

**Bergen Community College
Division of Health Professions
Paramedic Science Program**

PAR 201-001	Principles of Paramedic Science II
Meeting Times:	Thursday 8:00a-12:00p
Locations:	Meadowlands Campus P111
Instructor:	Professor McCarthy
Office Location:	P111
Phone:	201-301-1592
Office Hours:	Tuesday and Wednesday 9:30 – 11:30 and by appointment
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Course Description:

Principles of Paramedic Science II provides the advanced principles of pre-hospital emergency medical care related to age targeted populations, systemic disease and the pathophysiological effects of these emergencies. Integration of special populations and unique response situations will be addressed. Lecture [4.00]. Prerequisite[s]: PAR-101, PAR-102, PAR-103, PAR-104, PAR-200. Co-requisite[s]: PAR-202, PAR-203, PAR-204.

Paramedic Program Core Competencies:

A. Ethics and EMS Structure

- A1. Exhibit a professional code of conduct with personal and professional integrity.
- A1. Provide compassionate care to all populations while respecting cultural differences.
- A3. Comply with all state and federal regulation/laws for an entry-level paramedic.

B. Patient Assessment and Skills

- B1. Utilize a systematic assessment to determine appropriate modalities for medical and trauma patients of all ages while prioritizing interventions needed to improve patient outcomes.
- B2. Demonstrate skill proficiency in all entry-level psychomotor skills, utilizing them when clinically appropriate and at the correct time to improve patient outcomes.
- B3. Function as a member of the paramedic team by using effective communication and proper behavior that promotes customer service and efficient care.

C. Safety and Personal Wellness

- C1. Correctly identifies potential hazards to promote a safe environment for self, co-workers, patients and bystanders.
- C2. Uses critical thinking skills to properly manage and diffuse stressful environments.
- C3. Identifies personal stress and utilizes stress management techniques to ensure physical and emotional health.

Student Learning Objectives:

As a result of meeting the requirements in this course, students will be able to:

Behavioral and Psychiatric Disorders

Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Abdominal Assessment/Acute abdomen

Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Endocrinology Emergencies and Seizure

Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Toxicology and Poisoning Emergencies

Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Renal

Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.

Obstetrics

Integrate assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

Gynecology

Integrate assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

Newborn Resuscitation

Integrate assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

Pediatrics Trauma/Cardiac

Integrate assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

Geriatrics

Integrate assessment findings with principles of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

Scene Safety/Crime Scene Awareness

Demonstrate knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Incident Management

Demonstrate knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Medical Response to Terrorism

Demonstrate knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

Instructional Resources

Available in the library and computer labs

Annals of Emergency Medicine
Journal of Emergency Medical Services (JEMS)
Journal of Accident and Emergency Medicine
New England Journal of Medicine
Pre-Hospital Emergency Care Journal

Means of Assessment

In accordance with accreditation standards, students will be provided with ample feedback to allow them the ability to improve performance in cognitive, psychomotor and affective domains of learning.

Quizzes (3)	25%
Assigned Reading Chapters Quizzes	10%
Tests (2)	25%
Pathophysiology Report	10%
Comprehensive Final Written Exam (1)	30%

In addition to the program pass rate, students are required to obtain a minimum grade of 77% on all final exams. Any student not obtaining a 77% on the final exam will be unable to continue in the program.

Pathophysiology Report – This report should be typed in Calibri, font size 11, with headers as described below.

- Name of Problem
- Medical History and Mechanism of Injury – what would you expect the patient to have as part of the medical history or cause of injury
- Signs/Symptoms Associated with this Problem – what signs and symptoms do patients present with when they have this ailment
- Pathophysiology of Problem - why does this happen – in simple terms
- 3 differential diagnosis for the problem

Aortic Abdominal Aneurysm
Acute Myocardial Infarction*
Alzheimer
Anaphylaxis*
Angina*
Anxiety/Panic Attack
Asthma*
Bronchitis/Chronic vs. Acute*
Bronchiolitis
Cardiac Chest Pain*
CHF*
Cholecystitis
COPD*
Croup
CVA*
Diabetes Type-I/Type II
Dementia
Diverticulosis/Diverticulitis
DKA
DVT
Ectopic Pregnancy
GI Bleed
Heat Cramps/Stroke
Hemothorax*

Hepatitis
Hypoglycemia
Kidney Infection
Kidney Stones
Pleural Effusion
Organic Brain Disorder
Ovarian cyst
Pancreatitis
Pulmonary Embolus*
Pericardial Tamponade*
Pericarditis
Pelvic Inflammatory Disease
Placenta Abruptio
Placenta Previa
Pneumonia*
Pneumothorax*
Pre-Eclampsia/Eclampsia
Seizure
Shock * - Hypovolemia, Obstructive,
Distributive, Cardiogenic
Syncope
Tension Pneumothorax*
Ulcer
Urinary Tract Infection
Vaso-Vagal Syncope

Moodle Structure:

The delivery platform for this course is a hybrid format utilizing a Moodle program. Students must fully participate in both online and on campus components of the course to successfully complete the course.

The Moodle structure will provide opportunities for discussion boards, email communication, class announcements, online patient cases, and completion of tests and quizzes.

Course Menu in Moodle:

- Online Syllabus
- Course Announcements
- Forums
- Assignments
- Email
- My grades

Recommended Practice

To effectively manage this course for successful completion, you should do the following:

- Read and follow the course syllabus by adhering to the assigned dates of completion
- Read the messages under “Course Announcements”
- Follow the course calendar in Moodle
- Timely complete and submit all assignments – late assignments will not be accepted!
- Use the email communication platform to communicate with other students and the instructor.
- Actively participate in class and in online discussions

Special Features of the Course**Pass Rate:**

The Paramedic Department pass rate is an 80%. Students are required to obtain a final average of an 80% in each core curriculum course. At the end of the semester, any student not achieving an 80% will be unable to continue in the program.

Squad Assignments

Students will be assigned to squads of no more than 6 students. The purpose of the squad is to promote teamwork, provide peer support and offer organization structure to the course. Students will take turns being the squad leader. The structure of squads will help instill comfort for the students prior to them being required to function in a clinical affiliate paramedic unit where teamwork and communication is paramount.

Course Texts

Required Text:

American Heart Association. *Advanced Cardiovascular Life Support Handbook*, April 2011, American Heart Association Incorporated (ISBN – 978-1-6166-9000-7)
Jones Bartlett *Premier Bundle Package 2.0* (ISBN: 9781284038316)
Jones Bartlett *Bergen Medic Package* (ISBN 9781284059342)

Optional Text:

Walls, Ron. *Manual of Emergency Airway Management*, 4th Edition, 2012, Lippincott, Williams and Wilkins. (ISBN 9781451144918)

Research, Writing and Examination Requirements

Students will be required to develop patient case studies that effectively depict a common medical emergency. Requirements will include appropriate description of signs, symptoms, patient presentation, pertinent medical history, medications and/or recent surgeries. Student will present their case to group. An affective behavior assessment will be included in the patient case study grade.

Grading Scale

A	93-100
B+	89-92
B	85-88
C+	82-84
C	80-81
F	Below 80
N	Incomplete (course requirements not fulfilled)

Academic Conduct

The paramedic program faculty adheres to the policy statement governing academic conduct as outlined in the Bergen Community College catalog.

- Faculty may not post exam grades publicly due to privacy laws.
- Scholastic dishonesty including but not limited to plagiarism, cheating, and collusion will not be tolerated. Any student who has demonstrated any of these behaviors will be disciplined according to the Policy and Procedure Manual of the program.

Attendance Policy

Please refer to the Paramedic Policy Manual for exact absence policy information.

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) requires that students meet a minimum number of didactic/lab, clinical and field internship hours. Therefore students are expected to attend all class sessions.

No make-up quizzes, tests or exams will be given. Any student who is absent for a quiz, test, or exam will receive a grade of "0".

Students will be allowed one excused absence per semester for all four PAR courses. An absence is considered excused when a student notifies the professor prior to the start of class that they will be absent. Any additional absences will negatively affect the student's grade. For each unexcused absence the final grade will reduce by 1 point. For each excused absence the final grade will reduce by 0.5 point.

Tardiness will not be tolerated. In accordance with New Jersey state regulation, an attendance sheet will be available at the beginning of the class. If a student is tardy 3 times it will be calculated as an unexcused absence.

