I. Psychosocial Dimensions and Health Maintenance - 12%
   A. Psychosocial dimensions
      1. Principles of growth and development
      2. Effects of acute and chronic illness on the patient and family
      3. Patient and family/caregiver support
      4. Grief and bereavement (including legacy building and memory making)
      5. Cultural and spiritual beliefs and rituals
      6. Family systems theory (i.e., family dynamics)
      7. Community resources
      8. Integration of patient care into family, school, work, camp, and social environment
   B. Health maintenance
      1. Immunizations
      2. Health promotion, injury prevention, and wellness
      3. Transition of care
         a. primary care
         b. levels of care (e.g., rehabilitation, home, outpatient)
      4. Reproductive health and fertility preservation

II. Disease Related Biology - 15%
   A. Types of childhood cancer
      1. Epidemiology
      2. Clinical presentation
      3. Anatomy and physiology
      4. Procedures and imaging
      5. Genetics (including genomics)
      6. Diagnosis and prognosis
         a. laboratory values
         b. staging and grading
         c. cytogenetics and histology
      7. Pathophysiology
   B. Types of hematologic disorders
      1. Epidemiology
      2. Clinical presentation
      3. Procedures and imaging
      4. Genetics
      5. Diagnosis and prognosis: laboratory values
      6. Pathophysiology

III. Care of the Pediatric Hematology and Oncology Patient - 32%
   A. Professional performance
      1. Scope and standards of nursing practice
      2. Professional practice guidelines
      3. Regulatory standards and guidelines
   B. Hematology treatment
      1. Chemotherapy
      2. Targeted therapies
         a. biotherapy (e.g., ATG, IVIG, monoclonal antibody therapy)
         b. immunotherapy (e.g., colony stimulating factors)
      3. Blood product therapy (e.g., exchange transfusion, pheresis)
      4. Hematopoietic stem cell transplantation
      5. Coagulation therapy (e.g., factor replacement, anti-thrombolytics)
   C. Oncology treatment
      1. Chemotherapy
      2. Targeted therapies
         a. biotherapy
         b. immunotherapy (e.g., gene therapy, vaccine therapy)
         c. cellular therapies (e.g., CAR-T cell)
      3. Radiation therapy (e.g., I-131-MIBG, proton beam radiation)
      4. Hematopoietic stem cell transplantation
      5. Surgery
   D. Acute side effects related to:
      1. Chemotherapy
      2. Targeted therapies
         a. biotherapy
         b. immunotherapy
         c. cellular therapies
      3. Radiation therapy
      4. Hematopoietic stem cell transplantation
      5. Coagulation therapy
      6. Surgery
      7. Transfusions (e.g., chelation, hypersensitivity)
   E. Survivorship
      1. Psychosocial adaptation
      2. Socioeconomic issues
      3. Chemotherapy
      4. Targeted therapies
         a. biotherapy
         b. immunotherapy
         c. cellular therapies
      5. Radiation therapy
      6. Hematopoietic stem cell transplantation
      7. Coagulation therapy
      8. Surgery
      9. Transfusions
   F. Clinical trials (e.g., phases, accessing trials, elements of informed consent)
IV. Supportive Care, Palliative Care, and Symptom Management - 22%

A. General
1. Pain management
2. Sleep disturbance and fatigue
3. Mental health (e.g., anxiety, depression, PTSD)
4. Medical devices (e.g., venous access, pumps, shunts, tubes)
5. Interdisciplinary care (e.g., child life, physical therapy, occupational therapy, speech therapy)
6. End-of-life care (e.g., hospice)
7. Complementary and integrative modalities

B. System specific alterations (acute, chronic, and late effects)
1. Neurological
2. Respiratory
3. Cardiovascular
4. Gastrointestinal
5. Renal/genitourinary
6. Musculoskeletal
7. Integumentary
8. Endocrine
9. Reproductive
10. Hematological
11. Immunological

V. Pediatric Oncologic and Hematologic Potential Emergencies - 19%

A. Sepsis
B. Gastrointestinal
1. Pancreatitis
2. Typhlitis
3. Bowel obstruction
C. Metabolic
1. Diabetes insipidus
2. Syndrome of inappropriate antidiuretic hormone
3. Tumor lysis syndrome
4. Cytokine release syndrome
D. Vascular
1. Disseminated intravascular coagulation
2. Hemorrhage
3. Hyperleukocytosis
4. Priapism
5. Sinusoidal obstructive syndrome (veno-occlusive disease)
6. Splenic sequestration
7. Superior vena cava syndrome
8. Vaso-occlusive crisis
9. Thrombosis
E. Cardiopulmonary
1. Acute chest syndrome
2. Stroke
3. Respiratory distress (e.g., mediastinal mass)
4. Pericardial effusions (e.g., cardiac tamponade)
5. Pleural effusions

F. Neurology
1. Increased intracranial pressure
2. Seizures
3. Posterior reversible encephalopathy syndrome (PRES)
4. Spinal cord compression

G. Hypersensitivity reactions (including anaphylaxis)

H. Extravasation