NEW COURSE PROPOSAL

* denotes required fields

1. College:
   --Select a College--

2. Contact Person: Alexei Fedorov

3. Alpha Numeric Code (Subject area - number):
   If this is a renumbering, please request an electronic copy of the old course approved through the Register's Office at x4865, and attach it to #15 in this form. Remember to delete the old course ID in #13.

4. Proposed title: Honors Discovery, Validation, and Implementation
   Proposed effective term: Spring 2012

5. Planned enrollment per section: per term: 5

6. Is the course cross-listed with another academic unit? Yes No
   If yes to either question, please list additional Alpha/Numeric codes, and submit a separate New Course form or Course Modification form for the course(s) referenced below.
   a. BRIM 610
   b. BRIM 820
   c. 
   Approval of other academic unit (signature)
   Name and title

7. Credit hours*: Fixed: 3 or Variable: to

8. Delivery Mode: Primary* Secondary Tertiary
   a. Activity Type: * Lecture Recitation
   b. Minimum Credit Hours: 3
   c. Maximum Credit Hours: 3
   c. Weekly Contact Hours: 3

9. Terms offered: Fall Spring Summer

Will this course impact program requirements? * Yes No
   If yes, a Program Modification must be completed.

Level (check one)*
Undergraduate
Graduate

Type of course (check all that apply):
Academic Skills Enhancement Writing Intensive (WAC) Honors
Univ. Core: English Hum Math Nat. Sciences Social Sciences
Multicultural: Diversity of US Culture Non-US Culture

(to be considered as core curriculum, question 18 must be completed)

Phone: 364-2570 (XXX-XXXX) Email: alexei.fedorov@utoledo.edu

Administrative Use Only
Code:
Approved (senate or Grad Council):
Effective Date: __/__/____ (mm/dd/yyyy)
CIP Code:
Sub: Prog: Level:

Choices are: Lecture, Recitation, Seminar, Regular Lab, Open Lab, Studio, Clinic, Field, Independent Study, Workshop, Computer Assisted Instruction, Other
New Course Proposal

Years offered:  ○ Every Year  ○ Alternate Years

10. Are students permitted to register for more than one section during a term?  ○ No  ○ Yes

May the course be repeated for credit?  ○ No  ○ Yes  Maximum Hours

11. Grading System*:  ○ Undergraduate
   ○ Normal Grading (A-F, PS/NC, PR, I)
   ○ Passing Grade/No Credit (A-C, NC)
   ○ Credit/No Credit
   ○ Grade Only (A-F, PR, I)
   ○ Audit only
   ○ No Grade

   ○ Graduate
   ○ Normal Grading (A-F, PS/NC, PR, I)
   ○ Grade Only (A-F)
   ○ Satisfactory/Unsatisfactory (G only)
   ○ Audit only
   ○ No Grade

12. Prerequisites (must be taken before):  a.  b.  c.  ○ PIN (Permission From Instructor)  ○ PDP (Permission From Department)

Co-requisites (must be taken together):  a.  b.  c.

13. If course is to replace an existing course(s) will be deleted, and when should that deletion occur?

   Course to be removed from inventory  Final Term to be offered  (YYYYT, i.e. use 20064 for Fall'06)
   a.  b.  c.  d.

14. Catalog description* (30 words Maximum)

   Unit 1 of this survey course will explore the clinical need and methodologic approaches to biomarker development and validation. Unit 2 will consider biomarker use in individualized medicine.

15. Attach an electronic copy of a complete outline of the major topics covered.

   Syllabus:  *  Browse...
   Additional Attachment 1:  Browse...
   Additional Attachment 2:  Browse...

16. Where does this course fit in the University/College/Department curriculum? (Be specific by course level, if applicable). Indicate prospective demand.

   This course will be combined with existing course offerings for the HPG certificate program. HPG 510 710, HPG 520 720, HPG 610 810 to form a Biomarker Certificate program.

17. If the proposed course is similar to another course in the College or University, please describe the difference and provide a rationale for the duplication. (If this course duplicates material covered in another course within your department or college or in another college, attach a letter of endorsement from that area's dean and department chairperson indicating their support. Clarify the manner in which this course will differ).
18. If the course is intended to meet a University Undergraduate Core requirement, complete the following and submit a course syllabus using the template:

Please explain how this course fulfills the general education guidelines. (Guidelines are available in University Senate Website)

Course Approval:

Department Curriculum Authority: ________________________________  Date: 11/30/2010
Department Chairperson: ________________________________  Date: 12/01/2010
College Curriculum Authority: ________________________________  Date: 11/18/2010
College Dean: ________________________________  Date: __/__/Year

After college approval, submit the original signed form to the Faculty Senate (UH 3320) for undergraduate-level courses; for graduate-level courses submit the original signed form to the Graduate School (UH 3240). For undergraduate/graduate dual-level courses, submit the proposals to each office.

Faculty Senate Undergrad. Curriculum Comm.: ________________________________  Date: __/__/Year
Faculty Senate Core Curriculum Comm.: ________________________________  Date: __/__/Year
Graduate Council: ________________________________  Date: __/__/Year
Office of the Provost: ________________________________  Date: __/__/Year
Registrar’s Office: ________________________________  Date: __/__/Year

Submit New Course Proposal

You will see a confirmation page after you press the “Submit” button. If you do not see the confirmation page, please call x 4320 or send an email to ProvostWebMaster.utoledo.edu. Thanks.
Biomarker survey course - Draft outline

Course timeline: 14 Weeks - less two sessions for exams = 13 weeks x 2 lectures/wk less 2 sessions for project presentation = 24 lectures as 2 groups of 12

Unit 1 Biomarker discovery and validation
Lecture 1 Definition and Clinical Need for biomarkers (Her2/neu; PSA)
Lecture 2 Genome Wide Association Studies - requirements for validity
Lecture 3 Whole Genome Screen - matching genotype to drug selection
Lecture 4 Epigenomics (methylation, chromatin, arrays)
Lecture 5 Transcriptomics (splice variance arrays)
Lecture 6 Proteomics
Lecture 7 Metabolomics
Lecture 8 Theoretical Considerations in Biomarker design, validation and re-validation after implementation; Sensitivity, Specificity, Causality
Lecture 9 Statistical considerations
Lecture 10 Biomarker Success/Failure Social - scientific - economic tradeoffs
Lecture 11 Future directions
Lecture 12 Projects
Exam

Unit 2 Individualized Medicine
Lecture 13 Clinical Need - where has it been important
Lecture 14 Whole Genome Sequence - individual considerations
Lecture 15 Personalized ADMET
Lecture 16 "Liver on a chip"
Lecture 17 Pharmacogenomics
Lecture 18 Targeted transplant
Lecture 19 Individualized Immunotherapy
Lecture 20 Genomic therapy in utero
Lecture 21 Validation - Design and conduct of Trials - patient selection
Lecture 22 Individual Biomarker risk assessment
Lecture 23 Ethics - patient protection
Lecture 24 Projects
Exam

12/13/10