WINONA STATE UNIVERSITY
REQUIRED CHECKLIST FOR ALL CURRICULAR PROPOSALS

This checklist enables A2C2 representatives to endorse that their departments have accurately followed the Process for Accomplishing Curricular Change. For each course or program proposal submitted to A2C2, this checklist should be completed and signed by the submitting department's A2C2 representative. Peer review of proposals is also strongly advised, e.g., departments should discuss and vote on the proposals as submitted to A2C2, rather than on just the ideas proposed or drafts of proposals.

If a proposal fails to follow or complete any aspect of the process, the Course and Program Proposal Subcommittee will postpone consideration of the proposal and return it to the department's A2C2 representative for completion and resubmission. Resubmitted proposals have the same status as newly submitted proposals.

Note: This form need not be completed for notifications.

1. The appropriate forms and the “Approval Form” have been completed in full for this proposal. All necessary or relevant descriptions, rationales, and notifications have been provided.
   ✔ Completed

2a. The “Financial and Staffing Data Sheet” has been completed and is enclosed in this proposal, if applicable.
   ✔ Completed    NA

2b. For departments that have claimed that “existing staff” would be teaching the course proposed, an explanation has been enclosed in this proposal as to how existing staff will do this, e.g., what enrollment limits can be accommodated by existing staff. If no such explanation is enclosed, the department's representative is prepared to address A2C2's questions on this matter.
   ✔ Completed    NA

3. Arrangements have been made so that a department representative knowledgeable of this proposal will be attending both the Course and Program Proposal Subcommittee meeting and the full A2C2 meeting at which this proposal is considered.
   ✔ Completed

   Name and office phone number of proposal's representative: ________________________________

4. Reasonable attempts have been made to notify and reach agreements with all university units affected by this proposal. Units still opposing a proposal must submit their objections in writing before or during the Course and Program Proposal Subcommittee meeting at which this proposal is considered.
   ✔ Completed    NA

5. The course name and number is listed for each prerequisite involved in this proposal.
   ✔ Completed    NA

6. In this proposal for a new or revised program (major, minor, concentration, etc.), the list of prerequisites provided includes all the prerequisites of any proposed prerequisites. All such prerequisites of prerequisites are included in the total credit hour calculations.
   ✔ Completed    ✔ NA

7. In this proposal for a new or revised program, the following information for each required or elective course is provided:
   a) The course name and number.
   b) A brief course description.
   c) A brief statement explaining why the program should include the course.
   ✔ Completed    ✔ NA

8. This course or program revision proposal:
   a) Clearly identifies each proposed change.
   ✔ Completed    NA

9. This course proposal provides publication dates for all works listed as course textbooks or references using a standard form of citation. Accessibility of the cited publications for use in this proposed course has been confirmed.
   ✔ Completed    ✔ NA

Department's A2C2 Representative ____________________________ Date 2/1/06
**WINONA STATE UNIVERSITY**  
**APPROVAL FORM**

Routing form for new and revised courses and programs.

**Department Recommendation**

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**A2C2 Recommendation**

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**Academic Vice President Recommendation**

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**Decision of President**

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Please forward to Registrar.

**Registrar**

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<th>Date entered</th>
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WINONA STATE UNIVERSITY
PROPOSAL FOR REVISED COURSES

Department: Biology

Date: 1/25/06

If proposed course change requires A2C2 and/or graduate Council approval, i.e., not considered a notification, complete and submit this form with the appropriate number of copies. Refer to Regulation 3-4, Policy for Changing the Curriculum, for complete information on submitting proposals for curricular changes.

Current Course Information

Course No. Bio 333 Medical Laboratory Techniques 1 SH
Course Name
Credits

This Proposal is for a(n) Undergraduate Course Graduate Course

Applies to: X Major (med) Minor Required
X Elective

Prerequisites none

Grading Grade only P/NC only Grade and P/NC Option

Frequency of offering Yearly

Proposed Course Information. (Please indicate only proposed changes below.)

Course No. Bio 333 Clinical Laboratory Techniques 3 SH
Course Name
Credits

This Proposal is for a(n) Undergraduate Course Graduate Course

Applies to X Major X Required New
X Elective med

Prerequisites Chem 212, Chem 213

Grading Grade only P/NC only Grade and P/NC Option

Frequency of offering Yearly

A. Changes in the course description,
1. Catalog description (include a display of current and proposed course requirements).
2. Course outline of the major topics and subtopics (minimum of two-level outline).
3. Instructional methods utilized. Please indicate the contributions of lectures, laboratories, web-based materials, internships, and other instructional methods to this course.
4. Course requirements (papers, lab work, projects, etc.) and means of evaluation.

B. Rationale for each of the changes proposed.
C. Impact of this Course on other Departments, Programs, Majors, or Minors
   1. Does this course increase or decrease the total credits required by a major or minor of any other department? If so, which department(s)?
   2. List the department(s), if any, which have been consulted about this proposal.

D. Describe impacts of this proposal on the University Studies Program.

Attach an Approval Form with appropriate signatures.

Department Contact Person for this Proposal:

Judith A Loewen
Name (please print) x 2993
Phone

e-mail address
Form Revised 4-13-05
Current Catalog Description:

Biology 333 - Medical Laboratory Techniques - 1 SH
Selected students participate in the everyday operation of a hospital medical laboratory. Students must contact their advisor four week prior to registration. May be repeated for credit. P/NC Only. Offered Spring semester.

New Catalog Description:

Biol 333 - Clinical Laboratory Techniques - 3 SH
Introduction to basic and specialized clinical laboratory techniques. These include formulating chemical solutions and compounds, phlebotomy, collection and processing of clinical specimens, aseptic techniques and culturing of organisms, and the safe handling and disposal of laboratory materials. This course includes off-site visits to observe hospital and clinical laboratories. Offered yearly. Prerequisites: Chem 212 and 213.
2. Course outline of the major topics and subtopics.
   I. Metric Conversions and Basic Mathematical Ratios.
      A. Percentages, Standard Deviations
      B. Weights and Measures
         a. Dry – Scales, Weight boats,
         b. Liquid- solutions
      C. Centrifuge and calibrations

   II. Chemical Solutions
      A. Molarity
      B. Normality
      C. pH
         a. Henderson-Hasselbach
         b. Acidic compounds
         c. Basic compounds
         d. Safety- carriers, additions
      D. Solutions, Percentage

   III. Spectrophotometry
      A. Instrumentation
      B. Hemoglobin
      C. Turbidity – Standards
      D. Graphs

   IV. Laboratory Variables
      A. Temperature
      B. Time
      C. Graphing
      D. Humidity

   V. Quality Control
      A. Standards
         1. In House controls and Standards
         2. Commercially purchased controls and Standards.
         3. Standard Deviations, graphing and recording
         4. Surveys, CAP
         5. Governmental Regulations and standards.
         6. Costs
      B. