovascular system functioning during anesthesia                      | Workshop in small groups: Recognition of cardiac arrhythmias - Part I                 |  |  |
|                                       |  |          | 2:30 PM        |   | 39  |                           | Cardiovascular system functioning during anesthesia                      | Workshop in small groups: : Recognition of cardiac arrhythmias - Part II              |  |  |
|                                       |  |          | 3:30 PM        |   | 40  | Brunson                   | Cardiovascular system functioning during anesthesia                      | Causes and treatment of most common cardiac rhythm disturbances                       |  |  |
| Self-study inbetween modules II & III |  |          |                | Ethos/Vet Bloom (Looney)  | VetBloom Webinar 7 supplementing lectures # 21, 22, 24, 25: <i>Anesthesia machine and equipment</i>   |                           |  |   |  |  |
|                                       |  |          |                |   | VetBloom Webinar 8 supplementing lectures # 23 & 33: <i>The induction process, intubation and airway management</i>   |                           |  |   |  |  |
|                                       |  |          |                |   | VetBloom Webinar 9 supplementing lecture # 26: <i>Anesthesia monitoring basics and general anesthesia depth</i>   |                           |  |   |  |  |
|                                       |  |          |                |   | VetBloom Webinar 10 supplementing lectures # 10,11, 15,16, 34, 50: <i>Physiology for the anesthetist - Part I: receptors and neurophysiology; Part II: Cardiovascular and respiratory physiology.</i>   |                           |  |   |  |  |
|                                       |  |          |                |   | VetBloom Webinar 11 supplementing lectures # 35 & 36: <i>Optimizing patients preoperatively; operative blood pressure, hypotension prevention, diagnosing and treating abnormal hemodynamic situations (with treatment algorithms)</i>  |                           |  |   |  |  |
|                                       |  |          |                |   | VetBloom Webinar 12 supplementing lectures # 37-40: <i>Perioperative arrhythmias: differentials, simple supportive care solutions, and emergent treatments (with treatment algorithms)</i>  |                           |  |   |  |  |
|                                       |  |          |                | Cornell Team (Fletcher & Rozanski)  | Five online Basic (BLS) and three online Advanced (ALS) Life Support modules developed by the Cornell University College of Veterinary Medicine and peer reviewed and certified by the American College of Veterinary Emergency and Critical Care (ACVECC). After completing both courses, participants will have an understanding of the complete CPR algorithm in preparation of the CPR simulation workshop in module 3. |                           |  |   |  |  |
| Driessen                              | 6 Quizzes with 8-12 MCQ and exercises, respectively to help course attendees to stay focused when reviewing module 2 course handouts and supplemental reading material in preparation of certificate exam 2. |          |                |   |   |                           |  |   |  |  |

| Module | Day | Date                              | Time           | Location  | Course hour (50 min) | Instructor       | Subject  | Topics covered during lecture   |  |  |
|--------|-----|-----------------------------------|----------------|---|----------------------|------------------|--|---|--|--|
| III    | 7   | Cornell University March 22, 2018 | 8:30 AM        | Lecture Hall 3                                  | E2                   | Driessen         | Multiple Choice Test (30 case-based MC questions) covering course hours 21-40. |   |  |  |
|        |     |                                   | 9:30 AM        | Lecture Hall 3                                  | 41                   | Driessen         | Supportive care during anesthesia: Blood volume & blood component status       | Recognition of abnormal perianesthetic hydration and blood volume/blood component status and common techniques of perianesthetic fluid therapy (crystalloids, colloids, blood products) |  |  |
|        |     |                                   | 10:30 AM       | Lecture Hall 3                                  | 42                   | Chiavaccini      | Neuromuscular blocking (NMB) agents  | Pharmacology of peripheral muscle relaxants (incl. [Cis-]Atracurium, Mevacurium, Rocuronium)  |  |  |
|        |     |                                   | 11:30 AM       | Lecture Hall 3                                  | 43                   | Chiavaccini      | Neuromuscular blocking (NMB) agents  | Monitoring and reversal of a peripheral neuromuscular blockade  |  |  |
|        |     |                                   | 12:30 -1:30 PM | Lunch break                                     |                      |                  |  |   |  |  |
|        |     |                                   | 1:30 PM        | The Tetlow and Roy Park Innovation Lab Workshop | 44                   | Fletcher & Goggs | Basic Life Support and Advanced Life Support during cardiopulmonary arrest     | CPR - Simulation lab - Part I   |  |  |
|        |     |                                   | 2:30 PM        |   | 45                   | Fletcher & Goggs | Basic Life Support and Advanced Life Support during cardiopulmonary arrest     | CPR - Simulation lab - Part II  |  |  |
|        |     |                                   | 3:30 PM        |   | 46                   | Fletcher & Goggs | Basic Life Support and Advanced Life Support during cardiopulmonary arrest     | CPR - Simulation lab - Part III   |  |  |
|        |     |                                   | 4:30 PM        |   | 47                   | Fletcher & Goggs | Basic Life Support and Advanced Life Support during cardiopulmonary arrest     | CPR - Simulation lab - Part IV  |  |  |



