UF UNIVERSITY of FLORIDA

UCC1: New Course Transmittal Form

Department Name and Number: Pharmacotherapy and Translational Research - 32060000

Recommended SCNS Course Identification

Prefix: P H A Level: 5 Course Number: X X X Lab Code:

Full Course Title: Clinical Applications of Genomic Medicine

Transcript Title (please limit to 21 characters): Clin App Genomic Med

Effective Term and Year: Fall B 2014

Rotating Topic: ☐ yes ■ no

Amount of Credit: 1

Contact Hour: Base 1 or Headcount ____

S/U Only: ☐ yes ■ no

Repeatable Credit: ☐ yes ■ no If yes, ____ total repeatable credit allowed

Variable Credit: ☐ yes ■ no If yes, ____ minimum and ____ maximum credits per semester

Course Description (50 words or less)

This interprofessional course will focus on how genomic medicine can be used in patient care, including family history, disease risk prediction, treatment decisions, and return of genetic results. The course will emphasize critical thinking and problem solving through work with a theoretical genotype dataset, interprofessional lectures, and case-based discussions.

Prerequisites

For student pharmacists (PD): completion of 1PD and 2PD coursework is required
For other health professional students (medical, nursing, dental, PHHP, veterinary) permission of department is required.

Co-requisites

Degree Type (mark all that apply): ☐ Baccalaureate ☐ Graduate ■ Professional ☐ Other ____

Category of Instruction: ■ Introductory ☐ Intermediate ☐ Advanced

Rationale and place in curriculum

The goal of this course is to provide health professional students with the knowledge and skills to use genomic medicine information in their future clinical practice, in an interprofessional learning envirnoment. As the field of genomic medicine advances, it will be important for our health professional students to be able to incorporate this information in patient care.

Department Contact: Name Reginald Frye Phone (352) 273-5453 Email frye@cop.ufl.edu

College Contact: Name Mike McKenzie Phone (352) 273-6221 Email mckenzie@cop.ufl.edu

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UCC: Syllabus Checklist

All UCC1 forms and each UCC2 form that proposes a change in the course description or credit hours must include this checklist in addition to a complete syllabus. Check the box if the attached syllabus includes the indicated information.

Syllabus MUST contain the following information:

- X Instructor contact information (and TA if applicable)
- X Course objectives and/or goals
- X A weekly course schedule of topics and assignments
- X Required and recommended textbooks
- X Methods by which students will be evaluated and their grades determined
- X A statement related to class attendance, make-up exams and other work such as: "Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx."
- X A statement related to accommodations for students with disabilities such as: "Students requesting classroom accommodation must first register with the Dean of Student Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation."
- X Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.
- X A statement informing students of the online course evaluation process such as: "Students are expected to provide feedback on the quality of instruction in this course based on 10 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."

It is recommended that syllabi contain the following information:

1. Critical dates for exams and other work
2. Class demeanor expected by the professor (e.g., tardiness, cell phone usage)
3. UF's honesty policy regarding cheating, plagiarism, etc. Suggested wording: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of TAs in this class.
4. Phone number and contact site for university counseling services and mental health services: 392-1575, http://www.counseling.ufl.edu/cwc/Default.aspx
   University Police Department: 392-1111 or 9-1-1 for emergencies.

The University's complete Syllabus Policy can be found at:
http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

PHA [5XXX] Clinical Applications of Genomic Medicine

Fall B 2014 1 Semester Credit Hour

Course Purpose:

Genomic medicine is the study of genetic variation associated with disease, death, and drug response. This course will focus on how genomic medicine can be used in patient care, including family history, disease risk prediction, treatment decisions, return of genetic results, and interpretation of direct-to-consumer genetic testing. Students will work with a theoretical genotype dataset for the genomic medicine case presentations. This course will use a combination of interprofessional lectures, and case-based discussions about the clinical applications of genomic medicine and interpreting the medical literature in this area. The goal of this course is to provide health professional students with the knowledge and skills to use genomic information in their future clinical practice in an interprofessional learning environment.

