COURSE CHANGE FORM

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

1.	**General Information.**				
a.	Submitted by the College of:	College of Health Sciences	Today's Date:	9/20/10	
b.	Department/Division:	Department of Clinical Sciences/Clinical Laboratory Sciences			
c.	Is there a change in "ownership" of the course?			YES ☐	NO ☒
	If YES, what college/department will offer the course instead?				
d.	What type of change is being proposed?	☒ Major	☐ Minor[1] (place cursor here for minor change definition)		
e.	Contact Person Name:	Michelle Butina	Email: mbu228@uky.edu	Phone:	218-0852
f.	Requested Effective Date:	☐ Semester Following Approval	OR ☒ Specific Term[2]:	Fall 2011	
2.	**Designation and Description of Proposed Course.**				
a.	**Current Prefix and Number:**	CLS 848	*Proposed Prefix & Number:*	*MLS 463*	
b.	**Full Title:**	Molecular Techniques and Advanced Immunohematology	*Proposed Title:*	*Immunohematology*	
c.	**Current Transcript Title** (if full title is more than 40 characters):				
c.	*Proposed Transcript Title (if full title is more than 40 characters):*				
d.	**Current Cross-listing:**	☒ N/A	OR Currently[3] Cross-listed with (Prefix & Number):		
	Proposed – ☐ *ADD[3] Cross-listing (Prefix & Number):*				
	Proposed – ☐ *REMOVE[3,4] Cross-listing (Prefix & Number):*				

e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[5] for each meeting pattern type.

Current:	2 Lecture	2 Laboratory[5]	Recitation	Discussion	Indep. Study
	Clinical	Colloquium	Practicum	Research	Residency
	Seminar	Studio	Other – Please explain:		
Proposed:	*3 Lecture*	*Laboratory*	*Recitation*	*Discussion*	*Indep. Study*
	Clinical	*Colloquium*	*Practicum*	*Research*	*Residency*
	Seminar	*Studio*	*Other – Please explain:*		

f.	**Current Grading System:**	☒ Letter (A, B, C, etc.)	☐ Pass/Fail
	Proposed Grading System:	☒ *Letter (A, B, C, etc.)*	☐ *Pass/Fail*
g.	**Current number of credit hours:** 3	*Proposed number of credit hours:* 3	

Comment [OSC1]: Excerpt from *SR 3.3.0.G.2* **Definition.** A request may be considered a minor change if it meets one of the following criteria:
a. change in number within the same hundred series*;
b. editorial change in the course title or description which does not imply change in content or emphasis;
c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s); d. a cross-listing of a course under conditions set forth in *SR 3.3.0.E*;
e. correction of typographical errors.

*...for the specific purposes of the minor exception rule, the 600-799 courses are the same "hundred series," as long as the other minor change requirements are complied with. [RC 1/15/09]

[1] See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair.* If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.
[2] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
[3] Signature of the chair of the cross-listing department is required on the Signature Routing Log.
[4] Removing a cross-listing does not drop the other course – it merely unlinks the two courses.
[5] Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See *SR 5.2.1.*)

