

General Information								
Course Title:	<b>Special Topics: Methods Used in Translational Research</b>			Course Designation: <b>HES 511</b>		Credits: <b>1</b>		
Semester:	<b>Summer</b>		Year:	<b>2008</b>				
Department:	<b>Public Health Sciences</b>							
Co-Directors:	<b>Bruce Stanley, PhD Diane Thiboutot, MD</b>		Phone #	<b>5329 7437</b>	Email:	<b><a href="mailto:bstanley@psu.edu">bstanley@psu.edu</a> <a href="mailto:dthiboutot@psu.edu">dthiboutot@psu.edu</a></b>	Office Rm #	<b>C1734 C7801</b>
Time :	<b>7:30 - 9:55 am</b>		Days:	<b>Fridays (May 23 to June 27)</b>			Location:	<b>C1847A</b>

Course Information
<p>Description and/or Overview:</p> <p>The goal of this course is to familiarize clinicians with state-of-the-art laboratory techniques as they apply to translational research studies. Each session will consist of lecture-based case studies of a clinical/translational research project that involves the technique of interest. Case studies will include discussion of the rationale for the use of the technique of interest, how samples are obtained and analyzed and how the data is analyzed and presented. This will be followed by a general discussion led by the principal investigator, Director of the Section of Research Resources or Core Facility staff member of alternative uses of the technique in other areas of clinical investigation. The second portion of each session will include a laboratory visit for demonstration of the technique of interest and a discussion of data output and analysis</p>
<p>Goals and/or Objectives:</p> <p>Course Objectives:</p> <ol style="list-style-type: none"> <li>1. To provide a broad overview of the available techniques in translational research that are available to answer patient-related questions</li> <li>2. To develop an understanding of the principles behind certain research techniques, how studies are conducted and how the data is analyzed</li> </ol>

Pre-requisites:

None

Requirements; course-specific policies and expectations:

Format of sessions:

During the first portion of each class, an investigator will present and discuss the use of a laboratory technique(s) of interest in the context of his or her clinically relevant research project. The objective of this session is to demonstrate the utility of this technique to answer research-related questions. The discussion will also include how data resulting from the use of this technique are both analyzed and presented in the scientific literature. Discussion will also focus briefly on alternative or additional methods that could be utilized to garner similar information.

During the second portion of each session, there will be an on-site visit to the laboratory area where the techniques are utilized to visualize how samples are processed. The discussion may be led by experts in the use of the technique of interest.

Student Expectations: All students are expected to attend each session and participate in discussion of how the techniques of interest can be used in clinical research. Students will be expected to read any materials provided in advance, during or after class relating to the subject matter.

Required Texts and Resources:

There is no required text book. Students may be provided with supplemental material by the instructor.

**Electronic Links:**

Basic Information regarding many of the techniques to be discussed can be found at the website of the Penn State College of Medicine's Section of Research Resources Core Facilities at: [www.hmc.psu.edu/core](http://www.hmc.psu.edu/core)

Information regarding the research interests of the principal investigators/lecturers may be found in the Faculty Research and Educational Directory (FRED) at [www.hmc.psu.edu/fred](http://www.hmc.psu.edu/fred)

**Attendance Policy:**

In order to receive a grade of A, students must attend all 6 sessions. One failure to meet the attendance requirement will reduce the grade to a maximum of A-, two to a grade of B and 3 to a grade of C. Greater than 3 absences from this 6 session course will result in a grade of I or F. It is recognized that legitimate circumstances may on occasion prevent attendance in a session. In that case, the student must contact Dr. Stanley or Dr. Thiboutot at least one week prior to the expected absence to arrange to satisfy the attendance option by reading supplemental materials regarding the lecture and preparing a written discussion of a relevant case study provided by the course directors. These assignments must be completed by the next class session.

**Examination Policy:**

The exam will consist of a take home short essay final examination.

**Grading Criteria:**

Provided that the requirement for attendance has been met, the final course grade will be determined by the course directors from the final examination (75%) and class participation (25%).

### **Academic Integrity**

Academic Integrity at Penn State is defined by Faculty Senate Policy 49-20 as “the pursuit of scholarly activity in an open, honest and responsible manner”. The University's Code of Conduct states that “all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others”. Academic dishonesty (including, but not limited to cheating, plagiarism, or falsification of information) will not be tolerated and can result in academic or disciplinary sanctions such as a failing (F) grade in the course.

