Proposal Title: CPH 613 MOLECULAR EPIDEMIOLOGY

Proposal Contact: Thomas Tucker
121 Washington Avenue Room 113
219-0773 ext 225  tct@kcr.uky.edu

Becki Flanagan
CPH Office of Academic Affairs
121 Washington Avenue Room 110
218-2092  becki@uky.edu

Instruction: To facilitate the processing of this proposal please identify the groups or individuals reviewing the proposal, identify a contact person for each entry, provide the consequences of the review (specifically, approval, rejection, no decision and vote outcome, if any) and please attach a copy of any report or memorandum developed with comments on this proposal.

<table>
<thead>
<tr>
<th>Reviewed By</th>
<th>Contact person</th>
<th>Consequences of Review</th>
<th>Date of Proposal Review</th>
<th>Review Summary Attached?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept of Epidemiology</td>
<td>Thomas Tucker, Chair</td>
<td>Approved</td>
<td>4-30-08</td>
<td>Yes</td>
</tr>
<tr>
<td>Academic Affairs Committee</td>
<td>Marta Mendiondo, Chair</td>
<td>Approved</td>
<td>6-17-08</td>
<td>Yes</td>
</tr>
<tr>
<td>Faculty Council</td>
<td>Glyn Caldwell, Chair</td>
<td>Approved</td>
<td>7-17-08</td>
<td>Yes</td>
</tr>
<tr>
<td>Office of Academic Affairs</td>
<td>Linda Alexander, Associate Dean</td>
<td>Approved</td>
<td>8-28-09</td>
<td>Yes</td>
</tr>
</tbody>
</table>
MEMORANDUM

TO: Health Care Colleges Council

FROM: Linda A. Alexander, EdD
Associate Dean for Academic Affairs

SUBJECT: Proposal for CPH 613 Molecular Epidemiology

DATE: August 29, 2008

It is the intention of the Department of Epidemiology in the College of Public Health to formally establish a course to teach students in the MPH degree program about the principles underlying biomarker discovery and development. The course has been taught on other previous occasions as a special topics course and was very well received by students. It is being added to the concentration area’s list of selectives.

This course proposal has been reviewed and approved by the Academic Affairs Committee and the Faculty Council, according to our college’s established bylaws.

Further information about this course can be obtained by contacting the course director, Dr. Andre Baron via phone at 323-1729 or via email at a.baron@uky.edu.
TO: Linda Alexander
Associate Dean for Academic Affairs

CC: Marta Mendiondo
Chair, Academic Affairs Committee

CC: Andre Baron

FROM: Glyn G. Caldwell
Chair, Faculty Council

DATE: June 26, 2008

SUBJECT: Approval of CPH 613 Molecular Epidemiology

On June 26, 2008, the Faculty Council of the College of Public Health unanimously approved the course CPH 613 Molecular Epidemiology.
MEMORANDUM

To: Faculty Council

From: Marta S. Mendiondo  
Chair, Academic Affairs Committee

Date: June 17, 2008

The Academic Affairs committee approved the proposed new course, CPH 613 Molecular Epidemiology.
APPLICATION FOR NEW COURSE

1. Submitted by the College of Public Health ____________________________ Date: 3/3/08 ____________________________

   Department/Division proposing course: Epidemiology ____________________________

2. Proposed designation and Bulletin description of this course:
   a. Prefix and Number CPH 613 ____________________________
   b. Title* Molecular Epidemiology, Cancer Prevention & Control ____________________________
      *If title is longer than 24 characters, write a sensible title (24 characters or less) for use on transcripts: Molecular Epi ____________________________
   c. Courses must be described by at least one of the categories below. Include the number of actual contact hours per week for each category, as applicable.
      (___) CLINICAL (___) COLLOQUIUM (___) DISCUSSION (___) LABORATORY (X) LECTURE
      (___) INDEPEND. STUDY (___) PRACTICUM (___) RECITATION (___) RESEARCH (___) RESIDENCY
      (___) SEMINAR (___) STUDIO (___) OTHER – Please explain: ____________________________
   d. Please choose a grading system: ☑ Letter (A, B, C, etc.) ☐ Pass/Fail
   e. Number of credit hours: 3 ____________________________
   f. Is this course repeatable? YES ☐ NO ☑ If YES, maximum number of credit hours: __________
   g. Course description:
      This course consists of didactic lectures, journal clubs, and small group round table discussions related to the principles of underlying biomarker discovery and development for cancer prevention and control. The overarching goal of this course will be to assess how biomarkers are developed and used for the risk assessment, early detection, diagnosis, prognosis, and theragnosis of cancer. ____________________________
   h. Prerequisite(s), if any:
      Graduate student or consent of instructor ____________________________
   i. Will this course be offered through Distance Learning? YES ☐ NO ☑
      If YES, please circle one of the methods below that reflects how the majority of the course content will be delivered:
      Internet/Web-based Interactive video Extended campus Kentucky Educational Television (KET/teleweb) Other ____________________________
      Please describe “Other”:
      ____________________________
   j. Teaching method: ☑ N/A or ☐ Community-Based Experience ☐ Service Learning Component ☐ Both ____________________________
   k. To be cross-listed as:
      Prefix and Number ____________________________ Signature of chair of cross-listing department ____________________________
APPLICATION FOR NEW COURSE