Other College, School and/or Departmental Policy Statements

The Paramedic Program is accredited by two agencies, The Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the New Jersey Department of Health and Human Service – Office of Emergency Medical Services.

The Bergen Community College Paramedic Science Program has been issued a Letter of Review by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). This letter is NOT a CAAHEP accreditation status, it is a status signifying that a program seeking initial accreditation has demonstrated sufficient compliance with the accreditation Standards through the Letter of Review Self Study Report (LSSR) and other documentation. Letter of Review is recognized by the National Registry of Emergency Medical Technicians (NREMT) for eligibility to take the NREMT's Paramedic credentialing examination(s). However, it is NOT a guarantee of eventual accreditation.

To contact CoAEMSP:

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www.coaemsp.org

The Paramedic Department Policy and Procedure Manual has been reviewed at orientation. The purpose of the manual is to clearly outline the role and responsibility of each stakeholder in the education process; the student, the patient, the faculty, the clinical affiliate and the college. Students and faculty are expected to adhere to the policies of the program.

Student and Faculty Services

Students are encouraged to seek assistance from peers and/or faculty members whenever they are having difficulties with the program curriculum. The Paramedic Science Program is

structured to ensure the needs of the paramedic student will be met. There will be open skill labs and simulation sessions available to allow students to access adjunct faculty for support with any learning difficulties. Peer tutors will be utilized to facilitate further success in the program.

Americans with Disabilities Act

Students who require accommodations in accordance with Americans with Disabilities Act (ADA) can request these services from the Office of Specialized Services. To learn more about the services offered at Bergen Community College, visit them at www.bergen.edu/oss.

Course calendar:

Week	Topic	Assignment
1	Course Orientation: Medical Pharmacology & Pathophysiology	<i>Emergency Care in the Streets</i> Chapter 12
2	Differentiate Altered Mental Status, Headache, Nausea, Vomiting Diseases of Ear, Nose and Throat	<i>Emergency Care in the Streets</i> Chapter 18 and 19
3	Environmental; Infectious Disease	<i>Emergency Care in the Streets</i> Chapter 38
4	Medical Emergencies Putting It All Together	<i>Emergency Care in the Streets</i> Chapter 40
5	Life Spans Development, Pediatric Assessment, Shock and Respiratory	<i>Emergency Care in the Streets</i> Chapter 9 and 43
6	Patients with Special Needs SIDS/Death and Dying	<i>Emergency Care in the Streets</i> Chapter 43
7	PALS Cardiac and Pharmacology	<i>Pediatric Advanced Life Support</i> <i>Core Cases</i>
8	Spring Break	
9	Geriatrics - Patho & Pharma Differences, Geriatric Assessment	<i>Emergency Care in the Streets</i> Chapter 44
10	Rapid Sequence Intubation: RSI: Principles and Concepts, and Pharmacology	<i>Emergency Care in the Streets</i> Chapter 26
11	ICS – Incident Management	<i>Emergency Care in the Streets</i> Chapter 47
12	ICS – Incident management	<i>Emergency Care in the Streets</i> Chapter 47
13	Medical Response to Terrorism	<i>Emergency Care in the Streets</i> Chapter 49 - 51
14	Review for Final	
15	Final Exam	

Syllabus subject to change

Unit Objectives:

As a result of meeting the requirements in this course, students will be able to:

Medical Pharmacology

1. Identify the indications, contraindications, side effects, dose and administration for each medication included in the medication formulary
2. Match commonly prescribed medications with correct ailment.
3. Show proficiency in medication math calculations including, Intravenous push, Oral, Intramuscular injection, Sub Cutaneous injection and Intravenous Drip.