### **Plagiarism**

[For more information, see: <http://tlt.its.psu.edu/suggestions/cyberplag/cyberplagstudent.html> ]

### **Statement on Remediation**

The basis for grades, as stated in [Senate Policy 47-20](#), is "...the instructor's judgment of the student's scholastic achievement..." Occasionally, a disagreement arises in the assignment of a grade. A student who wishes to question or challenge the grade assigned in a course must first discuss grading practices and assignments with the instructor. It is expected that the student and instructor will try to eliminate any misunderstandings and will attempt to work out any disagreements over grades.

On the rare occasion that a student and instructor fail to resolve the grade dispute through informal means, the student may request that the head of the academic program offering the course act as a mediator. If this mediation does not resolve the dispute, the student who is a graduate student may request further mediation from the associate dean for graduate studies.

[For more information, see: <http://www.psu.edu/dept/oue/aappm/G-10.html> ]

## Educator's Code of Conduct

**The Penn State Milton S. Hershey Medical Center and Penn State College of Medicine are dedicated to developing and maintaining a strong commitment to ethical teaching practices at all levels of the education process.**

The foundation for this Educator's Code of Conduct is provided by the Penn State University Graduate School Statement on Teaching Ethics (1). The development of this Graduate School statement was based on a special issue of the journal, *New Directions for Teaching and Learning*. In this special issue, entitled *Ethical Dimensions of College and University Teaching: Understanding and Honoring the Special Relationship between Teachers and Students* (2), several authors provided theoretical and practical guidelines for honing ethical college teaching skills. Some of the authors' recommendations have been used to formulate the Educator's Code of Conduct provided herein. Some of these recommendations were modified to specifically fit the needs of both educators and students at the Hershey Medical Center and the Penn State College of Medicine. Both the Unified Campus Commitment to Excellence of the Hershey Medical Center and Penn State College of Medicine (3) and the Code of Ethical Behavior of the Hershey Medical Center, Policy A-20 HAM (4) were also consulted in preparing this Educator's Code of Conduct.

### Four Norms to Govern Teaching

#### **Honesty**

Honesty and integrity must be practiced during all aspects of the education process.

#### **Promise-Keeping**

Promise keeping requires the educator to fulfill the "promises" made at the beginning of the semester or any other learning activity. Syllabi, assignments, grading principles, and class and office hour schedules each involve promises that are made to students and that must be adhered to under normal circumstances.

#### **Respect for Persons**

The educator must approach the learner with personal respect. In addition, the educator ought to encourage mutual respect among students. In particular, respect for race, religion, sexual orientation, disability gender, age, marital status, cultural differences, and political conviction should be supported and encouraged in all aspects of the educational process. Additionally, educators ought to show respect and common courtesy for students both during interpersonal interactions and in responding promptly to students' need for guidance and feedback. An environment free from harassment and discrimination, verbal abuse, physical violence, and intimidation in any form must also be provided for all learning activities.

#### **Fairness**

Recognizing the inherent subjectivity involved in grading, an educator ought to ensure that their grading practices are as objective as possible by creating and adhering to unambiguous criteria.

### Principles of Ethical College and University Teaching

#### **Content Competence**

An educator maintains a high level of subject matter knowledge and ensures that the content of the educational experience is current, accurate, representative, and appropriate to the position of the learning experience within the students' program of study. The educator must be capable of approaching each learner with a commitment to meeting his or her educational needs.

#### **Pedagogical Competence**

A pedagogically competent educator communicates the objectives of the educational experience to students, is aware of alternative instructional methods or strategies, and selects methods of instruction that are effective in helping students to achieve the course objectives.

#### **Dealing with Sensitive Topics**

Topics that students are likely to find sensitive or discomfiting are dealt with in an open, honest, and positive way.

#### **Student Development**

The overriding responsibility of the educator is to contribute to the intellectual development of the student, at least in the context of the educator's own area of expertise, and to avoid actions such as exploitation and discrimination that detract from student development.

### **Dual Relationship with Students**

To avoid conflict of interest, an educator does not enter into dual-role relationships with students that are likely to detract from student development or lead to actual or perceived favoritism on the part of the educator. The establishment of a romantic/sexual relationship between an educator and a student should be reported to the immediate supervisor of the educator. Such relationships should be dealt with consistent with Penn State Administrative Policy AD41 — Sexual Harassment (5).

### **Student Confidentiality**

Student grades, letters of evaluation, attendance records, and private communications are treated as confidential materials and are released only with student consent, for legitimate academic purposes, or if there are reasonable grounds for believing that releasing such information will be beneficial to the student or will prevent harm to the student or to others.

### **Patient Privacy and Confidentiality**

Educators who utilize patient information as part of any educational experience must follow patient privacy and confidentiality guidelines as outlined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

### **Respect for Colleagues**

An educator respects the dignity of his or her colleagues and works cooperatively with colleagues in the interest of fostering student development.