Course Faculty and Office Hours

Course Coordinator:

Kristin Weitzel, PharmD, CDE, FAPhA
Associate Director, UF Health Personalized Medicine Program
Clinical Associate Professor, Pharmacotherapy and Translational Research
Email: Kweitzel@cop.ufl.edu Office: MSB PG-21
Phone: 352-273-5114

Co-Coordinator:

Caitrin McDonough, PhD
Research Assistant Professor, Pharmacotherapy and Translational Research
Email: cmcdonough@cop.ufl.edu Office: MSB PG-05B
Email: caitrinmcdonough@ufl.edu
Phone: 352-273-6435

Office Hours

By appointment only.

Contact information for other faculty and lecturers in this course is included in **Appendix A**.

Place and Time of Class Sessions

This is an online class. Interactive class sessions will be conducted once weekly via webinar, day and time to be determined.

How This Course Relates to the Learning Outcomes You Will Achieve in the Pharm.D. Program:

This course prepares the Pharm.D. student to accomplish the following abilities and the related Student Learning Outcomes (SLOs) upon graduation:

- **2.1. Patient-centered care (Caregiver)** - Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize patient needs, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

- **3.1. Problem Solving (Problem Solver) –** Identify and assess problems; explore and prioritize potential strategies; and design, implement, and evaluate the most viable solution.

- **3.4. Interprofessional collaboration (Collaborator) –** Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

Course Objectives

Upon completion of this course, the student will:

1. Interpret and apply genomic medicine literature to patient care.
2. Apply detailed family history information to clinical decision-making and disease risk prediction.
3. Apply theoretical genetic information to clinical decision-making and disease risk prediction for the following types of diseases:
    a. Complex Diseases: Cardiovascular Disease Risk
    b. Somatic Genomics: Genomic Medicine in Breast Cancer
4. Demonstrate best practices for returning genetic test results to a patient, including legal and ethical concerns and communication strategies.
5. Explain circumstances in which a patient should be referred to a genetic counselor or other specialist.
6. Demonstrate the contributions and roles of other health care professionals in the clinical application of genomic information to patient care.

Pre-Requisite Knowledge and Skills

For student pharmacists, successful completion of 1PD and 2PD coursework is required to take this course.

Course Structure & Outline

Course Structure. The course consists of weekly web-based assignments and lectures (1 hour per week), and weekly live, web-based interactions with instructors and students (via webinar, video conferencing; 1 hour per week). The student must complete some self-directed pre-requisite learning activities, assignments, and quizzes before the live, web-based interactions each week. For live, web-based interactions, students will be periodically assigned to present and discuss content in "class" (e.g. answers to cases, questions, reflections on assignments). These assignments will occur in such a way as to give an equal number of opportunities for individual students to present and the lowest "presentation" grade will be dropped.

This course will be offered during the **second 8 weeks** of the Fall semester, and may be taken alone, or in conjunction with PHA 5XXXX Clinical Applications of Pharmacogenomics (offered during the first 8 weeks of the Fall semester).

Course Outline/Activities. The outline of course activities is listed in **Appendix B**.

Textbooks

There is no required text. The instructor will provide any required reading.

Active Learning Requirements

For all learning experiences in this course, including lectures, reading assignments, cases and discussions, students are expected to actively engage in the learning process, striving to comprehend the meaning and relevance of all transmitted concepts and facts. Students should strive to discover deficiencies in their understanding, and attempt to resolve those deficiencies by any of several means, including through their own research (a recommended first step) and through consultation with fellow students and course instructors.

1. Lectures: Lectures will require completion of integrated quizzes, questions, reflection, feedback, and/or other assignments to ensure that students are actively engaging in understanding the material and integrating it with their existing knowledge base.
2. Cases and Discussions: Attending and participating in cases and discussions are active learning processes in this course. Students are expected to actively participate in discussions and case-based learning, and communicate the concepts and ideas that they have learned in the lectures and are applying in this class.
3. Reading Assignments: Reading assignments will require completion of integrated quizzes, questions, reflection, feedback, and/or other assignments to ensure students are actively engaging in the reading assignments, and understand the objectives and concepts that are in the reading assignments.

Feedback to Students

Feedback will be provided through written comments and grading on patient cases, assignments, a quiz, and through online and live class participation assessments.

Student Evaluation & Grading

Evaluation Methods

Students will receive grades for submitted and presented cases and for participation in the case discussion sessions. Each student's grade will be based on their individual performance; assessment will also be done individually by each faculty member participating in the course.

