UNIVERSITY OF KENTUCKY
APPLICATION FOR CHANGE IN EXISTING COURSE: MAJOR & MINOR

1. Submitted by College of: Health Sciences Date: 8/1/2007

Department/Division offering course: Clinical and Reproductive Sciences

2. Changes proposed:
   (a) Present prefix & number: CSC 528 Proposed prefix & number: CSC 528
   (b) Present Title: Laboratory Techniques for Non-CLS Students
       New Title: Laboratory Techniques for Clinical Sciences Students
   (c) If course title is changed and exceeds 24 characters (Including spaces), include a sensible title (not to exceed 24 characters) for use on transcripts: Lab Techniques for CS Students
       N/A
   (d) Present credits: 2 Proposed credits: 2
   (e) Current lecture: laboratory ratio: 0/2 Proposed: 1/2
   (f) Effective Date of Change: (Semester & Year) Summer, 2008

3. To be Cross-listed as: N/A

4. Proposed change in Bulletin description:
   (a) Present description (including prerequisite(s):
       Basic clinical laboratory principles and techniques; includes laboratory safety, sterilization procedures, pipetting, microscopy, routine culture and staining procedures, chamber counts, laboratory math calculations and statistics, quality control, quality assurance, chain of custody and laboratory reporting. Consent of instructor required for non-CS students.

   (b) New description: Basic clinical laboratory principles and techniques; includes laboratory safety, sterilization procedures, pipetting, microscopy, routine culture and staining procedures, chamber counts, laboratory math calculations and statistics, Consent of instructor required for non-CS or non-CLS students

   (c) Prerequisite(s) for course as changed:

5. What has prompted this proposal? Both Clinical Laboratory Science undergraduate students and Clinical Sciences graduate students need to take this course. The title implies that non-CLS students should not be admitted to the course. Also the topics quality control, quality assurance, chain of custody and laboratory reporting have been moved from this course to CLS 836 (Management) for CLS undergraduate students and to CSC 625 for CS Graduate students so that these objectives relate better to student’s curriculum (either CLS or Reproductive Lab Science). An evaluation of the course documented that there should be an official lecture component (versus introduction to procedures) in the course, changing the lecture to laboratory ratio from 0:2 to 1:2.

6. If there are to be significant changes in the content or teaching objectives of this course, indicate changes:

   The topics quality control, quality assurance, chain of custody and laboratory reporting have been moved from this course to CLS 836 (Management) for CLS undergraduate students and to CSC 625 for CS Graduate students so that these objectives relate better to student’s curriculum (either CLS or Reproductive Lab Science). Therefore the objectives have been deleted from CSC 528.
7. What other departments could be affected by the proposed change? None

8. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? X Yes □ No

9. Will changing this course change the degree requirements in one or more programs? □ Yes X No

   If yes, please attach an explanation of the change. (NOTE – If “yes,” program change form must also be submitted.)

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10. Is this course currently included in the University Studies Program? □ Yes X No

   If yes, please attach correspondence indicating concurrence of the University Studies Committee.

11. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. □ Check here if 400G-500.

12. Is this a minor change? □ Yes X No

   (NOTE: See the description on this form of what constitutes a minor change. Minor changes are sent directly from the Dean of the College to the Chair of the Senate Council. If the latter deems the change not to be minor, it will be sent to the appropriate Council for normal processing.)

13. Within the Department, who should be consulted for further information on the proposed course change?

   Name: Doris J. Baker, Ph.D. Phone Extension: 323-1100 X80854

Signatures of Approval:

July 29, 2007

Date of Approval by Department Faculty 11/6/07

Date of Approval by College Faculty

*Date of Approval by Undergraduate Council

*Date of Approval by Graduate Council 12/18/07

*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 Rules of the University Senate.

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The Minor Change route for courses is provided as a mechanism to make changes in existing courses and is limited to one or more of the following:

   a. change in number within the same hundred series;
   b. editorial change in description which does not imply change in content or emphasis;
c. editorial change in title which does not imply change in content or emphasis;
d. change in prerequisite which does not imply change in content or emphasis;
e. cross-listing of courses under conditions set forth in item 3.0;
f. correction of typographical errors. [University Senate Rules, Section III - 3.1]
CSC 528    LABORATORY TECHNIQUES
FALL 2007

PROFESSOR:    Doris J. Baker, Ph.D., HCLD(ABB), MT(ASCP), CLS(NCA)
OFFICE:       126E CTW Building, 900 S. Limestone St.
PHONE NUMBER: (859) 323-1100 ext. 80854
OFFICE HOURS: By appointment
LAB INSTRUCTOR: Kim Campbell M.S., MT(ASCP), CLS(NCA)
OFFICE:       126D CTW Building, 900 S. Limestone St.
PHONE NUMBER: (859) 323-1100 ext. 80853

CLASS TIME AND LOCATION: Class will meet from 8:00am – 12:30 pm Monday through Friday for two weeks. Lecture room TBA, Laboratory will meet in Room CTW 421 and 425.