COURSE CHANGE FORM

h.	**Currently, is this course repeatable for additional credit?**	YES ☐	NO ☒
	Proposed to be repeatable for additional credit?	*YES* ☐	*NO* ☒
	If YES: *Maximum number of credit hours:* _____		
	If YES: *Will this course allow multiple registrations during the same semester?*	*YES* ☐	*NO* ☐
i.	**Current Course Description for Bulletin:**	An introduction to clinically relevant molecular techniques including electrophoresis, northern, Southern and Western blotting, ELISA and PCR; advanced immunohematology focuses on transfusion therapy, apheresis and component therapy, hemolytic diseases, histocompatibility testing, and addresses federal regulation of blood banking.	
	Proposed Course Description for Bulletin:	*This course consists of the primary principles and practices of blood banking which include blood group systems, antibody detection and identification, compatibility testing, quality control requirements, instrumentation, blood transfusion, donor selection, and component preparation. In addition, the course will focus on advanced immunohematology topics including transfusion therapy, apheresis and component therapy, hemolytic diseases, histocompatibility (HLA) testing, and federal regulation of blood banking.*	
j.	**Current Prerequisites, if any:**	Admission to the Clinical Laboratory Sciences Program and CLS 838 or equivalent.	
	Proposed Prerequisites, if any:	*Admission to the Medical Laboratory Science Program or consent of instructor.*	
k.	Current Distance Learning(DL) Status: ☐ N/A	☐ Already approved for DL*	☒ *Please Add*[6] ☐ *Please Drop*
	*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box ☐) that the proposed changes do not affect DL delivery.		
l.	**Current Supplementary Teaching Component, if any:**	☐ Community-Based Experience	☐ Service Learning ☐ Both
	Proposed Supplementary Teaching Component:	☐ *Community-Based Experience*	☐ *Service Learning* ☐ *Both*
3.	**Currently, is this course taught off campus?**	YES ☐	NO ☒
	Proposed to be taught off campus?	YES ☒	NO ☐
4.	**Are significant changes in content/teaching objectives of the course being proposed?**	YES ☒	NO ☐
	If YES, explain and offer brief rationale:		
	Currently the CLS program offers CLS 838 Basic Immunohematology (1 credit) and CLS 848Molecular Techniques and Advanced Immunohematology (3 credits). The program proposes the following: (a) to combine the lecture components of CLS 838 and CLS 848 into one course, MLS 463; (b) to separate the student laboratory component from the lecture components as the program is proposing a new Clincial Immunohematology Laboratory course (MLS 463L); and (c) to remove Molecular Techniques content from CLS 848 as the program is proposing a new course for this content area (MLS 440). For more details see Program Change Rationale.		
5.	**Course Relationship to Program(s).**		
a.	**Are there other depts and/or pgms that could be affected by the proposed change?**	YES ☐	NO ☒
	If YES, identify the depts. and/or pgms: _____		
b.	**Will modifying this course result in a new requirement[7] for ANY program?**	YES ☒	NO ☐

[6] You must *also* submit the Distance Learning Form in order for the course to be considered for DL delivery.

COURSE CHANGE FORM

	If YES[7], list the program(s) here:	*Medical Laboratory Science*	
6.	**Information to be Placed on Syllabus.**		
a.	☐	Check box if changed to 400G or 500.	If changed to 400G- or 500-level course you must send in a syllabus and *you must include the differentiation* between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See *SR 3.1.4.*)

[7] In order to change a program, a program change form must also be submitted.

COURSE CHANGE FORM

Signature Routing Log

General Information:

Course Prefix and Number: CLS 848 (Proposed MLS 463)

Proposal Contact Person Name: Michelle Butina Phone: 218-0852 Email: mbu228@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CLS Faculty	9/20/10	Dr. Michelle Butina / 218-0852 / mbu228@uky.edu	Michelle Butina
Clinical Sciences Department	9/20/10	Dr. Karen Skaff / 218-0585 / karenskaff@uky.edu	
CHS Associate Dean for Academic Affairs	10/26/10	Dr. Sharon Stewart / 218-0570 / srstew01@email.uky.edu	Sharon Stewart
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[8]
Undergraduate Council	3/1/2011	Sharon Gill Digitally signed by Sharon Gill DN: cn=Sharon Gill, o=Undergraduate Education, ou=Undergraduate Council, email=sgill@uky.edu, c=US Date: 2011.03.02 14:54:21 -05'00'	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[8] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

University of Kentucky
College of Health Sciences
Department of Clinical Sciences
Clinical Laboratory Sciences

Course Number/Title/Section:	MLS 463 Immunohematology, Section 001
Course Credit:	3 credits
Course Time /Place:	Lecture: CTW 403, Time: TBA
Course Faculty:	Vickie Robertson, MLS(ASCP) SBB 126A CTW Bldg. 900 S. Limestone Lexington, KY 40536-0200 Email (preferred for contacting instructor): Vmrobe2@uky.edu Office phone: (859) 218-0850
Office Hours:	Immediately after class or by appointment

