UNIVERSITY OF FLORIDA

COLLEGE OF NURSING

COURSE SYLLABUS

Summer 2014

COURSE NUMBER: NGR 6323C, section 8460

COURSE TITLE: Neonatal Nurse Practitioner III

CREDITS: 5 (3 credits didactic, 2 credits laboratory)

Minimum required contact hours for laboratory/clinical: 96

PLACEMENT: Third clinical course in Neonatal Nurse Practitioner Track

PREREQUISITES NGR 6321C: Neonatal Nurse Practitioner II

|  |  |  |  |
| --- | --- | --- | --- |
| **FACULTY** |  |  |  |
| **Jacqui Hoffman, DNP, NNP-BC**  [Hoffmanjm@ufl.edu](mailto:Hoffmanjm@ufl.edu)  **Clinical Faculty**  **Leslie A. Parker, PhD, NNP-BC** [parkela@ufl.edu](mailto:parkela@ufl.edu)  **Julie Schultz, MSN, NNP-BC**  [juliesch@ufl.edu](mailto:juliesch@ufl.edu)  **DEPARTMENT CHAIR** | HPNP 2227 | Cell (727) 709 9211  (352) 273-6384  Beeper:  (352) 413-3212  Cell (352) 215 9360  Cell: 954 260 0071 | Office Hours: Virtual on Adobe Connect  Mon. 1:00-3:00 PM; additional hrs by appt  Office Hours Thurs., 10:00 – 12:00  Virtual on Adobe Connect  Mon. 12:00-1:00    Available by appt |
| **Susan Schaffer, PhD, ARNP, FNP-BC**  [sdschaf@ufl.edu](mailto:sdschaf@ufl.edu)  **Gainesville Campus** | HPNP 2229 | Office 352-273-6366 | Available by appt |
| **CAMPUS DIRECTOR JAX** |  |  |  |
| **Andrea Gregg, DSN, RN**  **Associate Professor**  [greggac@nursing.ufl.edu](mailto:greggac@nursing.ufl.edu)  **Jacksonville Campus** | JAX  LRC, 3rd Floor | Office: 904-244-5172  Fax: 352-273-6568 | Available by appt |

# COURSE DESCRIPTION This course provides advanced study of neonatal intensive care nursing for high risk infants with complex and chronic health problems. Emphasis will be on advanced neonatal nursing management of infants with long-term health problems, developmental intervention for growing premature infants, and the role of the neonatal practitioner in chronic and developmental care.

COURSE OBJECTIVES Upon completion of this course the student will be able to:

1. Evaluate developmental screening and assessment tools for their application to advanced neonatal nursing practice.

2. Assess the health status of the growing premature infant and the chronically ill infant.

3. Prescribe interventions for the infant and family to minimize the effect of the neonatal critical care experience.

4. Integrate research findings pertaining to pathophysiology and therapeutic approaches into the management of chronic neonatal health care problems.

5. Recommend approaches for care of the chronically ill high-risk infant to other members of the interdisciplinary health care team.

6. Provide care for the complex and chronically ill infant in neonatal intensive care settings.

1. Discuss the role of the neonatal nurse practitioner in the care of the growing premature and high-risk infant with chronic illness.
2. Evaluate support programs within the community to assist the patient and family after discharge.

9. Analyze legal, ethical, economic, and sociocultural factors affecting the provision of nursing care to infants with long-term health problems.

COURSE SCHEDULE

Class: Monday 9:00 AM - 1:00 PM, except for exam weeks, at which time class will be

2:00 – 4:00 PM on Adobe Connect.

Required onsite class: June 6th, from 8:30 AM – 5 PM

Clinical: TBA

E-Learning in Saki is the course management system that you will use for this course. E-Learning in Sakai is accessed by using your Gatorlink account name and password at <http://lss.at.ufl.edu>. There are several tutorials and student help links on the E-Learning login site. If you have technical questions call the UF Computer Help Desk at 352-392-HELP or send email to [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

It is important that you regularly check your Gatorlink account email for College and University wide information and the course E-Learning site for announcements and notifications.

Course websites are generally made available on the Friday before the first day of classes.

ATTENDANCE

Students may be expected to attend on-campus or synchronous classes periodically.

Students are expected to participate in the activities and discussions as listed in the course syllabus and on the course web-site. Timeframes for the posting and receiving of materials are listed in the course materials on the course web-site.

This course will use one of UF’s web hosted collaborative software applications (Adobe

Connect and or Voice Thread) for lecture presentation and or assignments.  These collaborative applications have the functionality of recording your text, audio and/or video comments.   If you do not want to be recorded please notify assigned faculty member prior to the first class.  You do not need to provide a photo or use the video comment option, this is your choice.  The recordings are accessed through web links provided by your faculty member and should not be shared with anyone not enrolled in the course. The recordings are available to the class during the semester.  The recordings will not be used in another course.

**ProctorU**:

* + Major course examinations will be administered via ***ProctorU***, a live proctoring service, to ensure a secure testing environment.
  + Each student computer must be in compliance with Policy S1.04, *Student Computer Policy* and must contain a web cam, microphone, and speakers.
  + Each examination will cost $22.50 per exam.
  + Students go to the website <http://www.proctoru.com/> and click on “How To Get Started”. This will permit students to create an account and test out their system.
  + Once an instructor makes an exam available, students go online to ***ProctorU*** to schedule and pay for the exam session. Students must provide a valid email address and phone number where they can be reached during an exam.
  + CON IT Support office will oversee this process and provide technical assistance.