5. Requested effective date (term/year): Fall / 2008

6. Course to be offered (please check all that apply): ☒ Fall ☐ Spring ☐ Summer

7. Will the course be offered every year? ☒ YES ☐ NO
   If NO, please explain: ________________________________

8. Why is this course needed?
   This course will be a selective in the Epidemiology track.

9. a. By whom will the course be taught? Andre Baron

   b. Are facilities for teaching the course now available? ☒ YES ☐ NO
      If NO, what plans have been made for providing them?

10. What yearly enrollment may be reasonably anticipated?
    15-20

11. a. Will this course serve students primarily within the department? ☒ Yes ☐ No

   b. Will this course serve students primarily within the department? ☒ YES ☐ NO
   If YES, please explain.
   Students in other Public Health tracks may be interested.

12. Will the course serve as a University Studies Program course†?
    ☐ YES ☒ NO
    If YES, under what Area? _________________________
    †AS OF SPRING 2007, THERE IS A MORATORIUM ON APPROVAL OF NEW COURSES FOR USP.

13. Check the category most applicable to this course:

   ☒ traditional – offered in corresponding departments at universities elsewhere

   ☐ relatively new – now being widely established

   ☐ not yet to be found in many (or any) other universities

14. Is this course applicable to the requirements for at least one degree or certificate at UK? ☒ Yes ☐ No

15. Is this course part of a proposed new program? ☐ YES ☒ NO
   If YES, please name: ________________________________

16. Will adding this course change the degree requirements for ANY program on campus? ☐ YES ☒ NO
   If YES†, list below the programs that will require this course:

   ________________________________________________
In order to change the program(s), a program change form(s) must also be submitted.

17. ☑ The major teaching objectives of the proposed course, syllabus and/or reference list to be used are attached.

Check box if course is 400G or 500. If the course is 400G- or 500-level, you must include a syllabus showing differentiation for undergraduate and graduate students by (i) requiring additional assignments by the graduate students; and/or (ii) the establishment of different grading criteria in the course for graduate students. (See SR 3.1.4)

18. ☐

19. Within the department, who should be contacted for further information about the proposed new course?

Name: Andre Baron Phone: 323-1729 Email: a.baron@uky.edu

20. Signatures to report approvals:

DATE of Approval by Department Faculty

DATE of Approval by College Faculty

DATE of Approval by Undergraduate Council

DATE of Approval by Graduate Council

DATE of Approval by Health Care Colleges Council (HCCC)

DATE of Approval by Senate Council

DATE of Approval by University Senate

*If applicable, as provided by the University Senate Rules. (http://www.uky.edu/USC/New/RulesandRegulationsMain.htm)
These guidelines reflect those suggested by the Academic Ombudsman in the August 10, 2004 memo to faculty, department chairs, deans, and administrative officers and intend to suggest compliance with the University Faculty Senate Rules (S.R.) as appropriate. For additional information about the syllabus requirements at the University of Kentucky, go to http://www.uky.edu/Ombud/Fall_2004.pdf.

The course director and faculty will be available for consultation. Students are encouraged to consult with all participating faculty.