COURSE DESCRIPTION

Bulletin Description:
This course consists of the primary principles and practices of blood banking which include blood group systems, antibody detection and identification, compatibility testing, quality control requirements, instrumentation, blood transfusion, donor selection, and component preparation. In addition, the course will focus on advanced immunohematology topics including transfusion therapy, apheresis and component therapy, hemolytic diseases, histocompatibility (HLA) testing, and federal regulation of blood banking. Prereq: Admission to the Medical Laboratory Science Program or consent of instructor.

Student Learning Outcomes:
Upon completing this course, students will be able to demonstrate the following learning outcomes:

1. Describe basic Mendelian and population genetics and how they relate to the blood group antigens.
2. Interpret antibody-antigen reactions and the stages of agglutination as they relate to the immune response.
3. Recognize discrepancies in ABO typing and demonstrate appropriate resolutions.
4. Interpret characteristics of ABO, Rh, and other major blood group systems as they relate to testing performed during student lab and upcoming clinical rotations.
5. Interpret expected and unexpected results in compatibility testing.
6. Describe principles in antibody detection and identification to be used in clinical rotations.
7. Describe the principals of the Indirect Antiglobulin Test (IAT) and Direct Antiglobulin Test (DAT), discuss when the tests are used in Blood Banks, and interpret test results.
8. List the criteria for donor selection and describe the procedure for collecting a unit of blood.

9. Describe characteristics of the various blood components as they relate to preparation, storage and selection for patient transfusion.
10. Interpret Quality Control as it relates to Blood Bank reagents and instruments.
11. Interpret quality assurance and regulatory control required in the clinical Blood Bank.
12. Examine the regulatory agencies in the Blood Bank and their purpose.
13. Understand the reasons for a quality assurance department in medical facilities as it relates to blood, blood components, compatibility testing and transfusion.
14. Understand the principles of transfusion therapy and which blood components are indicated for various patient needs.
15. Understand the various effects of blood transfusion and transfusion transmitted diseases.
16. List the therapeutic indications for apheresis, differentiation between conditions requiring plasma exchange and those necessitating cytapheresis.
17. Rank, according to severity, the different types of transfusion reactions, and correlate them with appropriate laboratory results.
18. Compare the autoimmune hemolytic anemias and correctly interpret antibody panels of affected individuals.
19. Evaluate the contribution of immunohematology to the diagnosis of hemolytic disease of the newborn and how it contributes to the treatment of the disease.

General Course Objectives:

The objective of this course is to impart to students:

1. Entry level knowledge and practical application skills in the area of Immunohematology.
2. The ability to interpret clinical results and correlate with common conditions and disease states.

Specific lecture objectives are provided for each topic presented/discussed in MLS 463.

Required Text:

"Basic and Applied Concepts of Immunohematology", 2nd edition, Kathy D. Blaney and Paula R. Howard; Mosby Elsevier; ISBN 978-0-323-04805-7

Optional Textbooks:

"AABB Technical Manual", 16th edition, American Association of Blood Banks; ISBN 978-1-56395-260-9

"Modern Blood Banking and Transfusion Practices", 4th edition, Denise M. Harmening, F.A. Davis; ISBN 0-8-35-0419-X

"Immunohematology Principles and Practices", 3rd edition, Eva D. Quinley; Lippencott; ISBN: 978-0-7817-8204-3

Grading:

Exam I	16%
Exam II	16%
Exam III	16%
Exam IV	16%

Final Exam (comprehensive)	20%
Assignments:	8%
Case studies:	8%

Exams: The Final Exam is comprehensive. The date, time and location of exams can be found in the course schedule.

Assignments: Include study questions for certain lecture topics. Study questions will be posted on Blackboard. All assignments are due on the assigned date (see course schedule below) by the beginning of the class session.

Case studies: Each student is to select a patient case study that represents one of the following topics to present to rest of class (15 minute presentation). Specific details can be found on Blackboard.