**Clinical Practice Courses:**

Students are expected to be present for all scheduled clinical practice experiences and seminars. Students who have extraordinary circumstances preventing attendance should explain these circumstances to the course instructor **prior** to the scheduled clinical practice experience or seminar. Instructors will then make an effort to accommodate **reasonable** requests. A grade penalty may be assigned for unexcused seminar or clinical absences. The faculty member will advise the method of notification for absences to the clinical site e.g. phone, email, and notification of facility.

**Graduate students** are required to submit a written calendar of planned clinical practice dates and times to the course faculty member **prior** to beginning the clinical rotation. Any changes to the calendar (dates and times) must be submitted in writing to the course faculty member **before** the change is planned to occur. **Clinical hours accrued without prior knowledge of the faculty member will not be counted toward the total number of clinical hours required for the course.**

**ACCOMMODATIONS DUE TO DISABILITY**

Each semester, students are responsible for requesting a memorandum from the Disability Resource Center (<http://www.dso.ufl.edu/index.php/drc/>) to notify faculty of their requested individual accommodations. This should be done at the start of the semester.

**COUNSELING AND MENTAL HEALTH SERVICES**

Students may occasionally have personal issues that arise on the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling and Wellness Center, 352-392-1575, visit their web site for more information: <http://www.counseling.ufl.edu/cwc/>.

**STUDENT HANDBOOK**

Students are to refer to the College of Nursing Student Handbook for information about College of Nursing policies, honor code, and professional behavior. <http://nursing.ufl.edu/students/student-policies-and-handbooks/>

**ACADEMIC HONESTY**

The University of Florida Student Conduct and Conflict Resolution Policy may be found at <http://www.dso.ufl.edu/index.php/sccr/process/student-conduct-honor-code/>

TOPICAL OUTLINE

1. The effect of chronic health problems on the infant, family and community

2. Pathophysiology, assessment, and management of retinopathy of prematurity, short gut syndrome, bronchopulmonary dysplasia and rickets

3. Pathophysiology, assessment and management of renal failure, hemopoietic and clotting disorders, and musculoskeletal defects in the infant

4. Sepsis in the chronically ill infant

5. Pathophysiology, assessment and management of an infant and the chronically ill infant including linkage with early intervention programs in the community

6. Developmental care for the growing premature infant and the chronically ill infant including linkage with early intervention programs in the community

7. Perinatal substance abuse

1. Immediate and long-term effects
2. Legal and social implications of reporting perinatal substance abuse
3. Multi-disciplinary approaches for the substance abusing parent and child

8. Home care of the chronically ill infant

1. The nursing role in aiding in the transition to the family and community
2. Preparing the family for home monitoring, oxygen therapy, parental nutrition and ventilatory support
3. Legal, ethical and economic issues which impact on provision of care for the infant with long-term health problems
4. The evolution of the advanced neonatal nursing specialization into the community

# TEACHING METHODS

Lecture, discussion, case studies, on-site simulation lab, faculty supervised clinical practice, written materials, computer assisted instruction and audiovisual materials, and individual conferences.

LEARNING ACTIVITIES

Case studies, discussions, exams, and simulation lab.

EVALUATION METHODS

Minimum Required Contact Hours: 96

Clinical courses are evaluated using the Clinical Evaluation form. Clinical evaluation will be based on faculty observation, verbal communication with the student, written work, and agency staff reports using a College of Nursing Clinical Evaluation Form. Faculty reserve the right to alter clinical experiences, including removal from client care areas, of any student to maintain patient safety and to provide instructional experiences to support student learning.

Clinical evaluation will be based on achievement of course and program objectives using a College of Nursing Clinical Evaluation form. All areas are to be rated. A rating of Satisfactory represents satisfactory performance and a rating of Unsatisfactory represents unsatisfactory performance. **The student must achieve a rating of Satisfactory in each area by completion of the semester in order to achieve a passing grade for the course.** A rating of less than satisfactory in any of the areas at semester end will constitute a course grade of E. Regardless of the classroom grade, the student receiving an Unsatisfactory evaluation in the clinical component of the course will be assigned a course grade of E or U.

The faculty member will hold evaluation conferences with the student and clinical preceptor, if applicable, at each site visit. The faculty member will document or summarize each conference on the Clinical Evaluation Form or Advisement Record. This summary will be signed by the faculty member and student. Mid-rotation evaluation conferences will be made available to each student. **Final evaluation conferences with the faculty member are mandatory** and will be held during the last week of each course. A student may request additional conferences at any time by contacting the faculty member.

Students enrolled in advanced practice courses with a clinical practice component will use Clinical Experience Form F to document clinical experience including hours, practice location and preceptor for their personal records. Students also assess their learning experiences using Clinical Site Assessment Form G. Form G is submitted online via course website. At the end of the clinical experience the student completes a self-evaluation and the faculty member completes a student evaluation using the College of Nursing Clinical Evaluation Form.