There will be one quiz during the course, which will be administered online. The quiz will cover material reviewed in the case discussions and assigned readings/lectures.

The course grade will be determined as follows:

Attendance	15%
Patient Cases	45%
Quiz	25%
Participation in cases and/or web-based assignments	15%
Total	100%

Grading Scale

95-100 = A	90-94 = A-
86-89 = B+	83-85 = B
80-82 = B-	76-79 = C+
73-75 = C	70-72 = C-
66-69 = D+	63-68 = D
60-62 = D-	<60 = E

Class Attendance Policy

Attendance for live, web-based sessions is required. Students will learn more from this course by attending these sessions and participating in the discussions. A student may have one unexcused absence with no penalty in the course. If a student has two to four unexcused absences, he/she will receive a reduction in the attendance portion of the grade: two unexcused absences = 20% reduction (3% reduction in the final grade), three unexcused absences = 35% reduction (5.25% reduction in the final grade), and four unexcused absences = 50% reduction (7.5% reduction in the final grade). If a student has five or more unexcused absences, he/she will receive zero points for attendance, resulting in a 15% reduction in the final grade. Requests for excused absences should be directed to the course coordinator by email as early as possible in the course and will be handled on an individual basis. Examples of excused absences include: illness, death in the family, religious holiday. These should be made BEFORE the session that will be missed, if possible. Attendance will be monitored at live, web-based sessions via participation and log-in confirmation on the webinar platform. Students with excused absences will be required to watch a recording of the live, web-based session they missed, and provide a written summary of it to the course coordinator.

Exam Policy

The quiz will be a take-home quiz and will be 25% of the overall grade. The quiz will be very similar to the in-class cases and discussion questions and will be "open book." Further description of the quiz can be found in **Appendix D**.

Make-up Quiz/Exam Policy

Students who miss the quiz due to unforeseeable circumstances, such as illness, family emergency, or death in the family should personally report this to the course coordinator PRIOR to the administration of the quiz. Appropriate and verifiable documentation of the need to miss the quiz will be required. Please note that circumstances other than these will be evaluated on an individual basis but notification PRIOR to the quiz is still required. A make-up quiz (essay format) will be provided to the student at a reasonable time, as established by the course coordinator. Only in extreme circumstances will the make-up quiz be administered more than two weeks after the scheduled quiz.

Policy on Old Assignments and Quizzes

Students are not provided old assignments or quizzes.

Assignment Deadlines

Assignment deadlines are listed in **Appendix C**.

General College of Pharmacy Course Policies

The College of Pharmacy has a website that lists course policies that are common to all courses. This website covers the following:

1. University Grading Policies
2. Academic Integrity Policy
3. How to request learning accommodations
4. Faculty and course evaluations
5. Student expectations in class
6. Discussion board policy
7. Email communications
8. Religious holidays
9. Counseling & student health
10. How to access services for student success
11. Faculty Lectures/Presentations Download Policy

Please see the following URL for this information:
http://www.cop.ufl.edu/wp-content/uploads/dept/studaff/policies/General%20COP%20Course%20Policies.pdf

Complaints

Should you have any complaints with your experience in this course please contact your course coordinator. If unresolved, contact the COP Senior Associate Dean-Professional Affairs. For unresolved issues, see:
http://www.distancelearning.ufl.edu/student-complaints to submit a complaint.

Other Course Information

Appendix A: Directions for contacting faculty and instructors
Appendix B: Schedule of course activities/topics
Appendix C: Schedule of readings and quiz
Appendix D: Description of cases and quiz
Appendix E: Grading Rubrics

Appendix A: Directions for Contacting Faculty & Course Faculty List

Directions for Contacting Course Faculty

Questions regarding the readings, course content, and lecture content should be brought up during the live, web-based sessions or on the online course discussion board.

Questions regarding the course in general or other personal matters should be sent to Dr. Weitzel and Dr. McDonough.