| Module | Day | Date                              | Time           | Location       | Course hour (50 min) | Instructor  | Subject  | Topics covered during lecture  |  |  |
|--------|-----|-----------------------------------|----------------|----------------|----------------------|-------------|--|--|--|--|
| III    | 8   | Cornell University March 23, 2018 | 8:30 AM        | Lecture Hall 3 | 48                   | Chiavaccini | Supportive care during anesthesia: Acid-base balance | Diagnosis and treatment of abnormal perianesthetic acid-base status - Part I                                 |  |  |
|        |     |                                   | 9:30 AM        |                | 49                   | Chiavaccini | Supportive care during anesthesia: Acid-base balance | Diagnosis and treatment of abnormal perianesthetic acid-base status - Part II                                |  |  |
|        |     |                                   | 10:30 AM       |                | 50                   | Driessen    | Principles of respiratory system functioning         | Anatomy, physiology & pathophysiology of the respiratory system as they relate to anesthetic case management |  |  |
|        |     |                                   | 11:30 AM       |                | 51                   | Driessen    | Respiratory function monitoring                      | Respiratory function monitoring techniques with focus on capnometry/-graphy                                  |  |  |
|        |     |                                   | 12:30 -1:30 PM | Lunch break    |                      |             |  |  |  |  |
|        |     |                                   | 1:30 PM        | Lecture Hall 3 | 52                   | Driessen    | Respiratory function monitoring                      | Respiratory function monitoring techniques with focus on blood gas analysis                                  |  |  |
|        |     |                                   | 2:30 PM        |                | 53                   | Driessen    | Respiratory function support during anesthesia       | Indications and effects of mechanical ventilation on the anesthetized animal                                 |  |  |
|        |     |                                   | 3:30 PM        |                | 54                   | Driessen    | Respiratory function support during anesthesia       | Types of mechanical ventilators, modes of mechanical ventilation, and ventilator settings                    |  |  |

| Module                                | Day | Date                              | Time                     | Location   | Course hour (50 min) | Instructor       | Subject   | Topics covered during lecture  |  |  |
|---------------------------------------|-----|-----------------------------------|--------------------------|--|----------------------|------------------|---|--|--|--|
| III                                   | 9   | Cornell University March 24, 2018 | 8:30 AM                  | The Tetlow and Roy Park Innovation Lab Workshop  | 55                   | Fletcher & Goggs | Respiratory function support during anesthesia                        | Simulation lab: Techniques of volume versus pressure limited ventilation using the ASL-5000 pulmonary simulator ( <a href="http://www.ingarmed.com/products/asl-5000/">http://www.ingarmed.com/products/asl-5000/</a> ) for mechanical ventilation training. |  |  |
|                                       |     |                                   | 9:30 AM                  |  | 56                   | Fletcher & Goggs | Respiratory function support during anesthesia                        | Simulation lab: volume versus pressure limited ventilation using the ASL-5000 pulmonary simulator ( <a href="http://www.ingarmed.com/products/asl-5000/">http://www.ingarmed.com/products/asl-5000/</a> ) for mechanical ventilation training.               |  |  |
|                                       |     |                                   | 10:30 AM                 |  | 57                   | Fletcher & Goggs | Respiratory function support during anesthesia                        | Simulation lab: Techniques of volume versus pressure limited ventilation using the ASL-5000 pulmonary simulator ( <a href="http://www.ingarmed.com/products/asl-5000/">http://www.ingarmed.com/products/asl-5000/</a> ) for mechanical ventilation training. |  |  |
|                                       |     |                                   | 11:30 AM                 |  | 58                   | Fletcher & Goggs | Respiratory function support during anesthesia                        | Simulation lab: volume versus pressure limited ventilation using the ASL-5000 pulmonary simulator ( <a href="http://www.ingarmed.com/products/asl-5000/">http://www.ingarmed.com/products/asl-5000/</a> ) for mechanical ventilation training.               |  |  |
|                                       |     |                                   | 12:30 -1:30 PM           | Lunch break  |                      |                  |   |  |  |  |
|                                       |     |                                   | 1:30 PM                  | Lecture Hall 3   | 59                   | Chiavaccini      | Recovery from anesthesia  | Animal support during emergence from injectable and inhalant anesthesia  |  |  |
|                                       |     |                                   | 2:30 PM                  |  | 60                   | Chiavaccini      | Case presentations to apply information acquired in previous lectures | Course hours 21 - 49   |  |  |
|                                       |     |                                   | 3:30 PM                  |  | 61                   | Chiavaccini      | Case presentations to apply information acquired in previous lectures | Course hours 50 - 61   |  |  |
| Self-study inbetween modules III & IV |     |                                   | Ethos/Vet Bloom (Looney) | VetBloom Webinar 13 supplementing lecture # 50: <i>Respiratory rate issues and intraoperative wakening</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   |                          | VetBloom Webinar 14 supplementing lecture # 51: <i>Pulse oximetry and capnography issues with differentials and treatments</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   |                          | VetBloom Webinar 15 supplementing lectures # 34-36, 48, 49, 52: <i>Direct arterial blood pressure monitoring and blood gas troubleshooting</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   |                          | VetBloom Webinar 16 supplementing lectures # 53-56: <i>Mechanical ventilation for anesthesia</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   |                          | VetBloom Webinar 17 supplementing lectures # 57, 58: <i>Neuromuscular (NM) blocking agents and monitoring of NM blockade</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   |                          | VetBloom Webinar 18 in preparation of lectures # 62, 63: <i>Physiology of pain, dorsal horn states, and classification of pain</i>   |                      |                  |   |  |  |  |
|                                       |     |                                   | Driessen                 | 6 Quizzes with 8-12 MCQ and exercises, respectively to help course attendees to stay focused when reviewing module 3 course handouts and supplemental reading material in preparation of certificate exam 3. |                      |                  |   |  |  |  |

