

**THE UNIVERSITY OF TEXAS
AT ARLINGTON
COLLEGE OF NURSING**

NURS 6390-004

Introduction to Genetics and Genomics

SYLLABUS

Summer Intercession 2011

Classroom #: TBA and 119 (lab)

**The University of Texas at Arlington School of Nursing
Program**

**Introduction to Genetics and Genomics (3 credit hours; 45 contact hours)
Summer Intercession, 2011
Online May 16-20 and in class May 23-27
Pickard Hall, Room # TBA and # 119 (GTRL –Lab)**

INSTRUCTOR:

Instructors:

Patricia Newcomb PhD, RN CPNP
Assistant Professor
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**COURSE WEB SITE OR WORLD
WIDE WEB SITE:**

<http://www.uta.edu/nursing>

COURSE PREREQUISITES:

Graduate standing

**REQUIRED TEXTBOOKS &
MATERIALS:**

Cummings, M.R. (2009). *Human Heredity: Principles and Issues*. [8th edition]. Belmont, CA: Brooks/Cole, Cengage Learning.
ISBN: 978-0-495-55445-5

COURSE DESCRIPTION:

This course explores genomic concepts and principles related to human variation in health and disease. Students will review and discuss the structure and function of DNA, gene expression and gene regulation as relevant to selected single gene and complex human disorders. The clinical application of the family history and pedigree will be demonstrated, and the potential of selected genetic technologies for nursing research will be explored. Clinical application of moral, ethical and legal issues will be integrated throughout the course.

The course consists of an online module accessible beginning May 16. Students are expected to participate in the online activities daily from May 16 through May 20. Students are expected to attend class daily (6 hours: 9 am through 4:30 pm) May 23 through May 27 at UTA in the Pickard Building.

**COURSE LEARNING
GOALS/OUTCOME
OBJECTIVES:**

1. Analyze the implications of recent advances in genetics/genomics for nursing.
2. Analyze ethical dilemmas and psychosocial issues related to genetics.
3. Review the basic scientific principles of genetics and transmission of genetic information.
4. Describe common genetic disorders and their basic mechanisms of inheritance.
5. Demonstrate skill in developing a family pedigree.
6. Conduct simple genetic risk assessments.
7. Practice selected genetic technologies in a laboratory environment.
8. Recognize opportunities to integrate genomic factors in research.

**ATTENDANCE AND
DROP POLICY:**

- Regular class attendance and participation is expected of all students.
- Students are responsible for all missed course information.

A PhD student who wishes to change a schedule by either dropping or adding a course must first consult with his or her PhD Advisor. The following regulations pertain to adds and drops:

1. A student may not add a course after the end of the late registration.
2. A PhD student dropping a course or resigning from the university after the Census Date but before the final designated drop date for the enrolled semester will receive a grade of W only if at the time of dropping the student is passing the course (has a grade of A, B, or C); if the student has a D or F at the time of dropping, an F will be recorded. Students dropping a course must: (1) Complete a Course Drop Form (available online <http://www.uta.edu/nursing/g-downloads.htm> or PhD Office Room 512; (2) obtain faculty signature and current course grade; and (3) Submit the form to PhD Office Room 512.
3. A PhD student who desires to drop all courses for which he or she is enrolled is reminded that such action constitutes a withdrawal from the University.

The student should indicate intention to withdraw from all courses by: (1) Completing a Registration Form (available online <http://www.uta.edu/nursing/g-downloads.htm> or PhD Office Room 512; (2) Obtaining faculty signature for each course enrolled and current course grade; (3) Filing the registration form in the School of Nursing Office Room 512; and (4) Filing the Registration Form in the Office of the Registrar in Davis Hall Room 333.

4. PhD students may drop a course up to 12 weeks in the fall or spring semester and up to 8 weeks in a 10-week summer session. Under extreme circumstances, the Dean or Associate Dean of the PhD in Nursing Program may consider a petition to withdraw after the designated drop date, but in no case may a PhD student selectively drop a course after the drop date and remain enrolled in any other course.

Last Date Drop or Withdraw: May 24, 2010

**TENTATIVE LECTURE/TOPIC
SCHEDULE (COURSE
CONTENT):**

Online:

- Day 1 Genomics and Nursing
- Day 2 DNA structure and organization
- Day 3 Gene Expression
- Day 4 Genetic variation and cell division
- Day 5 Chromosomal variation

On campus:

- Day 6 Mutation and genetic variation
Lab: Pipetting and good lab practice
- Day 7 Mendelian inheritance
Lab: DNA extraction and measurement
- Day 8 Pedigree analysis
Lab: Informatics
- Day 9 Epigenetics and selected Disorders
Lab: PCR
- Day 10 Ethical, social and legal issues
Lab: Gel electrophoresis

May 30st – University Holiday

June 1 – No Class. paper due by 12 noon via BlackBoard

Students are expected to

- Participate in online and class discussions.
- Complete quizzes as assigned on specific days.
- Complete a brief research proposal (PhD students)

- Complete a review of a relevant clinical topic (DNP students)
- Participate in laboratory and class exercises

**TEACHING
METHODS/STRATEGIES:**

Lecture, case study, internet searches, powerpoint and video, writing, demonstrations, computer assisted instruction, and wet lab.