Course Faculty | Phone     | Email
-------------|-----------|--------
Andre Baron  | 323-1729  | a.baron@uky.edu |
Esther Black | 323-5898  | penni.black@uky.edu |
Diane Davey | 257-9547  | ddavey2@email.uky.edu |
Claudia Hopenhayn | 296-6630 | cmhope0@pop.uky.edu |
Natasha Kyprianou | 323-9812 | nkypr2@uky.edu |
Guo-Min Li | 257-7053  | gml@uky.edu |
Bert Lynn | 257-2300 X287 | bclynn2@uky.edu |
David Mannino | 323-3608 | dmannino@uky.edu |
Hollie Skaggs | 323-1383 | hsskag2@uky.edu |

Course Description & Structure

Molecular Epidemiology, Cancer Prevention and Control, is a 3-credit hour course consisting of didactic lectures, journal clubs, and small group round table discussions related to the principles underlying biomarker discovery and development for cancer prevention and control. The overarching goal of this course will be to assess how biomarkers are developed and used for the risk assessment, early detection, diagnosis, prognosis, and theragnosis of cancer. This course will meet once per week (2 1/2 hr session) with an overview and/or historical review of the weekly topic presented in a didactic lecture format during the first hour by the instructor. This will be followed by an oral student presentation of a current or historically relevant research publication during the second hour using the journal club format. Finally, a round table small group discussion format will be used to focus on questions and issues relevant to the topic during the final 1/2 hour. This active teaching/learning strategy effectively involves students in the learning and discovery process, in processing new information, and in holding students accountable for learned information by asking them immediately to apply their knowledge to discuss the topic. Problem centered learning puts learning into context and facilitates learning transfer by allowing students to organize and categorize information into meaningful units, to discover...
relationships, and to extract and assimilate important points in an interactive and participatory venue.

**Audience**

This course serves is designed primarily for graduate public health students with professional interests in molecular epidemiology as this topic relates to cancer prevention and control. This course also is appropriate for students in other related health professions (i.e., medicine, nursing, pharmacy) and the biological sciences.

**Balance of Historic and Current Scientific Perspectives**

Given the rapid pace of progress in the biological and epidemiological sciences and the exponential growth rate of relevant literature, the general philosophy that is promoted within this course is to *teach less better*. The objective here is to lay a strong foundation in cancer molecular epidemiology with the clear understanding that what is particularly relevant and important today, may not be so tomorrow. Therefore, *emphasis is placed on developing paradigms and themes in molecular epidemiology*, as well as critical review and evaluation of issues at the forefront of modern molecular epidemiology and biology as they relate to cancer prevention and control.

**Commitment, Accountability, and Responsibility**

Integral to this teaching philosophy is *Peer-Performance Assessment* and the *Teaching Learning Model*. These strategies create a climate in which all students are encouraged to develop their learning and teaching skills. This results in a classroom environment where students from diverse backgrounds feel welcome to fully participate in discussions and problem solving. In this way, desired student performances are tied directly to the efforts of the students themselves, to the involvement of students in the teaching-learning process, to the opportunities to make choices, and to the degree to which students interact with their peers and instructors. Emphasis is placed on organization and presentation skills, accountability tracking, peer assessment, and instructional feedback.

**Course Requirements & Grading Criteria**

10% class participation, quizzes, & round table discussion  
30% journal club presentations  
30% journal topic essays  
30% term paper or student debate

1. Tests - There are no tests in this course.  
2. Quizzes - Please be prepared to take a 5-minute quiz on the reading assignment at the beginning of each class.
3. Journal Club Presentations & Topic Essays - A schedule of student journal club presentations will be developed during the first class period. Journal club presentations will only be rescheduled for legitimate reasons accompanied by verifiable documentation. In addition to the oral presentation, students will be required to provide a copy of their presentation slides (or overheads) with speaker’s notes to each person in the class as a handout packet at the time of the journal club. Students will be expected to attend all class sessions and to participate in discussions and/or problem sets related to the journal club. A topic essay (single-spaced 1-2 page limit; 10-12 pt font) will be due by 12:00 midnight on Friday for grading by the instructor. The topic essay should be e-mailed to Dr. Baron at a.baron@uky.edu.

4. Term Papers or Debate – Students in the course will elect to write a term paper or have a debate on a topic relevant to cancer molecular epidemiology at the beginning of the semester. The term paper due date or debate date will be announced during the first class period and shown on the course syllabus.

5. Grading - Journal club presentation grades will be based on peer and instructor assessment. Special topic essays and term papers that are not completed in a timely manner according to the class schedule will be subject to point deductions; 5 points will be deducted for each late day past the due date. The grading standards employed will be as follows. Students who perform in these ranges will receive the indicated grades.