Clinical performance will be graded on satisfactory/unsatisfactory basis. Students must achieve a satisfactory grade in the clinical area in order to successfully complete the course. For students who achieve a satisfactory clinical grade, didactic evaluation will be through written examinations and written assignments.

|  |  |  |
| --- | --- | --- |
| Case Studies | 30% | See schedule below |
| Case Presentation (onsite) | 5% |  |
| Class Participation (Discussion Board) | 5% |  |
| Test I | 20% | June 9th (12:00-2:00) |
| Test II | 20% | July 14th (12:00-2:00) |
| Test III | 20% | August 4th (12:00-2:00) |

All graded assignments will be graded and returned to the student within 2 weeks of submission unless otherwise notified.

**MAKE UP POLICY**

Make-up exams will only be arranged in the event of extreme emergencies and the course faculty must be notified in advance. Students who have extraordinary circumstances preventing submitting any assignment by the due date should explain these circumstances to the course instructor **prior** to the scheduled assignment due date. Failure to discuss prior to the due date will result in the missed assignment not being accepted once the assignment has been reviewed in class. If the case study assignment has not been reviewed in class, a letter grade will be lost for each additional day the assignment is late, if the student did give prior notification to the course faculty.

In the case of absence from clinical experiences, the student will need to notify the preceptor and clinical faculty prior to missing the scheduled date and will need to schedule additional clinical hours that are acceptable to the preceptor and faculty member. The faculty member will determine if this plan is an acceptable alternative.

**GRADING SCALE/QUALITY POINTS:**

A 95-100 (4.0) C 74-79\* (2.0)

A- 93-94 (3.67) C- 72-73 (1.67)

B+ 91-92 (3.33) D+ 70-71 (1.33)

B 84-90 (3.0) D 64-69 (1.0)

B- 82-83 (2.67) D- 62-63 (0.67)

C+ 80-81 (2.33) E 61 or below (0.0)

\* 74 is the minimal passing grade

For more information on grades and grading policies, please refer to University’s grading policies: Graduate: <http://gradcatalog.ufl.edu/content.php?catoid=4&navoid=907#grades>

FACULTY EVALUATION

Students are expected to provide feedback on the quality of instruction in this course based on ten criteria.  These evaluations are conducted online at <https://evaluations.ufl.edu>.  Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open.  Summary results of these assessments are available to students at <https://evaluations.ufl.edu>.

# REQUIRED TEXTBOOKS

Blackburn, S. (2013). Maternal, fetal, and neonatal physiology: A clinical perspective. (4th ed.). Elsevier. ISBN: 9781437716238.

Cloherty, J., Eichenwald, E., Hansen, A. & Stark, A. (2012). *Manual of Neonatal Care*, (7th ed.). Lippincott, Williams & Wilkins. ISBN-13: 978-1-60831-777-6. (suggested to purchase with workbook at CCPR: <http://ccprwebsite.org/cp_product.cfm?i=102>)

Gomella, T. L., Cunningham, M.D., & Eyal, F.G. (2013). *Neonatology management, procedures, on-call problems, diseases and drugs: 25th Anniversary* (7th ed.). McGraw-Hill Professional Publishing. ISBN: 9780071768016.

Moore, K. & Persaud, T. (2011). *The Developing Human: Clinically oriented embryology* (9th ed.). Elsevier. ISBN - 9781437720020.

*Neofax.* (2013).Available online.

