Course Title and Number:  
NURS 3330-401

Credits: 
3 (3.0)

Course Location and Time: 
This is a hybrid course.
Thursdays 10 a.m.-noon, Face-to-face/online alternating weeks
University Center Greenville, Room 514
Online classes via Canvas with web-enhanced modules. Please follow class schedule carefully.

Catalog Description: This course focuses on the new genetics and implications for health care professionals. Discussion includes applications of the evolving genetics technology and services to changing life stages. Ethical issues relevant to various genetic disorders are also addressed.

Course Description: This is a Clemson Thinks2 course where students will learn and apply critical thinking skills by analyzing and applying current healthcare genetics concepts when caring for patients and their families. For example, students will apply critical thinking skills when constructing their personal pedigrees and then analyze information from the pedigrees to formulate a preventive healthcare plan, identify risk factors that may contribute to expression of genetic disorders. To assess the students’ progress in critical thinking skills, students will take the California Critical Thinking Skills Test (CCTST) and the beginning and end of the semester. Assignments and projects in this course will be used as CT² artifacts, where students will apply genetic knowledge and concepts to become a critical thinker. Information about CT² can be accessed at: http://www.clemson.edu/academics/programs/thinks2/
Critical thinking is a core competency for BSN graduates. Upon graduation, baccalaureate-prepared nursing students should question, analyze, interpret, infer, apply, and use inductive and deductive reasoning, as well as intuition and creativity in their nursing practice (American Association of College of Nursing, Essentials of Baccalaureate Education for Professional Nursing Practice, 1998)

Student learning and Critical Thinking Outcomes: Upon successful completion of this course, the student will:
1. Describe the scientific basis of genetics and its impact on healthcare.
2. Differentiate genetic diseases that occur across the life span.
3. Identify and interpret how genetics is integrated into healthcare practice, with critical thinking and reflection on risk assessment and genetic counseling.
4. Analyze, with reasoning and judgment, the effect ethics, morals and cultures impact genetics, health care, and society.
5. Describe and analyze evolving technologies and their implications for health care.
6. Investigate and critically appraise current research and literature for advances in caring for health alterations in patient with an identified genetic disorder.

Placement in ASD Curriculum: 2nd semester
Requisites: Satisfactory completion of 1st semester ASD courses
Faculty:
Mary Beth Steck, PhD, FNP, BC
Assistant Professor, School of Nursing
444 Edwards Hall
Clemson University
(864)-915-1840 cell.
steck@clemson.edu
Office hours: virtually and by appointment.

Required Text Book:

American Nurses Association (2009). Essentials of Genetic and Genomic Nursing: Genetic Nursing: Competencies, Curricula Guidelines, and Outcome Indicators, 2nd Ed. Silver Spring, MD (Pdf will be embedded on Canvas).

American Nurses Association: link to Genetic and Genomic Resources: http://www.nursingworld.org/genetics

Required weekly readings are found in the syllabus. Select journal articles/websites/other readings may be required and added to the weekly course modules in Blackboard. It is your responsibility to check the modules for information about the readings.

Outcome measures (including those measures to satisfy Critical Thinking objectives):

- Critical Thinking pre-test/post-test online exam participation 5%
- Online Activities (3): 3 x 5% 15%
- Online Quizzes (3): Each quiz is worth 5 % of grade 15%
- Projects (2): 15%
  - Project #1: Pedigree/History Project (Critical Thinking Artifact)
  - Project #2: Genetic Disorder/Support Group (Critical Thinking Artifact) 15%
- Mid-term exam (online) 15%
- Final exam (online) 20%

Total 100%
Critical Thinking Artifacts
The 2 major projects for this course requiring critical thinking include:

Project #1
Taking a genetic history and drawing a 3-generation pedigree using an actual genetic health history form to ask health questions. Then the student will construct a 3-generation pedigree, starting with the proband and working outward to brothers and sisters, parents, aunts, uncles, cousins, grandparents and grand parents’ siblings, using generational numbers and noting family ethnicities. Identify a pattern to indicate like disorders or symptoms of different people in the family.

Thinking “genetically” and critically about your family in the pedigree, analyze and interpret two findings (potential heritable or associated medical conditions among blood relatives; a given pedigree is notable for multiple family members who have asthma across multiple generations; or 3 members of a family with mental illnesses; or perhaps a mother diagnosed with breast cancer at age 35 and has two daughters she is concerned about). Identify and discuss at least 2 observations.