   A: 90-100%
   B: 80-89%
   C: 70-79%
   D: 60-69%
   E: below 60%

Special topic essays can be submitted to the course director within one week (7 days) for a re-evaluation if it is deemed that a mistake has been made in the original grading. Submissions must be accompanied by a written explanation of the perceived mistake. Upon submission, the entire problem set or topic essay may be subject to re-evaluation and all questions therein may be re-graded.

**Course Text and Reference Materials**

The instructors will provide all reading assignments.

**Reference books** (Placed on reserve in the Course Director’s Office):

• The Biology of Cancer, 2007, edited by Robert A. Weinberg, Garland Science, Taylor & Francis Group, LLC

**College of Public Health Terminal Objectives in Epidemiology**

Please refer to the College of Public Health student handbooks for information about general education program objectives ([http://www.ukcph.org/](http://www.ukcph.org/)). Students who take this course will be able to:

1. Assess the purpose and application of molecular epidemiology as it relates to cancer prevention and control.
2. Search and critically read and interpret publications in molecular epidemiology.
3. Identify and use appropriate epidemiological study designs and principles to address research questions in molecular epidemiology.
4. Assess how to collect and manage data for investigational molecular epidemiology studies.
5. Assess the statistical methods used to analyze molecular epidemiological data.
6. Interpret and clearly communicate molecular epidemiological research findings.
7. Assess any ethical issues that may confront molecular epidemiological studies.
8. Assess how the principles of molecular epidemiology are integrated into the practice of public health and medicine.

**Academic Integrity & Honesty**

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person’s work has been responsibly and honorably prepared, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from a grade “E” to expulsion from the University. Both cheating and plagiarism are considered academic dishonesty. Cheating refers to any unauthorized assistance during examination questions to/from other student(s). Plagiarism is academic “theft”, and includes not properly crediting another author for his/her work or idea. Any paraphrase or direct quotation from a published or unpublished work should be properly cited with a footnote or reference. Students must be particularly careful not to engage in plagiarism, even inadvertently, since computers and Internet web-browsing seem to facilitate this process.

The Department of Health Services Management, the College of Public Health, and the University of Kentucky place a premium on academic honesty. Please refer to the
University of Kentucky Student Rights and Responsibilities document (www.uky.edu/StudentAffairs/Code/part2.html).

**Student’s with Disabilities**

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (www.uky.edu/TLC/grants/uk_ed/services/drc.html). If you have not already done so, please register with the Disability Resource Center (Room 2 Alumni Gym, 257-2754, jkarnes@uky.edu) for coordination of campus disability services available to students with disabilities.

**Provisionality**

As Course Director, I reserve the right to clarify or amend these policies, in which case I will document the clarification or amendment in an email memorandum.
<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Weekly Topic, Readings, &amp; Journal Club Paper</th>
<th>Instructor &amp; Assigned Student</th>
</tr>
</thead>
</table>
| Week 1    | Introductions, Course Overview, Molecular Biology Primer, Genomics, Transcriptomics, Metabolomics, and Proteomics Readings  
- A Conceptual and Historical Framework for Molecular Epidemiology (Schulte 1993)  
- Molecular Biology in Epidemiology (Hurst and Rao 1993)  
- Epidemiology informing clinical practice: from bills of mortality to population laboratories (Potter 2005)  
Molecular Epidemiology Journal Club  
- Human cancers express a mutator phenotype (Bielas, Loeb et al. 2006) | Baron |
| Week 2    | Biomarker Discovery Using Proteomic Techniques Readings  
- A biological atlas of functional maps (Vidal 2001)  
- Proteomics for cancer biomarker discovery (Srinivas, Verma et al. 2002)  
Molecular Epidemiology Journal Club  
- Proteomic profiling identifies cyclooxygenase-2-independent global proteomic changes by celecoxib in colorectal cancer cells (Lou, Fatima et al. 2006) | Lynn |
| Week 3    | Genomics and Pharmacogenomics Readings  
- Pharmacogenomics in cancer treatment defining genetic bases for inter-individual differences in responses to chemotherapy (Ansari and Krajnovic 2007)  
Molecular Epidemiology Journal Club  
- A pharmacogenomics study of the human estrogen glucuronosyltransferase UGT1A3 (Caillier, Lepine et al. 2007) | Black |
| Week 4    | Risk Assessment: Carcinogens, Inflammation, Cytokines & Growth Factors Readings  
- Mechanism-based cancer prevention approaches: targets, examples, and the use of transgenic mice (Hursting, Slaga et al. 1999)  
- Role of the insulin-like growth factor family in cancer development and progression (Yu and Rohan 2000)  
Molecular Epidemiology Journal Club  
- Systematic evaluation of genetic variants in the inflammation pathway and risk of lung cancer (Engels, Wu et al. 2007) | Baron |
| Week 5    | Cancer Susceptibility: Single Nucleotide Polymorphisms Readings  
- SNPs in cancer research and treatment (Erichsen and Chanock 2004)  
Molecular Epidemiology Journal Club | Baron |
### Week 6