Altered Mental Status – Differentiated Assessment of Headache, Nausea, Syncope, Seizure

1. Define the pathophysiology of coma and altered mental status.
2. Describe the assessment findings associated with coma and altered mental status.
3. Identify the management/ treatment plan of coma and altered mental status.
4. Define the pathophysiology of headache.
5. Describe the assessment findings associated with headache.
6. Identify the management/ treatment plan of headache.
7. Describe the epidemiology, including the morbidity / mortality and prevention strategies, for neoplasms
8. Describe the pathophysiology and types of neoplasms
9. Identify the assessment findings associated with neoplasms.
10. Describe the management / treatment plan of neoplasms.
11. Differentiate among the various treatment and pharmacological interventions used in the management of neoplasms.
12. Describe the epidemiology, including the morbidity / mortality and prevention strategies, for stroke and intracranial hemorrhage.
13. Identify the pathophysiology of stroke and intracranial hemorrhage.
14. Describe the types of stroke and intracranial hemorrhage
15. Describe the assessment findings associated with stroke and intracranial hemorrhage.
16. Identify the management / treatment plan of stroke and intracranial hemorrhage.
17. Define stroke and intracranial hemorrhage.
18. Differentiate among the various treatment and pharmacological interventions used in the management of stroke and intracranial hemorrhage.
19. Describe the epidemiology, including the morbidity / mortality and prevention strategies, for transient ischemic attack.
20. Identify the pathophysiology and assessment findings of transient ischemic attack.
21. Discuss the assessment findings and management associated with transient ischemic attack.
22. Differentiate among the various treatment and pharmacological interventions used in the management of transient ischemic attack.
23. Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with transient ischemic attack.

24. Describe the epidemiology, including the morbidity / mortality and prevention strategies, for degenerative neurological diseases.

Environmental Emergencies

1. Define environmental emergency.
2. Describe the incidence, morbidity and mortality associated with environmental emergencies.
3. Identify risk factors most predisposing to environmental emergencies.
4. Identify environmental factors that may cause illness or exacerbate a preexisting illness.
5. List the principal types of environmental illnesses.
6. Define homeostasis and relate the concept to environmental influences.
7. Identify normal, critically high and critically low body temperatures.
8. Describe several methods of temperature monitoring
9. Describe the physiology of thermoregulation.
10. Describe the body's compensatory process for overheating.
11. Describe the body's compensatory process for excess heat loss.
12. List the common forms of heat and cold disorders.
13. List the common predisposing factors associated with heat and cold disorders.
14. List the common preventative measures associated with heat and cold disorders.
15. Define heat illness.
16. Describe the pathophysiology of heat illness.
17. Identify signs and symptoms of heat illness.
18. List the predisposing factors for heat illness.
19. List measures to prevent heat illness.
20. Discuss the symptomatic variations presented in progressive heat disorders.
21. Describe the contribution of dehydration to the development of heat disorders.
22. Describe the differences between classical and exertion heatstroke.
23. Discuss the risk factors, signs and symptoms and management of hyperthermia.
24. Discuss the risk factors, signs and symptoms and management of hypothermia.
25. Define fever and discuss its pathophysiologic mechanism.
26. Identify the fundamental thermoregulatory difference between fever and heatstroke.
27. Discuss how one may differentiate between fever and heatstroke.
28. Discuss the role of fluid therapy in the treatment of heat disorders.
29. Define hypothermia.
30. Describe the pathophysiology of hypothermia.
31. List predisposing factors for hypothermia.
32. List measures to prevent hypothermia
33. Identify differences between mild and severe hypothermia.
34. Describe differences between chronic and acute hypothermia.
35. List signs and symptoms of hypothermia.
36. Discuss the impact of severe hypothermia on standard BCLS and ACLS algorithms and transport considerations.
37. Define frostbite.
38. Differentiate between superficial frostbite and deep frostbite.

39. List predisposing factors for frostbite.
40. Integrate pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with superficial or deep frostbite.
41. Define near drowning.
42. Discuss the risk factors, signs and symptoms and management of near drowning and drowning.
43. Describe the pathophysiology of near drowning.
44. List signs and symptoms of near drowning.
45. Describe the lack of significance of fresh versus saltwater immersion, as it relates to near drowning.
46. Define self-contained underwater breathing apparatus (SCUBA).
47. Describe the laws of gasses and relate them to diving emergencies.
48. Describe the pathophysiology of diving emergencies.
49. Define decompression illness (DCI) and the various forms.
50. Differentiate between the various diving emergencies.
51. List signs and symptoms of diving emergencies.
52. Describe the function of the Divers Alert Network (DAN) and how its members may aid in the management of diving related illnesses.
53. Differentiate among the various treatments and interventions for the management of diving accidents.
54. Describe the specific function and benefit of hyperbaric oxygen therapy for the management of diving accidents.
55. Define altitude illness.
56. Describe the application of gas laws to altitude illness.
57. Describe the etiology and epidemiology of altitude illness.
58. Define acute mountain sickness (AMS).
59. Define high altitude pulmonary edema (HAPE).
60. Define high altitude cerebral edema (HACE).
61. Discuss the symptomatic variations presented in progressive altitude illnesses