Topics:

a. Multiple antibodies
b. Transfusion reaction
c. Autoimmune Hemolytic Anemia (AIHA)
d. Hemolytic Disease of the Fetus and Newborn (HDFN)
e. Transfusion therapy: multiple # of components transfused over period of time (BMT, Trauma, Liver Transplant, etc)
f. Other: with instructor approval

Mid-Term Evaluation:

Students will be provided with a mid-term evaluation. Exams taken and assignments due before mid-term (mid-term date can be found on the UK Academic Calendar) will be used to determine mid-term progress.

Grading Scale:

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

COURSE POLICIES

Professional Preparation: This program prepares students for entry into the clinical laboratory science profession. As such, instructors have a responsibility to assist students in learning about ethical and professional behavior. Professional behavior in this program includes: attending all classes, being prompt, notifying instructors of any absences, adhering to the highest standards of academic honesty, and conversing respectfully with faculty and fellow students.

Attendance: Tardiness is defined as arriving 10 minutes after class begins or departure before

the end of the class session. Three tardies constitute one unexcused absence. Attendance is mandatory. For the third and each subsequent unexcused absence, the final average will be lowered by 1 point (1%). You are expected to contact the instructor PRIOR to class if you are unable to attend.

Make-up opportunity: When there is an excused absence a student will be given an opportunity to make up the missed work and/or exams. It is the student's responsibility to inform the instructor of the absence, preferably in advance. Any missed scheduled assignment(s) will be due at the beginning of the class session on the day the student returns. Time and location of make-up exams will be determined by the instructor.

Excused Absences:
S.R. 5.2.4.2 defines the following as acceptable reasons for excused absences:

a) serious illness;
b) illness or death of family member;
c) University-related trips;
d) major religious holidays;
e) other circumstances you find to be "reasonable cause for nonattendance".

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day for adding a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Verification of Absences:
The instructor has the right to request appropriate verification of an excused absence. Students missing work due to an excused absence bear the responsibility of informing the instructor about their excused absence (except where prior notification is required) and of making up the missed work (see "Make-up Opportunity" policy above).

Late work: Late work will not be accepted for a grade unless approved by instructor. If approved, points will be deducted for late work at the rate of 5 points per day. After one week, late work will not be accepted.

Submission of assignments: Assignments will be available on Blackboard. All assignments are to be accessed and submitted via Blackboard. All assignments are due on the assigned date (see course schedule below) by the beginning of the class session.

Questions Concerning Grades: All assignments and exams will be evaluated. Any assignment graded incorrectly or questions concerning the grading must be brought to the instructors' attention within one week of the grade being posted/returned. One week after grades have been posted/returned they become final and no corrections will be made.

Electronic Device Policy: Generally cell phone use is not permitted for any reason. All cell phones must be placed in the "off" or "silenced" position during class. If there is a situation where a student might need to be notified during a class period, please alert the instructor to this

potential and carefully monitor your phone. Other electronic devices (except for computers and i-Pads) such as smartphones, i-Pods, MP3 Players, and electronic game devices should be turned off.

Academic Integrity, Cheating, and Plagiarism: Each student in the class and program are expected to adhere to the highest standards of academic honesty. Cheating, plagiarism, and destruction of course materials violate the rules of the University. For more information on the University's policy on academic integrity please see Students Rights and Responsibilities, Part II, Section 6.3 (http://www.uky.edu/StudentAffairs/Code/part2.html). Violations of the university's rules regarding academic honesty can lead to a failing grade in the course and suspension, dismissal or expulsion from the University. Instances of academic dishonesty will be reported to appropriate University officials as required by University rules and procedures.

Classroom Behavior: Classroom behavior should be in compliance with the student code of conduct. Full details can be viewed at: http://www.uky.edu/StudentAffairs/Code/part1.html. Consistent with this policy, student behavior that detracts from the educational environment will not be tolerated. Examples of inappropriate behaviors include engaging in disrespectful or uncivil discussions, holding disruptive discussions, or sleeping. Disruptive students will be asked to leave the classroom and re-admittance is at the discretion of the instructor.