<table>
<thead>
<tr>
<th>Cancer Susceptibility: DNA Damage and DNA Mismatch Repair Genes</th>
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</thead>
<tbody>
<tr>
<td>Genetic alterations and DNA repair in human carcinogenesis (Dixon and Kopras 2004)</td>
</tr>
<tr>
<td>Interrogating DNA repair in cancer risk assessment (Paz-Elizur, Brenner et al. 2005)</td>
</tr>
</tbody>
</table>

#### Molecular Epidemiology Journal Club

- Polymorphisms in estrogen bioactivation, detoxification and oxidative DNA base excision repair genes and prostate cancer risk (Nock, Cicek et al. 2006)
- DNA repair by ERCC1 in non-small-cell lung cancer and cisplatin-based adjuvant chemotherapy (Olaussen, Dunant et al. 2006)

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### Week 7

<table>
<thead>
<tr>
<th>Cancer Risk Assessment, Screening &amp; Diagnosis with Serum Biomarkers</th>
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<tbody>
<tr>
<td>Principles of bladder cancer screening in an intervention trial (Hulka 1990)</td>
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<tr>
<td>Statistical considerations in cancer screening programs (Prorok, Connor et al. 1990)</td>
</tr>
<tr>
<td>Phases of Biomarker Development for Early Detection of Cancer (Pepe, Etzioni et al. 2001)</td>
</tr>
</tbody>
</table>

#### Molecular Epidemiology Journal Club

- Alteration of the serum levels of the epidermal growth factor receptor and its ligands in patients with non-small cell lung cancer and head and neck carcinoma (Lemos-Gonzalez, Rodriguez-Berrocal et al. 2007)
- Shared immunoproteome for ovarian cancer diagnostics and immunotherapy: potential theranostic approach to cancer (Philip, Murthy et al. 2007)

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### Week 8

<table>
<thead>
<tr>
<th>Risk Assessment: Biomarkers of Exposure – Arsenic and Bladder Cancer</th>
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<tbody>
<tr>
<td>Micronuclei in exfoliated bladder cells among individuals chronically exposed to arsenic in drinking water (Moore, Smith et al. 1997)</td>
</tr>
<tr>
<td>Arsenic methylation and bladder cancer risk in case-control studies in Argentina and the United States (Steinmaus, Bates et al. 2006)</td>
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</tbody>
</table>

#### Molecular Epidemiology Journal Club

- Interaction between environmental tobacco smoke and arsenic methylation ability on the risk of bladder cancer (Chen, Su et al. 2005)

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### Week 9

<table>
<thead>
<tr>
<th>Cancer Screening: HPV DNA Testing, Cytology, and Cervical Cancer</th>
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</thead>
<tbody>
<tr>
<td>Management of women who test positive for high-risk types of human papillomavirus: the HART study (Cuzick, Baron, Hopenhayn, Davey)</td>
</tr>
</tbody>
</table>