Infectious Disease

1. Discuss public health principles relevant to infectious / communicable disease.
2. Discuss the risks associated with infection.
3. Describe the chain of elements necessary for an infectious disease to occur.
4. Describe host defense mechanisms against infection.
5. Define how internal and external barriers effect susceptibility.
6. Distinguish between the four stages of infectious disease.
7. Describe modes of transmission.
8. Describe the process of the immune system defenses, to include humeral and cell-mediated immunity.
9. In specific diseases, identify and discuss the issues of personal isolation.
10. Describe and discuss the rationale for the various types of PPE.
11. Discuss what constitutes a significant exposure to an infectious agent

12. Describe the pathophysiology, signs and symptoms and management for the most common infectious disease.
13. Describe the assessment of a patient suspected of, or identified as having, an infectious / communicable disease.
14. Discuss the proper disposal of contaminated supplies (sharps, gauze sponges, tourniquets, etc.).
15. Discuss disinfection of patient care equipment, and areas in which care of the patient occurred.
16. Discuss the following relative to HIV - causative agent, body systems affected and potential secondary complications, modes of transmission, signs and symptoms, specific patient management and personal protective measures, and immunization.
17. Discuss Hepatitis including the causative agent, body systems affected and potential secondary complications, routes of transmission, patient management and protective measures, and immunization.
18. Discuss tuberculosis, including the causative agent, body systems affected and secondary complications, routes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and control measures.
19. Discuss meningococcal meningitis including causative organisms, tissues affected, modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization and control measures.
20. Discuss pneumonia, including causative organisms, body systems affected, routes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
21. Discuss tetanus, including the causative organism, the body system affected, modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
22. Discuss rabies as they apply to regional environmental exposures, the body systems affected, signs and symptoms, patient management and protective measures, and immunization and control measures.
23. Discuss chickenpox, including the causative organism, the body system affected, mode of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization and control measures.
24. Discuss mumps, including the causative organism, the body organs and systems affected, mode of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
25. Discuss rubella (German measles), including the causative agent, the body tissues and systems affected, modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
26. Discuss measles including the causative organism, the body tissues, organs, and systems affected, mode of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
27. Discuss the importance of immunization, and those diseases, especially in the pediatric population, which warrant widespread immunization (MMR).

28. Discuss pertussis (whooping cough), including the causative organism, the body organs affected, mode of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
29. Discuss influenza, including causative organisms, the body system affected, mode of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
30. Discuss mononucleosis, including the causative organisms, the body regions, organs, and systems affected modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
31. Discuss scabies/lice including the etiologic agent, the body organs affected, modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
32. Describe Lyme disease, including the causative organism, the body organs and systems affected, mode of transmission, susceptibility and resistance, phases of signs and symptoms, patient management and control measures, and immunization.
33. Discuss gastroenteritis, including the causative organisms, the body system affected, modes of transmission, susceptibility and resistance, signs and symptoms, patient management and protective measures, and immunization.
34. Discuss the local protocol for reporting and documenting an infectious/communicable disease exposure.

Pediatrics Assessment/Shock and Respiratory

1. Describe Emergency Medical Services for Children (EMSC).
2. Discuss how an integrated EMSC system can affect patient outcome.
3. Identify key growth and developmental characteristics of infants and children and their implications
4. Identify modifications in patient assessment technique for the pediatric patient.
5. Identify key anatomical and physiological characteristics of infants and children and their implications.
6. Describe techniques for successful assessment of infants and children.
7. Describe techniques for successful treatment of infants and children.
8. Identify the common responses of families to acute illness and injury of an infant or child.
9. Describe techniques for successful interaction with families of acutely ill or injured infants and children.
10. Outline differences in adult and childhood anatomy and physiology.
11. Identify normal age group related vital signs.
12. Discuss the appropriate equipment utilized to obtain pediatric vital signs.
13. Determine appropriate airway adjuncts for infants and children
14. Describe the pathophysiology, signs and symptoms and management of shock in the pediatric patient; selected pediatric dysrhythmias; pediatric seizures; pediatric endocrine disorders and infectious pediatric emergencies.
15. Discuss complications of improper utilization of airway adjuncts with infants and children.
16. Discuss appropriate ventilation devices for infants and children.

