The University Of Toledo

NEW COURSE PROPOSAL

* denotes required fields

1. College:
   --Select a College--

Department:
   --Select a Department--

2. Contact Person*: Aleksi Fedorov

3. Alpha/Numeric Code (Subject area + number)*:
   If this is a renumbering, please request an electronic copy of the old course approval through the Registrar's Office at x8865, and attach it to #15 in this form. Remember to delete the old course ID in #13.

4. Proposed title*: Honburtuher Discovery, Validation, and Implement
   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

Is the course offered at more than one level? Yes No
If yes to either question, please list additional Alpha/Numeric codes, and submit a separate No. 4 Course form or Course Modification form for the course(s) referenced below.

   a. BRIM - 620  b. BRIM - 820  c. 

   Approval of other academic unit (signature)

   Name and title

   If course is to be offered at more than one level, attach an explanation of the different requirements that students must meet for each level. If the requirements are the same for each level, justification must be provided.

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

8. Delivery Mode: Primary* Secondary Tertiary
   a. Activity Type:
      i. Lecture  ii. Recitation
   b. Minimum 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.

Type of course (check all that apply):
   Academic Skills Enhancement Writing Intensive (WAC) Honors
   Univ. Core: English Humanities Math Nat. Sciences Social Science
   Multicultural: Diversity of US Culture Non-US Culture
   (to be considered as core curriculum, question 18 must be completed)

Phone: 383-5270 (XXX-XXXX) Email: aleksi.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

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

   May the courses 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
    - 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.  -
       - P/N (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  
   - a.  - b.  - c.  -

   Final Term to be offered  
   - (YYYYY, i.e. use 20064 for Fall'06)

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:  
   - Additional Attachment 1:  
   - Additional Attachment 2:

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 BHP certificate program, BHPG 510 710, BHPG 520 720, BHPG 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 the course fulfills the general education guidelines. (Guidelines are available in Faculty Senate Website)

Course Approval:

Department Curriculum Authority:

Department Chairperson:

College Curriculum Authority:

College Dean:

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 (UH3240). For undergraduate/graduate dual-level courses, submit the proposals to each office.

Facility Senate Undergrad. Curriculum Comm.:

Faculty Senate Core Curriculum Comm.:

Graduate Council:

Office of the Provost:

Registrar’s Office:

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 time line: 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