**WEEKLY CLASS SCHEDULE**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Readings** |
| Week 1  May 12th | **TERATOGENS**: Environment Hazards, Congenital Infections | **Required readings:**  Blackburn, Chapter 7 (pg. 203-11)  Cloherty, Chapter 113  Gomella, Chpt 48, 50, 88 (pg. 605), 89 (pg. 612), 114 (pg. 777), 141, and 142  Moore, Chapter 20    Cassina, M., Salviati, L., Gianantonion, D., & Clementi, M. (2012). Genetic susceptibility to teratogens: State of the art. *Reproductive Toxicology.* 34(2): 186-91.  Diav-Citrin, O. (2011). Prenatal exposures associated with neurodevelopmental delay and disabilities. *Developmental Disabilities Research Reviews.* 17: 71-84.  Lazzarotto, T., Guerra, B., Gabrielli, L., Lanari, M., & Landini, M. (2011). Update on the prevention, diagnosis, and management of cytomegalovirus infection during pregnancy. *Clinical Microbiology and Infection,* 17(9): 1285-93.  Rasmussen, S. (2012). Human teratogens update 2011: Can we ensure safety during pregnancy? *Birth Defects Research (Part A).* 93(3): 123-8.  Yamamoto, R., Ishii, K., Shimada, M., Hayashi, S., Hidaka, N., et al. (2013). Significance of maternal screening for toxoplasmosis, rubella, cytomegalovirus and herpes simplex virus infection in cases of fetal growth restriction. *Journal of Obstetrics and Gynaecological Research,* 39: 653-7.  **Supplemental Readings**  Blue, G., Kirk, E., Sholler, G., Harvey, R., & Winlaw, D. (2012). Congenital heart disease: Current knowledge about causes and inheritance. *Medical Journal of Australia*. 197(3): 155-9.  DeVries, J. (2007). The ABCs of CMV. *Advances in Neonatal Care*. 7(5): 248-55.  Moretti, M., Caprara, D., Drehuta, I., Yeungs, E. et al. (2012). The fetal safety of angiotensin converting enzyme inhibitors and angiotensin II receptor blockers. *Obstetrics and Gynecology International.* Doi: 10.1155/2012/658310. Epub 2011 Dec 13.  Wattendorf, D.J. & Muenke, M. (2005). Fetal alcohol spectrum disorders. [*Am Fam Physician.*](javascript:AL_get(this,%20'jour',%20'Am%20Fam%20Physician.');) 72(2):279-82. |
| Weeks 2  May 19th | PROBLEMS OF IMMUNE RESPONSE: The Immune System in the Neonate, Immunologic Evaluation, HIV, Immune Disorders | **Required readings:**  Blackburn, Chapter 13  Cloherty, Chpt 48 (pg. 603-610)  Gomella, Chpt 73 (pg. 495-496), 75 (pg. 510), 97, and 130 (pg. 873-874)  American Academy of Pediatrics, Committee on Pediatric AIDS. HIV testing and prophylaxis to prevent mother-to-child transmission in the United States. (2008). *Pediatrics,* 122: 1127-1134.  Association of Women’s Health, Obstetric & Neonatal Nurses. (2012). HIV screening for pregnancy women and infants. *Journal Obstetrics, Gynecological, & Neonatal Nursing,* 41(1): 154-5.  Chase, N., Verbsky, J., & Routes, J. (2010). Newborn screening for T-cell deficiency. *Current Opinion in Allergy and Clinical Immunology,* 10: 521-525.  Walkovich, K. & Boxer, L. (2011). Congenital neutropenia in a newborn. *Journal of Perinatology,* 31 Suppl 1: S22-3.  Ward, C. & Baptist, A. (2013). Challenges of newborn severe combined immunodeficiency screening among premature infants. *Pediatrics,* 131(4): e1298-302.  **Supplemental Readings:**  Borte, S., Wang, N., Oskarsdottir, S., Dobeln, U. & Hammarstrom, L. (2011). Newborn screening for primary immunodeficiencies: Beyond SCID and XLA. *Annals of the New York Academy of Sciences,* 1246: 118-130.  Boxer, L. (2012). How to approach neutropenia. *Hematology/the Education Program of the American Society of Hematology.* 2012: 174-82.  Carter, B. (2006). Nursing care of the premature infant with severe combined immunodeficiency disease. *Neonatal Network,* 25: 167-174.  Katz, A.N. (2004). Neonatal HIV infection. *Neonatal Network.* 23(1): 15-20.  Schutzbank, W. & Steele, R. (2009). Management of the child born to an HIV-Positive mother. *Clinical Pediatrics,* 48: 467-471. |
| Week 3 (Memorial Day)  Date to be announced | HEMATOLOGIC PROBLEMS: Fetal and Neonatal Hematopoiesis, Clotting Disorders, Anemia, Congenital Leukemia. | **Required Readings:**  Blackburn, Chapter 8  Cloherty, Chapters 42-47  Gomella, Chapters 82, 87, & 139  Christensen, R., Henry, E., & Del Vecchio, A. (2012). Thrombocytosis and thrombocytopenia in the NICU: Incidence, mechanisms and treatments. *Journal Maternal, Feta and Neonatal Medicine,* 25 Suppl 4:15-7.  Holzhauer. (2011). Diagnosis and management of neonatal thrombocytopenia. *Seminars in Fetal and Neonatal Medicine,* 16(6): 305-310.  Hoppe, C. (2011). Newborn screening for hemoglobin disorders. *Hemoglobin,* 35(5-6): 556-64.  Kelly, A., & Pearson, G. (2011). Protein C Deficiency: A case review. *Neonatal Network,* 30(3): 153-59.  Kenet, G. (2010). Bleeding disorders in neonates. *Haemophilia,* 16(Suppl 5): 68-75.  Mettling, K., Murcek, K., & Rubarth, L. (2013). Malignancies and tumors in the neonate. *Neonatal Network,* 32(1): 34-40.  Motta, M., Del Vicchio, A., & Radicioni, M. (2011). Clinical use of fresh-frozen plasma and cryoprecipitate in neonatal intensive care unit. *Journal of Maternal, Fetal, and Neonatal Medicine,* 24 Suppl 1: 129-31.  Rhoderick, J. & Bradshaw, W. (2008). Transient myeloproliferative disorder in a newborn with Down syndrome. *Advances in Neonatal Care,* 8(4): 208-18.  