17. Discuss complications of improper utilization of ventilation devices with infants and children.
18. Discuss appropriate endotracheal intubation equipment for infants and children.
19. Identify complications of improper endotracheal intubation procedure in infants and children.
20. List the indications and methods for gastric decompression for infants and children.
21. Differentiate between upper airway obstruction and lower airway disease.
22. Describe the general approach to the treatment of children with respiratory distress, failure, or arrest from upper airway obstruction or lower airway disease.
23. Discuss the common causes of hypoperfusion in infants and children.
24. Evaluate the severity of hypoperfusion in infants and children
25. Discuss age appropriate vascular access sites for infants and children.
26. Discuss the appropriate equipment for vascular access in infants and children.
27. Identify complications of vascular access for infants and children.
28. Describe the primary etiologies of altered level of consciousness in infants and children.
29. Define sudden infant death syndrome (SIDS).
30. Discuss the parent / caregiver responses to the death of an infant or child.
31. Define children with special health care needs
32. Define technology-assisted children.
33. Describe the epidemiology, including the incidence, morbidity / mortality, risk factors and prevention strategies for respiratory distress / failure in infants and children.
34. Discuss the pathophysiology of respiratory distress / failure in infants and children.
35. Discuss the assessment findings associated with respiratory distress / failure in infants and children.
36. Describe the epidemiology, including the incidence, morbidity / mortality, risk factors and prevention strategies for hypoperfusion in infants and children.
37. Discuss the pathophysiology of hypoperfusion in infants and children.
38. Discuss the assessment findings associated with hypoperfusion in infants and children
39. Describe the epidemiology, including the incidence, morbidity / mortality, risk factors and prevention strategies for SIDS infants.
40. Describe the epidemiology, including the incidence, morbidity / mortality, risk factors and prevention strategies for children with special health care needs including technology assisted children.
41. Discuss the pathophysiology of children with special health care needs including technology-assisted children.
42. Discuss the assessment findings associated for children with special health care needs including technology-assisted children.
43. Describe the epidemiology, including the incidence, morbidity / mortality, risk factors and prevention strategies for SIDS infants.
44. Discuss the pathophysiology of SIDS in infants.
45. Discuss the assessment findings associated with SIDS infants.

Special Considerations – Special Needs

1. Compare and contrast the primary objectives of the ALS professional and the home care professional.
2. Identify the importance of home health care medicine as related to the ALS level of care.
3. Differentiate between the role of EMS provider and the role of the home care provider.
4. List complications commonly seen in the home care patients, which result in their hospitalization.
5. Compare the cost; mortality and quality of care for a given patient in the hospital versus the home care setting.
6. Discuss the significance of palliative care programs as related to a patient in a home health care setting.
7. Define hospice care, comfort care and DNR/ DNAR as they relate to local practice, law and policy.
8. List airway maintenance devices typically found in the home care environment.
9. List modes of artificial ventilation and an out-of-hospital situation where each might be employed.
10. List vascular access devices found in the home care setting.
11. Recognize standard central venous access devices utilized in home health care
12. Describe the basic universal characteristics of central venous catheters.
13. Describe the basic universal characteristics of implantable injection devices.
14. List devices found in the home care setting that are used to empty, irrigate or deliver nutrition or medication to the GI / GU tract.
15. Describe complications of assessing each of the airway, vascular access, and GI/ GU devices described above.
16. Describe common complications with central venous access and implantable drug administration ports in the out-of-hospital setting.
17. Describe the indications and contraindications for urinary catheter insertion in an out-of-hospital setting.
18. Discuss differences in individuals' ability to accept and cope with their own impending death.
19. Discuss the rights of the terminally ill.