Project#2
From a given list of genetic disorders, compose a short paper describing the molecular, medical and nursing issues surrounding your chosen genetic disorder. The paper must contain the following elements:

a. Description of clinical features of the disorder
b. Description of the pattern of inheritance
c. Description of the chromosome and gene locus; mechanisms of action of the gene, effects of mutations on subsequent function of organs and body systems
d. Identification of common treatment, therapies and medications
e. Critically appraising the above genetic disorder, analyze and interpret the given information to create and initiate two applicable nursing disorders to this specific kind of patient.

COURSE POLICIES:
Assignments must be completed and submitted by 11:59 p.m. on the due date (EST) for full credit. Late assignments or projects will have 5% of the grade deducted per day for 3 days. Assignments and projects not submitted within 3 days of due date will receive a zero (0).

Naming Convention for Submission of Course Documents: Please follow directions. When you turn in documents for the course, use the following naming conventions as you save your document:

1. The Course ID first, followed by a dash.
2. Use your first initial and last name, followed by a dash.
3. Put the title of the critical thinking project that will be noted clearly for you in the assignment instructions. Example: NURS3330-JStudent-Project1

Academic Integrity Policy:
“As members of the Clemson University community, we have inherited Thomas Green Clemson’s vision of this institution as a ‘high seminary of learning.’ Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.”
“When, in the opinion of a faculty member, there is evidence that a student has committed an act of academic dishonesty, the faculty member shall make a formal written charge of academic dishonesty, including a description of the misconduct, to the Associate Dean for Curriculum in the Office of Undergraduate Studies. At the same time, the faculty member may, but is not required to, inform each involved student privately of the nature of the alleged charge.”

Accessibility Statement:
Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes or other campus resources. Students who experience a barrier to full access to this class should make an appointment with Student Accessibility Services by calling (864) 656-6848, by email: studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center. Students who receive Academic Access letters are strongly encouraged to request, obtain and present these to their professors early in the semester so accommodations can be made. Further information is available at: http://www.clemson.edu/campus-life/campus-services/sds.

Clemson University Title IX (Sexual Harassment): Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran’s status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at http://www.clemson.edu/campus-life/campus-services/access/title-ix/ Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD).

Student responsibilities: Students are expected to arrive at class having read the assigned chapters and articles for that week and be ready to discuss them. Students are expected to complete all assignments outlined in the syllabus and Canvas modules.

Code of Conduct: Students of Clemson University School of Nursing are expected to demonstrate professional conduct in both the clinical and classroom settings. Students will demonstrate professional conduct by:
- Attending all class sessions.
- Being prepared for and attentive during class.
- Arriving and leaving on time for class.
- Refraining from holding private conversations during class.
- Maintaining respectful, constructive verbal/ non-verbal interactions with faculty and peers.
  Turning off cell phones and other electronic devices during class. Laptops may be used for in class-related activities.

Attendance: Students are expected to arrive on time and comply with the class attendance policy as described in the current Undergraduate Nursing Student handbook. Since this is a hybrid course, students are permitted one excused absence from a face-to-face class. From the Student Handbook:
“In the event of emergency, the student should make direct contact with the course instructor, preferably before a class or an exam takes place. Students should speak with their course instructors regarding any
scheduled absence as soon as possible and develop a plan for any make-up work. A student with excessive number of absences may be withdrawn at the discretion of the course instructor.”

In the event of inclement weather or a power outage, the face-to-face class will not convene. The instructor will put all materials for that class in Canvas along with an accompanying video for lecture. Students are required to wait 15 minutes for the instructor to arrive. If the instructor has not arrived within 15 minutes, students should attempt to contact the instructor via cell phone to ascertain the cause of absence and determine arrangements for missed class work.

Students who fail to meet the above attendance and/or conduct expectations will receive a written reprimand specifying the problem behavior and expected behavior change. The faculty member will meet with the student to clarify expectations and obtain the student’s signature acknowledging the reprimand and expectations. A copy of the reprimand will be maintained in the student’s file. A second written reprimand regarding any of the above behaviors will result in the student’s final grade being dropped by one letter grade. A third breach of the above code of conduct will result in the students being dropped from the course. If the student has inadequate withdrawal hours or if the date is past the drop date, the student will be awarded a D in the course.

**Problems or Issues that Arise in the Course:** If problems arise within the course, the student is expected to discuss the issue with the faculty members teaching the course. Every effort will be made to resolve the issue at the student-teacher level. If the issue is not resolved between the teacher and the student, the student should then contact the ASD program coordinator: Dr. Sheri Webster (swebste@clemson.edu)

**Other Important Contact Information:** This additional contact information may be helpful to you as you complete this course. Please remember to contact us if you need other assistance or have questions about the course as it progresses.