### **Valid Assessment of Students**

An educator is responsible for taking adequate steps to ensure that the assessment of a student's performance is valid, open, fair, and congruent with the course/educational experience objectives. An educator must be aware that such assessments are important in students' lives and in the development of their careers.

### **Respect for Institution and Profession**

In the interest of student development, an educator is aware of and respects the educational goals, policies, and standards of the institution in which he or she teaches and the profession which he or she represents.

### **Citing Sources of Educational Material**

An educator acknowledges and documents, as appropriate, the sources of information and other materials used for teaching.

## **Violations of the Educator's Code of Conduct**

Should a learner experience conduct that is inconsistent with the Educator's Code of Conduct, he/she is encouraged to first address the issue with either the educator responsible for the inconsistency or the director of the course in which the educator teaches. Should this attempt to resolve the problem fail, or if the nature of the inconsistency is such that the learner does not feel comfortable addressing the issue with either the educator or the course director, the student may consult other individuals. These individuals may include but are not limited to: faculty advisor, student ombudsman, departmental chair, the Vice Dean for Educational Affairs, and the Vice Dean for Faculty and Administrative Affairs. The decision of who to contact may be dependent on the educational program of the learner and/or type of violation that was encountered.

### **References:**

- (1) <http://www.gradsch.psu.edu/research/ethics.html#teaching>
- (2) <http://cte.uncwil.edu/et/br030697.htm>
- (3) Unified Campus Commitment to Excellence of the Penn State Milton S. Hershey Medical Center and College of Medicine; 05/11/01
- (4) Code of Ethical Behavior of the Hershey Medical Center, Policy A-20 HAM; Effective Date October, 2001
- (5) <http://guru.psu.edu/POLICIES/Ad41.html>

**Developed by the Unified Campus Academic Team Endorsed by Teams Council — May 21, 2003**

### Course Schedule

<b>Course Title:</b>		<b>Special Topics: Methods Used in Translational Research</b>		<b>Course Designation:</b>		<b>HES 511</b>		
<b>Course Directors:</b>		<b>Bruce Stanley, PhD., Diane Thiboutot, MD</b>						
<b>Time :</b>	<b>7:30 - 9:55 am</b>		<b>Days:</b>		<b>Fridays</b>		<b>Location:</b>	<b>C1847B</b>
<b>Date</b>	<b>Lecture #</b>	<b>Instruction Type (Lecture or lab)</b>	<b>Instructor (Last name, First name)</b>			<b>Projected Lecture Topic - This list is an approximate guide to lecture topics. Titles and content are subject to change</b>		
05/23/08	2	both	Bruce Stanley; Chris Lynch or Robert Cooney			Proteomics: Targeted and Global Analysis of Protein Changes in Blood and Tissue		
05/30/08	3	both	Diane Thiboutot; Bill Freeman			Gene array expression analysis; real time PCR; data management		
06/06/08	4	both	Tim Mosher			Magnetic Resonance Imaging (MRI) in Clinical Research		
06/13/08	1	both	Tom Gardner; Alistair Barber			Confocal Imaging and Microscopy		
06/20/08	5	both	Diane Thiboutot; Amanda Nelson; Nate Schaeffer			Flow Cytometry in Clinical and Research Applications		
06/27/08	6	both	Joanna Floros			Population genetics and genotyping in clinical research		

### Contact Information

Faculty / Title	Department	Phone #	EMAIL	Office Room #	Mail Code
<b>Kathy Simon, Adm. Asst.</b>	Graduate Student Affairs	6608	<a href="mailto:ksimon@psu.edu">ksimon@psu.edu</a>	1712	H170
<b>Bruce Stanley, PhD</b>	Section of Research Resources	5329	<a href="mailto:bstanley@psu.edu">bstanley@psu.edu</a>	C1734A	H093
<b>Diane Thiboutot, MD</b>	Dermatology	7437	<a href="mailto:dthiboutot@psu.edu">dthiboutot@psu.edu</a>	C7801	HU14
<b>Williard Freeman, Ph.D.</b>	Pharmacology	4037	<a href="mailto:wfreeman@psu.edu">wfreeman@psu.edu</a>		
<b>Nate Shaeffer, B.A.</b>	Section of Research Resources	6908	<a href="mailto:Nas2@psu.edu">Nas2@psu.edu</a>	C1733	H093
<b>Joanna Floros, Ph.D.</b>	Physiology	6972	<a href="mailto:Jxf19@psu.edu">Jxf19@psu.edu</a>	C4752	
<b>Mardi Sawyer</b>	Public Health Sciences	1286	<a href="mailto:Mds21@psu.edu">Mds21@psu.edu</a>	2405A	A210