Course Coordinator

Kristin Weitzel, PharmD, CDE, FAPhA
Associate Director, UF Health Personalized Medicine Program
Clinical Associate Professor, Pharmacotherapy and Translational Research
Email: Kweitzel@cop.ufl.edu Office: MSB PG-21
Phone: ***352-273-5114***

Course Co-Coordinator

Caitrin McDonough, PhD
Research Assistant Professor, Pharmacotherapy and Translational Research
Email: cmcdonough@cop.ufl.edu Office: MSB PG-05B
Phone: 352-273-6435

Instructors

Kristin Weitzel, PharmD, CDE, FAPhA, kweitzel@cop.ufl.edu
Caitrin McDonough, PhD, cmcdonough@cop.ufl.edu
Other instructors to be determined

Appendix B. Schedule of Course Activities/Topics

Week	Date	Instructor(s)	Lecture Topic	Live Web-Based Interaction
1			Introduction to Genomic Medicine & Types of Genomic Studies	Understanding and Evaluating Genomic Literature
2			Family History	**Student Case Presentations:** Incorporating Family History into Clinical Care
3			Genomic Testing: Complex Diseases	**Student Case Presentations:** Genomic Medicine in Cardiovascular Disease Risk
4			Somatic Genomics: Cancer Genetics	**Student Case Presentations:** Genomic Medicine in Breast Cancer
5			Patient Treatment Based on Genomic Results	When to Refer to a Genetic Counselor or Specialist
6			Returning Genetic Results to Patients	**Student Case Presentations:** Returning Genetic Results
7			Interpreting Genetic Results For a Patient	What to do with consumer genetic information?
8			Ethical, Legal and Social Issues in Genomic Medicine	**Student Led Discussion:** Benefits and Risks of Genomic Testing

Appendix C. Schedule of readings and quiz

Week	Lecture Topic	Live Web-Based Interaction	Readings, Due Dates
1	Introduction to Genomic Medicine & Types of Genomic Studies	Understanding and Evaluating Genomic Literature	Readings
2	Family History	**Student Case Presentations:** Incorporating Family History into Clinical Care	Readings
3	Genomic Testing: Complex Diseases	**Student Case Presentations:** Genomic Medicine in Cardiovascular Disease Risk	Readings
4	Somatic Genomics: Cancer Genetics	**Student Case Presentations:** Genomic Medicine in Breast Cancer	Readings
5	Patient Treatment Based on Genomic Results	When to Refer to a Genetic Counselor or Specialist	Readings
6	Returning Genetic Results to Patients	**Student Case Presentations:** Returning Genetic Results	Readings
7	Interpreting Genetic Results For a Patient	What to do with consumer genetic information?	Readings
8	Ethical, Legal and Social Issues in Genomic Medicine	**Student Led Dicussion:** Benefits and Risks of Genomic Testing	Readings **QUIZ**

Appendix D. Description of cases and quiz

Cases: Patient cases will be used throughout the course as assignments and to facilitate application of knowledge. Each case will include 3-5 questions. Students will be periodically assigned to present answers to the case during the live, web-based sessions. Students will also submit written answers for each case. The grade for the cases will be based on both the written cases, and the cases that the student presented, and will be worth 45% of the total course grade. Students will use theoretical genetic information for the cases.

Quiz: Students will be given a theoretical genetic data set for a family. Using this information and the information covered in the course, students will answer a series of questions covering family history and disease genetics and make the best recommendations for members of the family, based on their genetic information.

Appendix E. Grading Rubrics

The draft grading rubric is included as a separate attachment, but will be integrated into syllabus once finalized.

Clinical Applications of Genomic Medicine Grading Rubric

DATE: _____

Student Name: _____

Grading Scale: 5 (strongly agree) 4 (agree) 3 (neutral) 2 (disagree) 1 (strongly disagree)

Criteria:	**Score**	**Notes**
PATIENT PRESENTATION/ASSESSMENT		
Included appropriate discussion of the patient's disease states		
Included appropriate discussion of the patient's current drug therapy		
Included appropriate interpretation of patient's genotype results		
Summarized clinical implications of patient's genotype results		
Assessment demonstrated student's understanding of the subject matter		
Assessment was clearly communicated		
PATIENT PLAN		
Plan reflects patient's genotype results		
Plan considers patient's other disease states and/or drug therapy		
Plan includes appropriate suggestions for drug therapy/other changes		
Plan is supported by evidence-based reasoning		
Score	/50	