Academic Accommodations: 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 (Room 2, Alumni Gym, 859-257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities. We can then collaborate on the best solution.

Severe Weather: 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.uky.edu/PR/News/severeweather.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 859-257-5684, UK TV Cable Channel 16, or the UK Web site at http://www.uky.edu/

DISTANCE LEARNING STUDENTS
(Center for Rural Health Students)

Distance Learning: Formal educational process in which the majority of instruction in a course occurs when students and instructors are not in the same place.

Instructor Information:
Virtual Office Hours: TBD
Preferred method of contact: Email (email address given at top of syllabus)
Maximum timeframe for responding to student communications: 24 hours

Technological Requirements:

- Access to a computer with Internet capabilities (DSL or Cable modems are highly recommended.)
- System Requirements for Blackboard see http://wiki.uky.edu/blackboard/Wiki%20Pages/FAQS.aspx

Technology Support:

- Contact information for Teaching and Learning Services Center (TASC):
  Website: http://www.uky.edu/TASC/
  Phone: 859-257-8272
- Contact information for Information Technology Customer Service Center (ITSC):
  Website: http://www.uky.edu/UKIT/
  Phone: 859-218-HELP
- Procedure for resolving technical complaints: Contact TASC or ITSC first, then contact instructor

Distance Learning Library Services:

- Contact information for Distance Learning Library Services:
  Website: http://www.uky.edu/Libraries/DLLS
  DL Librarian: Carla Cantagallo
  Email: dllservice@email.uky.edu
  Phone: 859 257-0500, ext. 2171; (800) 828-0439 (option #6)
  DL Interlibrary Loan Service:
  http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16

COURSE SCHEDULE

Date	Topic	Readings	Study Questions
TBD	Introduction to Blood Banking	Chapter 1 and 3	
TBD	Immunology	Chapter 1 and 3	
TBD	Genetics	Chapter 3	
TBD	Blood Banking Reagents	Chapter 2	
TBD	ABO System	Chapter 4	ABO System (Due: TBD)
TBD	Rh System	Chapter 5	Rh System (Due: TBD)
TBD	Other Blood Group Systems	Chapter 6	
TBD	**Exam 1 (Time: TBD, Location: TBD)**		
TBD	AHG/DAT/IAT	Chapter 2	
TBD	Antibody Detection and Identification	Chapter 7	Antibody Detection and ID (Due: TBD)
TBD	Compatibility testing	Chapter 8	
TBD	Quality and Safety Issues	Chapter 15 and 16	
TBD	Blood Components	Chapter 11	Blood Components (Due: TBD)
TBD	Donor Selection	Chapter 9	
TBD	**Exam 2 (Time: TBD, Location: TBD)**		
TBD	Transfusion Transmitted Diseases	Chapter 10	Transfusion Transmitted Diseases (Due: TBD)
TBD	Apheresis	Chapter 11	
TBD	Adverse Effects of Transfusion	Chapter 12	Adverse Effects of Transfusion (Due: TBD)
TBD	Transfusion Therapy	Chapters 11, 14	
TBD	Transfusion Therapy	Chapters 11, 14	
TBD	**Exam 3 (Time: TBD, Location: TBD)**		
TBD	Hemolytic Disease of the Newborn and Fetus	Chapter 13	Hemolytic Disease of Newborn and Fetus (Due: TBD)
TBD	Autoimmune Hemolytic Anemias	Handouts	Autoimmune Hemolytic Anemias (Due: TBD)
TBD	Quality Assurance and Federal Regulations	Chapter 15	
TBD	HLA System	Handouts	
TBD	HLA System	Handouts	

TBD	**Exam 4 (Time: TBD, Location: TBD)**		
TBD	Case Studies: Student Presentations		
TBD	Case Studies: Student Presentations		
TBD	**Final Exam (Time: TBD, Location: TBD)**		