CCIT Help Desk: (864) 656-3494, ithelp@clemson.edu, 1-800-332-6406
Clemson University Bookstore: (864) 656-2050
Clemson University Library: [www.lib.clemson.edu/distance](http://www.lib.clemson.edu/distance)
<table>
<thead>
<tr>
<th>Week</th>
<th>Subject Matter</th>
<th>Reading/Assignments &amp; Due Dates</th>
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<tbody>
<tr>
<td><strong>Week 1 MBS</strong>&lt;br&gt;<strong>UCG</strong>&lt;br&gt;Date: 01/12</td>
<td>Introduction to the Human Genome</td>
<td>Chapters 1 and 2 Essential Competencies pg. 11-14 on Canvas CCTST pretest</td>
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<td><strong>Week 2 Online</strong>&lt;br&gt;Date: 01/19</td>
<td>Gene Structure and Function</td>
<td>Chapter 3 Online Quiz #1 – due at midnight 01/25</td>
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<td><strong>Week 3 MBS</strong>&lt;br&gt;<strong>UCG</strong>&lt;br&gt;Date: 01/26</td>
<td>Mutations, Polymorphisms and Chromosome Abnormalities</td>
<td>Chapters 4 &amp; 5 Online Quiz #1 retake – due at midnight on 2/1</td>
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<tr>
<td><strong>Week 4 Online</strong>&lt;br&gt;Date: 02/02</td>
<td>Patterns of Inheritance – Single History Taking and Pedigree Drawing</td>
<td>Chapter 7 Online Activity #1 assigned on 01/26 and due at 11:59 p.m. on 02/08</td>
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<tr>
<td><strong>Week 5 MBS</strong>&lt;br&gt;<strong>UCG</strong>&lt;br&gt;Date: 02/09</td>
<td>Patterns of Inheritance – Complex Project #1 assigned – due in class on 03/09</td>
<td>Chapter 8 Midterm Review in class</td>
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<td><strong>Week 6 Online</strong>&lt;br&gt;Date: 02/16</td>
<td>Disorders of Autosomes and Sex Chromosomes Risk Assessment and Genetic Counseling</td>
<td>Chapters 6 &amp; 16 Midterm Review information available in Week 6 module</td>
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<tr>
<td><strong>Week 7 Midterm Exam</strong>&lt;br&gt;Date: 02/23</td>
<td><strong>Online Midterm Exam</strong></td>
<td>All chapters &amp; lecture material to date covered in Midterm Exam</td>
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<td><strong>Week 8 online</strong>&lt;br&gt;Date: 03/02</td>
<td>Developmental Genetics and Birth Defects</td>
<td>Chapter 14</td>
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<td><strong>Week 9 MBS</strong>&lt;br&gt;<strong>UCG</strong>&lt;br&gt;Date: 03/09</td>
<td>Prenatal Diagnosis &amp; Screening Project #1 due in class on 03/09 Project #2 assigned due on 4/12</td>
<td>Chapter 17 Quiz #2 due at midnight on 3/29</td>
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<td>Week</td>
<td>Online/Activity</td>
<td>Chapters</td>
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<td>Week 10</td>
<td>Molecular Basis for Disease</td>
<td>Chapters 10, 11 &amp; 12</td>
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<td>Date: 03/16</td>
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<td>Week 11 MBS</td>
<td>Cancer Genetics</td>
<td>Chapter 15</td>
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<td>UCG</td>
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<td>Online Activity #2 assigned – due midnight on 4/12</td>
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<td>Date 03/30</td>
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<td>Week 12 Online</td>
<td>Genetic Variation in Populations</td>
<td>Chapter 9</td>
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<td>Date: 04/06</td>
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<td>Project #2 due on 4/12</td>
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<td>Week 13 MBS</td>
<td>Pharmacogenetics &amp; Genetic Testing</td>
<td>Chapters 13 &amp; 18</td>
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<td>UCG</td>
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<td>Online Quiz #3 and Online Activity #3 both due – midnight on 4/26</td>
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<td>Date: 04/13</td>
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<td>Week 14 Online</td>
<td>Ethical and Social Issues Personalized Medicine</td>
<td>Chapter 19</td>
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<td>Date: 04/20</td>
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<td>Week 15 MBS</td>
<td>Final Exam Review</td>
<td>CCTST post-test</td>
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<td>Date: 04/27</td>
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<td>Finals Week</td>
<td>Cumulative Final</td>
<td>Covers all chapters from Week 1</td>
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<td>UCG 05/04</td>
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