Saxonhouse, M. (2012). Management of neonatal thrombosis. *Clinics in Perinatology,* 39(1): 191-208.  Strauss, R. (2010). Anemia of prematurity: Pathophysiology and treatment. *Blood Reviews,* 24(6): 221-5.  Van Der Linden, M. Creemers, S., & Pieters, R. (2012). Diagnosis and management of neonatal leukaemia.  *Seminars in Fetal and Neonatal Medicine,* 17(4): 192-5.  Veldman. (2010). DIC in term and preterm neonates. *Seminars in Thrombosis and Hemostasis,* 36(4): 419-428.  **Supplemental Readings**  Barney, C., Sola, M., & Christensen, R. (2007). An unusual case of severe neonatal thrombocytopenia. *Advanced in Neonatal Care,* 7(2): 66-8.  Beachy, J. (2011). Neonatal alloimmune thrombocytopenia: A case study. *Neonatal Network,* 30(6): 402-7.  Bell, S. (1999). An introduction to hemoglobin physiology. *Neonatal Network,* 18(2): 9-15.  Bruwier, A., & Chantrain, C. (2012). Hematological disorders and leukemia in children with Down syndrome. *European Journal of Pediatrics,* 171(9): 1301-7.  Elser, H. (2012). Is Lasix after a blood transfusion necessary? *Advanced in Neonatal Care,* 12(6): 369-70.  LaGamma, E. (2012). Introduction to transfusion practices in neonates: Risks, benefits and alternatives. *Seminars in Perinatology,* 36(4): 223-4.  Rubarth, L. (2011). Blood types and ABO incompatibility. *Neonatal Network,* 30(1): 50-3.  Rubarth, L. (2012). Glucose-6-Phosphatase and Glucose-6-Phosphate Dehydrogenase deficiency: How are they different? *Neonatal Network,* 31(1): 45-7.  Rhoderick, J. & Bradshaw, W. (2008). Transient myeloproliferative disorder in a newborn with Down Syndrome. *Advanced in Neonatal Care,* 8(4): 206-18.  Rutherford, M, Ramenghi, L., & Cowan, F. (2012). Neonatal stroke. *Archives of Disease in Childhood, Fetal & Neonatal Edition,* 97(5): F377-84. |
| Week 4  June 6th 8:30 – 5:00  Required onsite campus | ISSUES IMPACTING NEONATAL CARE: Current and Future Trends for the APN.  STUDENT CASE STUDY PRESENTATIONS  SIM LAB | **Required readings:**  Bellflower, B. & Carter, M. (2006). Primer on the practice doctorate for neonatal nurse practitioners. *Advances in Neonatal Care,* 6: 323-332.  Bosque, E. (2011). A model of collaboration and efficiency between neonatal nurse practitioner and neonatologist: Application of collaboration theory. *Advances in Neonatal Care,* 11: 108-113.  Cussan, R. & Strange, S. (2008). Neonatal nurse practitioner role transition: The process of retaining expert status. *Journal Perinatal & Neonatal Nursing,* 22: 329-337.  Freed, G., Dunham, K., Lamarand, K., Loveland-Cherry, C., Martyn, K. & American Board of Pediatrics Research Advisory Committee. (2010). Neonatal nurse practitioners: Distribution, role and scope of practice. *Pediatrics,* 126: 856-860.  Hatch, J. (2012). The role of the neonatal nurse practitioner in the community hospital Level I nursery. *Neonatal Network,* 31(3): 141-147.  Honeyfield, M. (2009). Neonatal nurse practitioners: Past present and futures. *Advances in Neonatal Care,* 9: 125-128.  Smith, J., Donze, A., Cole, F., Johnston, J., & Giebe, J. (2009). Neonatal advanced practice nurses as key facilitators in implementing evidence-based practice. *Neonatal Network,* 28: 193-201.  **Supplemental Readings:**  Farah, A.L., Bieda, A., & Shiao, S. (1996). The history of the NNP in the United States. *Neonatal Network,* 15: 11-21  Johnson, K. (2002). The history of the neonatal nurse practitioner: Reflections from “Under the looking glass.” *Neonatal Network,* 21: 51-60. |
| Week 5  June 9th  (2:00 – 4:00 pm) | PAIN IN THE NEONATE:  DEVELOPMENTAL INTERVENTIONS IN NEONATAL CARE: Developmental Care of Preterm Infant, Normal Milestones, Assessment, Environmental and Maturational Hazards, Early Intervention, Chronic Sequelae of Neonatal Disease  HUMAN EMBRYOLOGY: Development of the eye and ear | **Required Readings:**  Blackburn, Chpt 15 (pg 551-553)  Cloherty, Chapter 67,  Gomella, Chapter 8 (pg. 51-52), 14, 76, and 93  Moore, Chapter 18    Campbell-Yeo, M., Fernandes, A., & Johnston, C. (2011). Procedural pain management for neonates using nonpharmacological strategies, Part 2: Mother-Driven interventions. *Advances in Neonatal Care,* 11(5): 312-18.  Hall, R. (2012). Anesthesia and analgesia in the NICU. *Clinics in Perinatology,* 39(1): 239-54.  Hardy, W. (2011). Facilitating pain management. 11(4): 279-81.  Ludington-Hoe. (2011). Thirty years of kangaroo care: Science and practice. *Neonatal Network,* 30(5): 357-362.  **Supplemental Readings**  AAP. (2007). Prevention and management of pain in the neonate: An update. *Advances in Neonatal Care,* 7(3): 151-160.  Kaneyasu, M. (2012). Pain management, morphine administration, and outcomes in preterm infants: A review of the literature. *Neonatal Networks,* 31(1): 21-30.  Lester, B., Miller, R., Hawes, K., Salisbury, A., et al. (2011). Infant neurobehavioral development. *Seminars in Perinatology,* 35(1): 8-19.  Mountcastle, K. (2010). An ounce of prevention: Decreasing painful interventions in the NICU. *Neonatal Network,*29(6): 353-58. |