| Module | Day | Date      | Time           | Location   | Course hour (50 min) | Instructor | Subject  | Topics covered during lecture  |  |  |
|--------|-----|-----------|----------------|--|----------------------|------------|--|--|--|--|
| IV     | 10  | 30-May-18 | 8:30 AM        | Basilian Spirituality Conference Center  | E3                   | Driessen   | Multiple Choice Test (30 case-based MC questions) covering course hours 41, 48-61. |  |  |  |
|        |     |           | 9:30 AM        |  | 62                   | Driessen   | Perioperative analgesia  | Physiology and pathophysiology of perioperative pain   |  |  |
|        |     |           | 10:30 AM       |  | 63                   | Driessen   | Perioperative analgesia  | Signs of nociception & distress and pain assessment in small animals   |  |  |
|        |     |           | 11:30 AM       |  | 64                   | Driessen   | Perioperative analgesia  | Management of perioperative nociception - the concept of multimodal analgesia in small animals and the role of veterinary nurses in the pain management team |  |  |
|        |     |           | 12:30 -1:30 PM | Lunch break - Merial - Boehringer Ingelheim Field Veterinary Services' Presentation on Clinical Pain Management Using NSAIDS |                      |            |  |  |  |  |
|        |     |           | 1:30 PM        | Basilian Spirituality Conference Center  | 65                   | Caniglia   | Perioperative analgesia  | Clinical practice of perioperative multimodal analgesia in small animals   |  |  |
|        |     |           | 2:30 PM        |  | 66                   | Campoy     | Perioperative analgesia  | Pharmacology of drugs used in loco-regional anesthesia & analgesia techniques in small animals   |  |  |
|        |     |           | 3:30 PM        |  | 67                   | Campoy     | Perioperative analgesia  | Epidural anesthesia & analgesia & other common loco-regional anesthesia & analgesia techniques in small animals  |  |  |