Geriatrics

1. Discuss population demographics demonstrating the rise in elderly population in the U.S.
2. Discuss society's view of aging and the social, financial, and ethical issues facing the elderly.
3. Assess the various living environments of elderly patients.
4. Describe the local resources available to assist the elderly and create strategies to refer at risk patients to appropriate community services.
5. Discuss issues facing society concerning the elderly.
6. Discuss common emotional and psychological reactions to aging to include causes and manifestations

7. Explain the physiology of the aging process as it relates to major body systems and homeostasis.
8. Apply the pathophysiology of multi-system failure to the assessment and management of medical conditions in the elderly patient.
9. Describe general principles of assessment specific to older adults.
10. Discuss factors that may complicate the assessment of the elderly patient.
11. Describe principles that should be employed when assessing and communicating with the elderly.
12. Compare the pharmacokinetics of an elderly patient to that of a young adult.
13. Discuss the impact of poly-pharmacy and medication non-compliance on patient assessment and management.
14. Discuss drug distribution, metabolism, and excretion in the elderly patient.
15. Discuss medication issues of the elderly including poly-pharmacy, dosing errors and increased drug sensitivity.
16. Discuss the use and effects of commonly prescribed drugs for the elderly patient.
17. Discuss the normal and abnormal changes with age of the pulmonary system.
18. Identify the need for intervention and transport of the elderly patient with pulmonary complaints.
19. Discuss the normal and abnormal cardiovascular system changes with age.

Incident Management

1. Explain the need for the incident management system (IMS) / EMS Branch in managing emergency medical services incidents.
2. Define the term multiple casualty incident (MCI).
3. Identify the components of effective incident command.
4. Define the term disaster management.
5. Identify the five major components of FEMA's incident command system.
6. Describe essential elements of scene size-up when arriving at a potential MCI.
7. Describe the role of the paramedics and EMS systems in planning for MCI's and disasters.
8. Identify situations that may be classified as a major incident.
9. Define the following types of incidents and how they affect medical management:
 - a. Open or uncontained incident
 - b. Closed or contained incident
10. Describe the functional components of the incident management system in terms of the following:
 - a. Command
 - b. Finance
 - c. Logistics
 - d. Operations
 - e. Planning
11. Differentiate between singular and unified command and when each is most applicable.
12. Describe the role of command.
13. Describe the steps necessary to establish and operate the incident command.
14. Describe the need for transfer of command and procedures for transferring it.

15. Differentiate between command procedures used at small, medium and large-scale medical incidents.
16. Explain the local / regional threshold for establishing command and implementation of the incident management system including threshold MCI declaration.
17. List and describe the functions of the following groups and leaders in IM as it pertains to EMS incidents:
 - a. Safety
 - b. Logistics
 - c. Rehabilitation (rehab)
 - d. Staging
 - e. Treatment
 - f. Triage
 - g. Transportation
 - h. Extrication/ rescue
 - i. Disposition of deceased (morgue)
 - j. Communications

Medical Management of Terrorism

1. Explain decontamination procedures when functioning in the following modes:
 - a. Critical patient rapid two step decontamination process
 - b. Non-critical patient rapid two step decontamination process
2. Explain specific decontamination procedures.
3. Explain the four most common decontamination solutions used to include:
 - a. Water
 - b. Water and tincture of green soap
 - c. Isopropyl alcohol
 - d. Vegetable oil

4. Identify the areas of the body difficult to decontaminate to include:
 - a. Scalp/ hair
 - b. Ears/ ear canals/ nostrils
 - c. Axilla
 - d. Finger nails
 - e. Navel
 - f. Groin/ buttocks/ genitalia
 - g. Behind knees
 - h. Between toes, toe nails

5. Explain the medical monitoring procedures of hazardous material team members to be used both pre and post entry, to include:
 - a. Vital signs
 - b. Body weight
 - c. General health
 - d. Neurologic status
 - e. ECG

6. Explain the factors which influence the heat stress of hazardous material team personnel to include:
 - a. Hydration
 - b. Physical fitness
 - c. Ambient temperature
 - d. Activity
 - e. Level of PPE
 - f. Duration of activity

7. Explain the documentation necessary for Haz-Mat medical monitoring and rehabilitation operations.
 - a. The substance
 - b. The toxicity and danger of secondary contamination
 - c. Appropriate PPE and suit breakthrough time
 - d. Appropriate level of decontamination
 - e. Appropriate antidote and medical treatment
 - f. Transportation method

All syllabus and course calendars are subject to change.