| Weeks 6  June 16th | PROBLEMS OF THE MUSCULOSKELETAL AND INTEGUMENTARY SYSTEM  HUMAN EMBRYOLOGY: Development of the Musculoskeletal and Integumentary System and development of the limbs | **Required Readings**  Blackburn, Chapter 14  Cloherty, Chapter 58 and 63  Gomella, Chapter 115  Moore, Chapter 14, 15, 16, & 19  Bishop, N. (2010). Characterising and treating osteogenesis imperfect. *Early Human Development,* 86(11): 743-6.  Oppenheimer, J. & Hallas, D. (2011). Uncharacteristic bullous lesions on a newborn: What’s your diagnosis? *Journal of Pediatric Health Care*, 25(3): 186-90.  Rimoin, L. & Graham, J. (2012). Blistering skin disorders in the neonate. *Clinical Pediatrics,* 51(7): 685-8.  Rimoin, L. & Graham, J. (2012). Ichthyotic skin disorders in the neonate. *Clinical Pediatrics,* 51(8): 796-800.  **Supplemental Readings**  Hackley, L. (2008). Osteogenesis imperfect in the neonate. *Advances in Neonatal Care,* 8(1): 21-30.  Harvey, H. Shaw, M., & Morrell, D. (2010). Perinatal management of harlequin ichthyosis: A case report and literature review. *Journal of Perinatology,* 30(1): 66-72.  Merritt, L. (2009). Recognizing craniosynostosis. *Neonatal Network,* 28(6): 369-76.  Prado, R., Ellis, L., Gamble, R., Funk, T., et al. (2012). Collodion baby: An update with a focus on practical management. *Journal of the American Academy of Dermatology,* 67(6): 1362-74. |
| Week 7  June 23rd – 27th | SUMMER BREAK |  |
| Weeks 8 and 9  June 30th and July 7th | MANAGEMENT OF GENITOURINARY PROBLEMS  HUMAN EMBRYOLOGY:  Urogenital System | **Required Readings**  Blackburn – Chapter 3, pages 79-98, 102-107 and Chapter 11  Cloherty, Chapters 28, 61  Gomella - Chapters 91, 113 & 123  Moore & Persaud - Chapter 5  [Hassett, S., Smith, G., & Holland, A. (2012).](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed?term=Hassett%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22198807)  Prune belly syndrome. [*Pediatric Surgery International,*](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed/22198807) 28(3): 219-28.  [Jetton, J. &](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed?term=Jetton%20JG%5BAuthor%5D&cauthor=true&cauthor_uid=22227783) [Askenazi, D. (2012).](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed?term=Askenazi%20DJ%5BAuthor%5D&cauthor=true&cauthor_uid=22227783)  Update on acute kidney injury in the neonate. *Current Opinion Pediatrics,* 24(2): 191-6.  Knobel, R. & Smith, J. (2014). Laboratory blood tests useful in monitoring renal function in neonates. *Neonatal Network,* 33(1): 35-40.  Lee, P., Houk, C., Ahmed, S., Hughes, I., & the International Consensus Conference on Intersex. (2006). Consensus statement on management of intersex disorders. *Pediatrics,* 118: e488-500.  Quigley, R. (2012). [Developmental changes in renal function.](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed/22426155) *Current Opinion in Pediatrics,* 24(2), 184-90.  Stokowski, L. A. (2004). Hypospadias in the neonate. *Advances in Neonatal Care*, 4(4): 206-215.  [Warne, S., Hiorns, M., Curry, J., & Mushtaq, I. (2011).](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed?term=Warne%20SA%5BAuthor%5D&cauthor=true&cauthor_uid=21262748) Understanding cloacal anomalies. [*Archives of Disease in Child*](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed/21262748)*hood.* 96(11): 1072-6.  Zaritsky, J. & Warady, B. (2011). Peritoneal dialysis in infants and young children. [*Seminars in Nephrology.*](http://www.ncbi.nlm.nih.gov.lp.hscl.ufl.edu/pubmed/21439434) 31(2): 213-24. |
| Week 10  July 14th  (2:00 – 4:00 pm) | ETHICS IN THE NICU: Ethical Dilemmas, Decisions Regarding Discontinuing Life Support. How Early is too Early? | **Required Readings**  Cloherty, Chapter 19  Gomella, Chapter 221  Barnum, B. (2009). Benevolent injustice: A neonatal dilemma. *Advances in Neonatal Care,*  9:132-136.  Kuschel, C. & Kent, A. (2011). Improved neonatal survival and outcomes at borderline viability brings increasing ethical dilemmas. *Journal of Paediatrics and Child Health,* 47: 585-589.  Messner, H. & Gentili, L. (2011). Reconciling ethical and legal aspect in neonatal intensive care. *Journal of Maternal-Fetal and Neonatal Medicine,* 24 (Suppl 1): 126-128.  Pasaron, R. (2013). Neonatal bioethical perspectives: Practice considerations. *Neonatal Network,* 32(3): 184-192.  Purdy, I. (2006). Embracing bioethics in neonatal intensive care, part I: Evolving toward neonatal evidence-based ethics. *Neonatal Network,* 25: 33- 33-42.  Purdy, I. & Wadhwani, R. (2006) Embracing bioethics in neonatal intensive care, part II: Case histories in neonatal ethics. *Neonatal Network,* 25: 43- 53.  Romesberg, T. (2007). Building a case for neonatal palliative care. *Neonatal Network,* 26: 111-115.  **Supplemental Readings**  Kopelman, A. (2006). Understanding, avoiding and resolving end-of-life conflict in the NICU. *The Mount Sinai Journal of Medicine,* 73: 580-6.  Juretschke, L. (2001). Ethical dilemmas and the nurse practitioner in the NICU. *Neonatal Network*, 20: 33-38.  Romesberg, T. (2003). Futile care and the neonate. *Advances in Neonatal Care*. 3: 213-219.  Waltham, P. & Schenk, L. (1999). Neonatal ethical decision-making: Where does the NNP fit in? *Neonatal Network* 18: 27-32. |