Discussion Expectations: Discussions will be graded (as part of participation). Points will be awarded for substantive comments. A substantive posting should do one or more of the following:

- Reflection: describe the meaning of a concept or new insights derived from learning activity or raise a question for clarification or further discussion
- Analyze: Identify hidden assumptions or fallacies in reasoning; discuss themes, concepts or relationships among ideas.
- Elaborate: build on the ideas that others have expressed by adding other relevant information, examples, different perspectives, or references.
- Apply: Give examples of how principles or concepts can be applied to actual practice or other situations
- Synthesize: Summarize by integrating multiple viewpoints or rework ideas in a creative way.
- Evaluate: Assess the accuracy, quality, or logic of ideas or arguments.

**GRADE CALCULATION
(COURSE EVALUATION &
FINAL GRADING):**

Quizzes	10%
Paper	40%
Participation	
Discussion boards	15%
Assignments	15%
Labs	20%

Grading Scale:

A	100-90%
B	89-80%
D	69-60%
C	79-70%
F	Below 69%

STATUS OF RN LICENSURE: N/A

**BLOOD AND BODY FLUIDS
EXPOSURE:**

A Verification of Medical Insurance form will be signed by students at the beginning of the course documenting personal health insurance coverage. All students have mandatory health insurance and will need to manage exposure to blood and fluids. Current CDC guidelines can be found at: <http://www.cdc.gov/>

**CONFIDENTIALITY
AGREEMENT:**
N/A for this course

You signed a Confidentiality Form in orientation and were provided a copy of the form. Please do not sign other agency confidentiality forms. Contact your faculty if the agency requires you to sign their confidentiality form.

**AMERICANS WITH
DISABILITIES ACT:**

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 -- The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans With Disabilities Act - (ADA), pursuant to section 504 of The Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability. Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

STUDENT SUPPORT SERVICES

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. They include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

STUDENT CODE OF ETHICS

The University of Texas at Arlington School of Nursing supports the Student Code of Ethics Policy. Students

are responsible for knowing and complying with the Code. The Code can be found in the Student Handbook online: <http://www.uta.edu/nursing/hbk/toc.htm>

ACADEMIC DISHONESTY:

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Series 50101, Section 2.2)

PLAGIARISM:

Copying another student's paper or any portion of it is plagiarism. Additionally, copying a portion of published material (e.g., books or journals) without adequately documenting the source is plagiarism. If five or more words in sequence are taken from a source, those words must be placed in quotes and the source referenced with author's name, date of publication, and page number of publication. If the author's ideas are rephrased, by transposing words or expressing the same idea using different words, the idea must be attributed to the author by proper referencing, giving the author's name and date of publication. If a single author's ideas are discussed in more than one paragraph, the author must be referenced at the end of each paragraph.

Authors whose words or ideas have been used in the preparation of a paper must be listed in the references cited at the end of the paper. Students are encouraged to review the plagiarism module from the UT Arlington Central Library via

<http://library.uta.edu/tutorials/Plagiarism>

BOMB THREATS:

If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellation of presentations/tests caused by bomb threats. Unannounced alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in the event that your classroom is not available.

E-CULTURE POLICY:

The University of Texas at Arlington has adopted the University email address as an official means of communication with students. Through the use of email, UT-Arlington is able to provide students with relevant and timely information, designed to facilitate student success. In particular, important information concerning department requirements, registration, financial aid and scholarships, payment of bills, and graduation may be sent to students through email. All students are assigned an email account and information about activating and using it is available at www.uta.edu/email. Students are responsible for checking their email regularly.

NO GIFT POLICY:

In accordance with Regent Rules and Regulations and the UTA Standards of Conduct, the School of Nursing has a “no gift” policy. A donation to one of the UTA School of Nursing Scholarship Funds, found at the following link: [Nursing Scholarship List](#) would be an appropriate way to recognize a faculty member’s contribution to your learning. For information regarding Scholarship Funds, please contact the Dean’s office.

PhD COURSE SUPPORT STAFF:

Vivian Lail-Davis, Admin. Assistant, Room 512;
Phone: (817) 272-1038; Fax: (817) 272-2950;
Email: vivian@uta.edu

LIBRARY INFORMATION:

Helen Hough, Nursing Librarian
(817) 272-7429
hough@uta.edu
Research Information on Nursing:
<http://www.uta.edu/library/research/rt-nursing.html>

MISCELLANEOUS INFORMATION:

Inclement Weather (School Closing) Inquiries:
Metro (972) 601-2049
Fax Number - UTA School of Nursing: (817) 272-2950
Attn: PhD in Nursing Office
UTA Police (Emergency Only): (817) 272-3003
Mailing Address for Packages:
UTA School of Nursing
C/O (insert faculty name)
411 S. Nedderman Drive, Pickard Hall
Arlington, Texas 76019-0407