| Module | Day | Date      | Time              | Location                                | Course hour (50 min) | Instructor                                      | Subject   | Topics covered during lecture  |  |  |
|--------|-----|-----------|-------------------|---|----------------------|---|---|--|--|--|
| IV     | 11  | 31-May-18 | 8:30 AM           | Manor College Anatomy Lab               | 68                   | Campoy, Driessen, Caniglia, Allweiler, McNerney | Perioperative analgesia                         | Workshop in small groups: Loco-regional anesthesia including dental nerve blocks, intercostal nerve blocks, epidural anesthesia and plexus brachialis blocks |  |  |
|        |     |           | 9:30 AM           |   | 69                   |   |   |  |  |  |
|        |     |           | 10:30 AM          |   | 70                   |   |   |  |  |  |
|        |     |           | 11:30AM - 1:00 PM | Lunch break                             |                      |   |   |  |  |  |
|        |     |           | 1:00 PM           | Basilian Spirituality Conference Center | 71                   | Truchetti                                       | Organizing daily routine in anesthesia services | How to save time and be more efficient by employing checklists, team organization, communication & systematic approach to anesthesia cases                   |  |  |
|        |     |           | 2:00 PM           |   | 72                   | Driessen  | Disease-specific aspects of anesthesia          | Principle approach to emergency anesthesia   |  |  |
|        |     |           | 3:00 PM           |   | 73                   | Driessen  | Disease-specific aspects of anesthesia          | Principle approach to anesthesia for the trauma/polytrauma patient   |  |  |
|        |     |           | 4:00 PM           |   | 74                   | Allweiler                                       | Disease-specific aspects of anesthesia          | Principle approach to anesthesia for the patient with endocrinological disease   |  |  |
|        |     |           | 5:00 PM           |   | 75                   | Truchetti                                       | Disease-specific aspects of anesthesia          | Principle approach to anesthesia for the patient with neurological disease   |  |  |

| Module | Day | Date     | Time           | Location                                | Course hour<br>(50 min) | Instructor | Subject                                | Topics covered during lecture   |  |  |
|--------|-----|----------|----------------|---|-------------------------|------------|--|---|--|--|
| IV     | 12  | 1-Jun-18 | 8:30 AM        | Basilian Spirituality Conference Center | 76                      | Truchetti  | Disease-specific aspects of anesthesia | Anesthesia for the patient with cardiac disease; Part I   |  |  |
|        |     |          | 9:30 AM        |   | 77                      | Truchetti  | Disease-specific aspects of anesthesia | Anesthesia for the patient with cardiac disease; Part II  |  |  |
|        |     |          | 10:30 AM       |   | 78                      | Caniglia   | Disease-specific aspects of anesthesia | Anesthesia for the patient with eye disease and eye lacerations   |  |  |
|        |     |          | 11:30 AM       |   | 79                      | Driessen   | Disease-specific aspects of anesthesia | Anesthesia for the patient with liver disease   |  |  |
|        |     |          | 12:30 -1:30 PM | Lunch break                             |                         |            |  |   |  |  |
|        |     |          | 1:30 PM        | Basilian Spirituality Conference Center | 80                      | Truchetti  | Disease-specific aspects of anesthesia | Anesthesia for the patient with gastro-intestinal disease (GDV, intestinal ileus, intestinal obstipation, etc.) |  |  |
|        |     |          | 2:30 PM        |   | 81                      | Allweiler  | Disease-specific aspects of anesthesia | Safe anesthesia in animals undergoing tracheo-, broncho-, thoraco- or laparoscopy                               |  |  |
|        |     |          | 3:30 PM        |   | 82                      | Driessen   | Disease-specific aspects of anesthesia | Anesthesia for the patient with renal disease   |  |  |
|        |     |          | 4:30 PM        |   | 83                      | Allweiler  | Disease-specific aspects of anesthesia | Anesthesia for the animal undergoing dental or maxillary surgery  |  |  |