| Week 11  July 21st | SUBSTANCE ABUSE AND INFANT DEVELOPMENT:  Immediate and Long-Term Effects, Legal Implications, Intervention Programs | **Required readings:**  Cloherty, Chapter 12  Gomella, Chapter 103  Beaulieu, M. (2013). Oral clonidine in the management of acquired opioid dependency. *Neonatal Network,* 32(6): 419-424.  Hudak, M., & Tan, R. (2012). Neonatal drug withdrawal. *Pediatrics,* 129: e540-e560.  Logan, B., Brown, M., & Hayes, M. (2013). Neonatal abstinence syndrome: Treatment and pediatric outcomes. *Clinics in Obstetrics and Gynecology,* 56(1): 186-92.  Schempf, A. (2007). Illicit drug use and neonatal outcomes: A critical review. *Obstetrical & Gynecological Survey,* 62: 749-57.  **Suggested Readings:**  Askin, D. & Diehl-Jones, B. (2001). Cocaine: Effects of in utero exposure of the fetus and neonate. *Journal of Perinatal Neonatal Nursing,* 14: 83-102.  Cambell, S. (2003). Prenatal cocaine exposure and neonatal/infant outcomes. *Neonatal Network,* 22: 19-21.  Greene, C. & Goodman, M. (2003). Neonatal abstinence syndrome: Strategies for care of the drug-exposed infant*. Neonatal Network,* 22(4): 15-25.  Lucas, K. & Knobel, R. (2012). Implementing practice guideline and education to improve care of infants with neonatal abstinence syndrome. *Advances in Neonatal Care,* 12(1): 40-45.  Marcellus, L. (2007). Neonatal abstinence syndrome: Reconstructing the evidence. *Neonatal Network,* 26: 33- 40.  Wallman, C., Smith, P., & Moore, K. (2011). Implementing a perinatal substance abuse screening tool. *Advances in Neonatal Care,* 11(4): 255-67. |
|  | CHRONIC HEALTH PROBLEMS OF THE NEONATE: BPD, ROP, Rickets, Conjugated Hyperbilirubinemia. | **Required Readings:**  Blackburn, Chapters 10 (pg 345-47), 17 and 18  Cloherty, Chapters 26 (pg.332-334), 34, 59, 64, and 65  Gomella, Chapters 57, 68, 84, 99, 117, 123, 126  Moore Chapters 9    Ali, Z., Schmidt, P., Dodd, J., & Jeppesen, D. (2013). Bronchopulmonary dysplasia: A review. *Archives of Gynecology and Obstetrics,* 288(2): 325-333.  American Academy of Pediatrics. (2013). Policy statement: Screening examination of premature infants for retinopathy of prematurity. *Pediatrics,* 131(1): 189- 95.  Beaulieu, M. (2012). Bevacizumab (Avastin) for the treatment of retinopathy of prematurity. *Neonatal Network,*  31(4): 242-47.  Kelly, D. (2010). Preventing parenteral nutrition liver disease. *Early Human Development,* 86(11): 683-7.  Papoff, P., Cerasaro, C., Caresta, E., et al. (2012). Current strategies for treating infants with severe bronchopulmonary dysplasia. *Journal of Maternal, Fetal, & Neonatal Medicine,* 25 Suppl 3: 15-20.  Pollan, C. (2009). Retinopathy of prematurity: An eye toward better outcomes. *Neonatal Network,* 28(2): 93-101.  Tinnion, R. & Embletine, N. (2012). How to use…alkaline phosphatase in neonatology. *Archives of Disease in Childhood, Education and Practice Issue,* 97(4): 157-63.  **Supplemental Readings**  Askin, D. & Diehl-Jones, W., (2003). The neonatal liver, Part III: Pathology of liver dysfunction. *Neonatal Network*, 22(3): 5-15.  Beachy, J. (2007). Investigating jaundice in the newborn. *Neonatal Network,* 26(5): 327- 333.  Diehl-Jones, W. & Askin, D. (2003).The neonatal liver, Part II: Assessment and diagnosis of liver dysfunction. *Neonatal Network*, 22(2): 7-15.  Gien, J. (2011). Pathogenesis and treatment of BPD. *Current Opinions in Pediatrics,* 23(3): 305-313.  Jobe, A. (2011). The new bronchopulmonary dysplasia. *Current Opinions in Pediatrics,* 23(2): 167-172. |
| Week 12  July 28th | DISCHARGE OF THE NICU PATIENT: Discharge planning process, Technologically dependent infants, Parent education, normal growth and development, Community resources, Home care and follow up. | **Required readings:**  Cloherty, Chapters 16, 18  Gomella, Chapter 66  Ambalavanan, N., Carlo, W., McDonald, S., Yao, Q. et al (2011). Identification of extremely premature infants at high risk for rehospitalization. *Pediatrics,* 128: e1216-e1225.  Bull, M. & Engle, W. (2009). Safe transportation of preterm and low birth weight infants at hospital discharge. *Pediatrics,* 123: 1424-1429.  Committee on Fetus and Newborn. (2008). Hospital discharge of the high-risk neonate. *Pediatrics,* 122: 1119-1126.  Discenza, D. (2011). Respiratory syncytial virus and the premature infant parent. *Neonatal Network,* 30: 345.  Discenza, D. (2009). NICU parents’ top ten worries at discharge. *Neonatal Network,* 28: 202-203.  **Suggested Readings:**  Doucette, (2004). The effects of family resources, coping, and strains on family adjustment 18-24 months after the NICU experience. *Advances in Neonatal Care,* 4(2). 92-104.  Forsythe, P., Maher, R., Kirchick, C., & Bieda, A. (2007). SAFE discharge for infants with high-risk home environments. *Advances in Neonatal Care,* 7(2): 69-75.  Jones, M., McMurray, J., & Englestad, D. (2002). Follow-up of the high-risk infant: The “geriatric” NICU patient. *Neonatal Network*, 21: 49-58.  Joseph, R. (2011). Tracheostomy in infants: Parent education for home care. *Neonatal Network,* 30: 231-242.  McMurray, J. & Jones, M. (2004). The high risk infant is going home: What now*? Neonatal Network*, 23: 43-47.  Purdy, I. (2000). Newborn auditory follow-up. *Neonatal Network*, 19: 25-33.  Sneath, N. (2009). Discharge teaching in the NICU: Are parents prepared? An integrative review of parents’ perceptions. *Neonatal Network,* 28: 237-246.  Vasquez, E., Pitts, K., & Mejia, N. (2008). A model program: Neonatal Nurse Practitioners providing community health care for high risk infants. *Neonatal Network,* 27: 163-169. |
| Week 13  August 4th | Exam III |  |