Course Description: 2 credit hours; Lecture to laboratory ratio 1:2
Lecture: students will be introduced to basic clinical laboratory principles and techniques. The course covers: 1) laboratory safety; 2) pipetting methods; 3) microscopy for light, phase, stereo and inverted microscopes; 4) chamber counts; 5) sterilization rationale and procedures; 6) routine cultures and staining procedures; 7) basic white blood cell identification; 8) basic urinalysis testing; and 9) laboratory math calculations and statistics. Laboratory: During the laboratory component of the course will: calibrate and correctly use standard pipettes; perform light, phase, stereo and inverted microscopy, including scope calibration; perform chamber counts using the Neubauer hemacytometer, Makler chamber, and Cell-Vu; perform routine sterilization procedures; prepare media and perform routine culture techniques; perform staining including Gram’s, Wright’s and Papainacolaou stains; identify white blood cells; perform macroscopic and microscopic urinalyses; perform a basic chemistry procedure; and perform laboratory math calculations including basic laboratory statistics and chamber count data. Consent of instructor required for non -CSC students.
General Course Objectives CSC 528:

Lecture Component

By the end of the course the student will be able to:

1. Understand all clinical laboratory safety rules and regulations required by CLIA, OSHA, FDA and EPA.

2. Describe the various pipettes and correct usage for each.

3. Describe the principles for light, phase, stereo and inverted microscopy; discuss the potentials uses for each type of microscope.

4. Compare and contrast the counting chambers routinely used in the laboratory, to include usage, chamber properties (e.g. depth), calculations and limitations.

5. Describe the proper sterilization procedure for media, instruments and glassware.

6. List the step for routine culture methods including media selection, proper isolation, incubation conditions, and interpretation of results as related to reproductive microbiology.

7. Describe the principle and application for each staining technique covered.

8. List and describe the morphological characteristics of the five principle types of leukocytes that normally circulate in the peripheral blood.

9. Explain the principles used in chemical testing of the urine.

10. Interpret normal and abnormal findings in the macroscopic and microscopic urinalysis.

11. Understand basic clinical laboratory math principles and statistical calculations.

General Course Objectives for CSC 528:

Laboratory Component

By the end of the course the student will be able to:

1. Observe all safety rules while working in the student and clinical laboratory.

2. Use aseptic technique when performing laboratory procedures.

3. Choose the correct pipette for the intended purpose.
4. Pipette accurately and efficiently, selecting the appropriate pipette for each task.
5. Appropriate use of light, phase, stereo and inverted microscopy.
6. Calibrate the light microscope.
7. Make accurate dilutions and perform calculations for selected laboratory tasks.
8. Accurately perform counts using the Neubauer hemacytometer, Makler chamber and Cell-Vu (as appropriate).
9. Perform routine disinfection and sterilization procedures.
10. Select appropriate media and culture conditions for specimens.
11. Successfully perform colony isolation using plate streaking techniques.
12. Successfully perform semi-quantitative colony counts from cultured specimens.
13. Make Gram stains according to the required standards and accurately interpret the results.
14. Perform Wright's stain and Papainacolaou stains (graduate students) according to the required standards and accurately interpret the results.
15. Recognize and identify the five principle types of leukocytes that normally circulate in the peripheral blood.
16. Perform a macroscopic and microscopic urinalysis, including clinitest, icotest and SSA.
17. Perform a basic chemistry procedure, applying Beer's Law.
18. Accurately perform basic laboratory math calculations.
22. Generate written reports, including tables, use word processor software.

Required Text:

Reference Texts:

**Grading: CSC 528**

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<th>Component</th>
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<td>Lab Reports</td>
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<td>Assignments</td>
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**Grading Scale for undergraduate students:**

- 90-100% = A
- 80-89% = B
- 70-79% = C
- below 70% = E

**Grading scale for graduate students:**

- 93-100% = A
- 85-92% = B
- 77-84% = C
- below 77% = E

**Note: Graduate students** must also complete:

- CD’s and Assignments on:
  - Statistics for Clinical Sciences
  - Laboratory Organization and Management
  - Write a procedure according to NCCLS Guidelines
  - Sperm counts using Neubauer, Makler and/or Cell-Vu chambers
  - Perform Papainacolaou stains

**Course Policies:**

1. Class attendance is expected for all sessions. Please notify the professor directly if you find it necessary to miss a session.

2. Please see the professor during the first two weeks of class if you have any conflicts in scheduling due to religious observances.
3. With the exception of a documented emergency, there will be no make-up tests for students who are absent or late for an exam.

4. Homework assignments should reflect individual work, and are due the following class period. Late homework will not be accepted.

5. Proper laboratory attire is required at all times. Laboratory safety rules must be followed at all times. Any student, not properly attired, will be asked to leave the laboratory session. Any student, not following laboratory safety protocol, will be asked to leave the laboratory session.

**NOTE:** Policies related to excused absences, cheating/plagiarism, withdrawal, incompletes and examinations can be found in your copy of the Student Rights and Responsibilities of The University of Kentucky. [http://www.uky.edu/studentaffairs/code](http://www.uky.edu/studentaffairs/code).

**Severe Weather: UK Policy/Information:**

It is the policy of the University of Kentucky to keep all offices open and classes meeting as scheduled except under extraordinary conditions.

If severe weather should result in changes to the university schedule, the university will follow specific procedures about when those decisions are made and how they will be announced. Details of those procedures are available at [http://www.uly.edu/PR/News/severe_weather.htm](http://www.uly.edu/PR/News/severe_weather.htm).

All faculty, staff and students should note that announcements regarding the cancellation of classes and closure of offices, or a delayed opening will normally be made by 6 a.m. through the local news media. The most up-to-date and complete information will be available from the UK Infoline at 257-5684, UK TV Cable Channel 16, or the UK web site at [http://www.uky.edu/](http://www.uky.edu/).
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<td>Urinalysis Testing (Microscopic)</td>
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