| Module                     | Day | Date     | Time           | Location   | Course hour (50 min)   | Instructor | Subject                                | Topics covered during lecture  |  |  |
|----------------------------|-----|----------|----------------|--|--|------------|--|--|--|--|
| IV                         | 13  | 2-Jun-18 | 8:30 AM        | Basilian Spirituality Conference Center  | 84   | Truchetti  | Disease-specific aspects of anesthesia | Anesthesia for the bitch with dystocia                                 |  |  |
|                            |     |          | 9:15 AM        |  | 85   | Truchetti  | Disease-specific aspects of anesthesia | Basic concepts for the anesthetic management of brachycephalic animals |  |  |
|                            |     |          | 10:00 AM       |  | 86   | Caniglia   | Age-specific aspects of anesthesia     | Basic concepts in neonatal and geriatric animal anesthesia             |  |  |
|                            |     |          | 11:00 AM       |  | 87   | Driessen   | Anesthetic emergencies                 | Managing common perianesthetic complications                           |  |  |
|                            |     |          | 12:00 -1:00 PM | Lunch break  |  |            |  |  |  |  |
|                            |     |          | 1:00 PM        | Basilian Spirituality Conference Center  | 88   | Allweiler  | Species-specific aspects of anesthesia | Introduction to anesthesia in birds                                    |  |  |
|                            |     |          | 1:45 PM        |  | 89   | Allweiler  | Species-specific aspects of anesthesia | Introduction to anesthesia in rabbits and pocket pets                  |  |  |
|                            |     |          | 2:45 PM        |  | 90   | Cital      | Species-specific aspects of analgesia  | Avian and small exotic mammal pain management                          |  |  |
|                            |     |          | 3:30 PM        |  | 91   | Allweiler  | Species-specific aspects of anesthesia | Introduction to anesthesia in reptiles and amphibia                    |  |  |
|                            |     |          | 4:30 PM        |  | 92   | Cital      | Species-specific aspects of analgesia  | Reptile and amphibian pain management                                  |  |  |
|                            |     |          |                |  |  |            |  |  |  |  |
| Self-study after module IV |     |          |                | Ethos/Vet Bloom (Looney)   | VetBloom Webinar 19 supplementing lectures # 64, 65: <i>Classic pharmacologic pain therapies</i>   |            |  |  |  |  |
|                            |     |          |                |  | VetBloom Webinar 20 supplementing lecture # 64,65: <i>NON-classic pharmacologic and NON-pharmacologic pain therapies</i>   |            |  |  |  |  |
|                            |     |          |                |  | VetBloom Webinar 21 supplementing lectures # 67-70: <i>Locoregional analgesia and epidurals</i>  |            |  |  |  |  |
|                            |     |          |                |  | VetBloom Webinar 22 supplementing lectures # 62-65: <i>Perioperative pain control</i>  |            |  |  |  |  |
|                            |     |          |                |  | VetBloom Webinar 23 supplementing lecture # 73: <i>Anesthesia for trauma and emergent care</i>   |            |  |  |  |  |
|                            |     |          |                |  | VetBloom Webinar 24 supplementing lecture # 79: <i>Ophthalmology anesthesia essentials</i>   |            |  |  |  |  |
|                            |     |          |                | VetBloom Webinar 25 supplementing lecture # 85: <i>Anesthesia for Patients with Comorbidities: Brachycephalics</i> |  |            |  |  |  |  |
|                            |     |          |                | Driessen   | 6 Quizzes with 8-12 MCQ and exercises, respectively to help course attendees to stay focused when reviewing module 4 course handouts and supplemental reading material in preparation of certificate exam 4. |            |  |  |  |  |

| Module  | Day | Date      | Time     | Location | Course hour<br>(50 min) | Instructor |   |
|---|-----|-----------|----------|----------|-------------------------|------------|---|
| IV  | 14  | 01-Sep-18 | 9:00 AM  | Online   | E4                      | Driessen   | Multiple Choice Test (40 case-based MC questions) covering course hours 62-90   |
|   |     |           | 10:00 AM |          |                         |            |   |
| Within 2 weeks following completion of part IV of the certificate MCQ exam. |     |           |          |          |                         |            | Handing out of the exam results and eventually the <i>RVT Certificate in Principle Techniques of Small Animal Anesthesia, Perioperative Analgesia &amp; Critical Patient Care</i> * |

<sup>1</sup> THIS PROGRAM MAY BE SUBJECT TO CHANGES.

**\* The *Principle Techniques of Small Animal Anesthesia, Perioperative Analgesia & Critical Patient Care* will be awarded to all participants who passed the cumulative MCQ tests with a total of at least 70 % of correct answers. Upon failure a one time retake exam is offered at an additional fee at a time to be determined but no earlier than 4 weeks and no later than 12 weeks after finishing the course. The MCQ tests may be given utilizing an internet platform. In addition, participants who successfully completed the online CPR course \* The RVT Certificate in Principle Techniques of Small Animal Anesthesia, Perioperative Analgesia & Critical Patient Care will be awarded to all participants who passed the cumulative MCQ tests with a total of at least 70 % of correct answers. Upon failure a one time retake exam is offered at an additional fee at a time to be determined but no earlier than 4 weeks and no later than 12 weeks after finishing the course. The MCQ tests may be given utilizing an internet platform. Online Basic (BLS) and Advanced Life Support (ALS) modules developed by the Cornell University College of Veterinary Medicine and peer reviewed and certified by the American College of Veterinary Emergency and Critical Care (ACVECC) teach the evidence-based veterinary CPR guidelines on the basis of the Reassessment Campaign on Veterinary Resuscitation (RECOVER) Initiative. Participants, who successfully completed the online CPR course covering both Basic Life Support and Advanced Life Support BEFORE attending the simulation labs at Cornell will obtain the CPR certification from ACVECC.**