**ADDITIONAL COURSE INFORMATION**

Case studies

### Case study schedule

Case study 1 (10% of grade) Due May 23rd

Case study 2 (10% of grade) Due June 30th

Case study 3 (10% of grade) Due July 21st

Case Study Presentation (5% of grade)

June 6th (Onsite live case presentation – see separate document for this assignment)

Each patient situation will include History of Present Illness, Past Medical History, Social history, medications (if any), Review of Systems, and Physical Exam, including labs.

For each situation, you will answer the questions asked after the case study. Please keep your answers brief and to the point. Be specific and support your choices with references. If in doubt about how to do any of these case studies, please e-mail me. If there seems to be a common theme in the e-mails I will post to the Main Discussion Board.

This is NOT a formal paper, however I do expect that you use correct grammar and spelling (points will be deducted if you do not). I do not expect you to write the case studies in APA format. Be concise but thorough in your responses to the questions. Do not include a discussion of the pathophysiologic processes involved in the patient’s disease process. Focus on the pharmacologic and clinical interventions that you have chosen. Your papers are to be brief and to the point. You are to talk your way through your thought processes as you choose a treatment regime for your patient and provide rationale. It is expected that you use several current references. Although you may use neonatal text books for references, it is also expected that you include current references.

1. **Treatment including clinical and pharmacologic treatment**
2. **Provide rationale for the treatment regiments you prescribed. Justify your selection over alternatives.**
3. **If pertinent discuss alternative treatment if the recommended treatment should fail, monitoring for efficacy and side effects of the specified treatment**

You must identify the clinical and laboratory parameters necessary to evaluate the therapy for achievement of the desired therapeutic outcome and for detection and prevention of adverse effects. The outcome parameters selected should be directly related to therapeutic goals, and each parameter should have a defined end point. If the goal was to cure bacterial pneumonia, you should outline the subjective & objective clinical parameters (e.g. decreased oxygen requirement), laboratory tests (e.g. normalization of WBC with diff), and other procedures (e.g. resolution of infiltrate on chest x-ray) that provide sufficient evidence of bacterial eradication and clinical cure of the disease.

**CLASS PARTICIPATION**

You are expected to complete the following assignments.

1. Logs

A weekly log is expected and is due each **Friday by 5:00 pm.** This log should include:

a. A short description of your patients

b. What care you provided each patient

c. Procedures

d. Ethical dilemmas (if any were encountered)

e. Problems with staff, preceptor, faculty

f. Problems which may need discussion with faculty preceptor

g. Goals for next week

Faculty will respond to each log in an E-mail. **It is expected that you respond via E-mail to All Questions.**

1. You are required to place at least 3 entries per week on the Sakai discussion board. **This is a required aspect of class participation and counts 5% of your grade.**
2. The student attendance sheet must be completed and returned prior to **ALL** scheduled evaluations.
3. All clinical experiences need to be scheduled through faculty. If you schedule clinical on an unauthorized day you will not receive credit for those hours.

DATE: 5/27/09, edits 1/29/10, 2/10/10, 6/11, 12/11, edits 8/12; 5/13; 12/13