BIOMED 4320/VMS 7320

**Fundamentals of Small Animal Emergency and Critical Care**

**COURSE PROFILE**

Course Description This course will provide valuable knowledge and skills to work in a small animal emergency and critical care position. Characteristics of this skilled care include managing patients with rapidly deteriorating medical and surgical illnesses, major trauma, and life-threatening disease. These animals need trained personnel to address minute-to minute changes in status and condition. Veterinarians and veterinary technicians are valued members of the veterinary care team, and with teamwork, training, and development of skills discussed in this course, can save lives.

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Major Objectives At the end of this course, the student will be able to:

* Successfully triage multiple emergencies at once to rank severity of illness for delivery of care
* Understand how to assess and manage dogs and cats with acute or life-threatening illness such as respiratory distress, shock, acute abdomen, multiple trauma, and cardiovascular disease
* Prepare and administer fluids and medication by constant rate administration
* Perform and interpret critical care parameters such as pulse oximetry, end-title carbon dioxide, and blood gas parameters
* Communicate effectively with clients presenting animals with acute, life-threatening illness

Prerequisites Completion of an associate’s degree in veterinary technology or pre-clinical training in a veterinary curriculum is strongly recommended prior to enrolling in this course

Delivery 100% online

Organization Course materials are located under the left-hand tab in the course Blackboard site under “Units”. “Sessions” are found under “Units” and “Modules” under “Sessions”. Further directions are provided in Blackboard.

Required Materials Small Animal Emergency and Critical Care for Veterinary Technicians, 2nd Ed.

Andrea M. Battaglia

2007, Saunders Elsevier, St. Louis, MO

**EVALUATION OF**

**STUDENT**

**PERFORMANCE**

Satisfactory

Performance Course performance will be evaluated based on successful completion of course assignments.

Exams and Quizzes Exams are available only under the supervision of a proctor. Fifty minutes will be allowed for exams.

A quiz is not proctored, but you are expected to complete the quiz by yourself. The quiz is timed so that you will not have time to rely on reference materials, i.e. it is not open-book quizzes.

If you take more time than the quiz or exam allows, your score will be deducted the points of one question each minute in overtime.

You may take a quiz or exam only once. You must complete the exam or quiz once you start it. You may NOT come back to the quiz later. If you are disconnected during an exam, contact the instructor immediately and then send an e-mail to blackboard@missouri.edu with your name, username, course name, title of the quiz or exam, and a description of the problem. To ensure your answers are logged, click “Save” at the bottom of the page every 2 to 3 questions. Click “Submit” after you have reviewed your answers to have the quiz or exam graded.

Scoring of Assignments Participation in weekly patient assessment blogs to discuss clinical parameters and response to therapies for critical care cases

Two multiple choice examinations

One cumulative final examination

Grading The grading scale will be A to F, including some pluses and minuses but no A+, C+, C-, D+, or D-. Grades will be based on the following scale:

96-100% = A

91-95% = A-

88-90% = B+

84-87% = B

81-83% = B-

71-80% = C

61-70% = D

60% or less = F

Graduate grading will not include +/-

90-100% = A

80 – 89% = B

70-79% = C

65-69% = D

64% or less = F

Note: A Certificate in Biomedical Technology requires at least a “C” grade in this course, plus a total of 15 cr hr BIOMED courses with an average GPA in all BIOMED courses of 3.0.

**Course Schedule**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Unit | Session | Module # | Topic |
|  | 1: The Critical Patient | 1: Clients and Pets | 1 | Patient Triage and Client Communications |
|  | 2 | The Physical Examination and Inpatient Evaluation |
|  | 2: Monitoring and Data | 3 | Blood Testing Methods and Parameters |
|  | 4 | Cardiac and Respiratory Monitoring |
|  | 5 | Blood Pressure, CVP, and Equipment Monitoring |
|  | 2: Delivery of Care | 3: Intravenous Treatment | 6 | Intravenous Catheters |
|  | 7 | Fluid Therapy |
|  | 8 | Blood Transfusions |
|  |  | 9 | Exam 1 (Lectures 1-8) |
|  | 5: Illness and the Immune System | 10 | Immune Compromise and Critical Illness |
|  | 11 | Sanitation and Infection Control |
|  | 3: Patient Comfort and Safety | 4: Oxygen, Water, Nutrients | 12 | Feeding and Nutritional Support |
|  | 13 | Oxygen Therapy |
|  | 14 | Mechanical Ventilation |
|  | 6: Anesthesia and Analgesia | 15 | Pain Assessment and Management |
|  | 16 | Sedation and Anesthesia 1 |
|  | 17 | Sedation and Anesthesia 2 |
|  | 4: Delivery of Emergency Care 1 | 7: Shock, CPR | 18 | Exam 2 (Lectures 10-17) |
|  | 19 | Cardiopulmonary Resuscitation |
|  | 20 | Identification and Management of Shock |
|  | 8: Trauma, Bleeding, Cardiac, Respiratory | 21 | Trauma |
|  | 22 | Management of Hemorrhage |
|  | 23 | Cardiovascular Emergencies |
|  | 5: Delivery of Emergency Care 2 | 9: Respiratory, Gastrointestinal and Endocrine | 24 | Respiratory Emergencies |
|  | 25 | Gastrointestinal Emergencies |
|  | 26 | Endocrine Emergencies |
|  |  |  |  |  |
|  |  |  | 27 | Exam 3 (Lectures 19-26) |
|  | 10: Toxicology | 28 | Toxicology 1 |
|  | 29 | Toxicology 2 |
|  | 6: Delivery of Emergency Care 3 | 11: Metabolic, Urinary and Reproductive | 30 | Metabolic Emergencies |
|  | 31 | Urinary Emergencies |
|  | 32 | Reproductive Emergencies |
|  | 12:Ophthalmic, Neurologic, Immunologic | 33 | Ophthalmic Emergencies |
|  | 34 | Neurologic Emergencies |
|  | 35 | Immune-mediated hemolytic anemia and ITP |
|  | 7: Delivery of Emergency Care 4 | 13: Sepsis, SIRS, Exotics | 36 | Exam 4 (Lectures 28-35) |
|  | 37 | Sepsis, SIRS, and MODS |
|  | 38 | Avian and Exotic Emergencies |
|  | 14: Disasters | 39 | Disaster Preparedness |
|  | 40 | Disaster Response |
|  | 41 | Avoiding Nursing Errors |
|  | 8: Life in the ER | 15: Practice Management | 42 | Scheduling and Compassion Fatigue |
|  | 43 | Record-keeping and the law |
|  |  |  |  | Final (Cumulative) |