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These guidelines reflect those suggested by the Academic Ombudsman in the August 10, 2004 memo to faculty, department chairs, deans, and administrative officers and intend to suggest compliance with the University Faculty Senate Rules (S.R.) as appropriate. For additional information about the syllabus requirements at the University of Kentucky, go to [http://www.uky.edu/Ombud/Fall_200.pdf](http://www.uky.edu/Ombud/Fall_200.pdf).
<table>
<thead>
<tr>
<th>Week</th>
<th>Risk Assessment: Biomarkers of Chronic Obstructive Pulmonary Disease and Lung Cancer</th>
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<tbody>
<tr>
<td></td>
<td><strong>Readings</strong></td>
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<td></td>
<td>- Carcinogenicity of metal compounds: possible role of DNA repair inhibition (Hartwig 1998)</td>
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<td></td>
<td>- Urinary cadmium levels predict lower lung function in current and former smokers: data from the Third National Health and Nutrition Examination Survey (Mannino, Holguin et al. 2004)</td>
</tr>
<tr>
<td></td>
<td><strong>Molecular Epidemiology Journal Club</strong></td>
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<td></td>
<td>- Profiling serum biomarkers in patients with COPD: associations with clinical parameters (Pinto-Plata, Toso et al. 2007)</td>
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<tr>
<th>Week</th>
<th>Cancer Diagnosis &amp; Prognosis: Tumor Suppressors, Oncogenes, and Cell Cycle Regulatory Proteins</th>
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<tbody>
<tr>
<td></td>
<td><strong>Readings</strong></td>
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<tr>
<td></td>
<td>- Tumor Suppressor Genes (Ruddon 1995)</td>
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<td></td>
<td>- Oncogenes (Ruddon 1995)</td>
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<tr>
<td></td>
<td>- The cell cycle: accelerators, brakes, and checkpoints (Ivanchuk and Rutka 2004)</td>
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<tr>
<td></td>
<td>- Regulation of telomerase by telomeric proteins (Smogorzewska and de Lange 2004)</td>
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<tr>
<td></td>
<td><strong>Molecular Epidemiology Journal Club</strong></td>
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<td>- Younger age of cancer initiation is associated with shorter telomere length in Li-Fraumeni syndrome (Tabori, Nanda et al. 2007)</td>
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<td></td>
<td>- Analysis of p53 protein expression levels on ovarian cancer tissue microarray using automated quantitative analysis elucidates prognostic patient subsets (Psyrri, Kountourakis et al. 2007)</td>
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<tr>
<th>Week</th>
<th>Cancer Diagnosis &amp; Prognosis: Apoptotic Regulatory Proteins</th>
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<td></td>
<td><strong>Readings</strong></td>
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<tr>
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<td>- Mitochondria: releasing power for life and unleashing the machineries of death (Newmeyer and Ferguson-Miller 2003)</td>
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<td></td>
<td>- Medicine. Targeting apoptotic pathways in cancer cells (Denicourt and Dowdy 2004)</td>
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<td></td>
<td>- Apoptosis as a novel target for cancer chemoprevention (Sun, Hail et al. 2004)</td>
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<tr>
<td></td>
<td><strong>Molecular Epidemiology Journal Club</strong></td>
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<tr>
<td></td>
<td>- Influence of survivin and caspase-3 on cell apoptosis and prognosis in gastric carcinoma. (Li, Wang et al. 2004)</td>
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<tr>
<th>Week</th>
<th>Cancer Diagnosis &amp; Prognosis: MicroRNAs, DNA Methylation &amp; Epigenetic Therapy</th>
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<table>
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<tr>
<th>Week 14</th>
<th>Cancer Theragnosis: Tumor &amp; Serum Biomarkers</th>
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</thead>
</table>
- Mapping translational research in personalized therapeutics: from molecular markers to health policy (Ozdemir, Williams-Jones et al. 2007) |
| **Molecular Epidemiology Journal Club** | - Mass spectrometry to classify non-small-cell lung cancer patients for clinical outcome after treatment with epidermal growth factor receptor tyrosine kinase inhibitors: a multicohort cross-institutional study. (Taguchi, Solomon et al. 2007)  
- Serum proteomic classifier for predicting response to epidermal growth factor receptor inhibitor therapy: have we built a better mousetrap? (Tsao, Liu et al. 2007)  
- A 25-signal proteomic signature and outcome for patients with resected non-small-cell lung cancer. (Yanagisawa, Tomida et al. 2007) |

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<thead>
<tr>
<th>Week 15</th>
<th>Transitional Studies: Biospecimens &amp; Bioinformatics</th>
</tr>
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</table>
| **Readings** | - Biorepository and biospecimen science: a new focus for CEBP (Vaught 2006)  
- Sample collection, processing, and storage for large-scale studies: biorepositories to support cancer research (Ambrosone 2006) |
| **Molecular Epidemiology Journal Club** | - Serum levels of insulin-like growth factor-I and insulin-like growth factor-I binding protein-3: quality control for studies of stored serum. (Berrigan, Potischman et al. 2007) |

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<tr>
<th>Week 16</th>
<th>Term Paper Deadline</th>
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<td>12:00 Midnight</td>
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References


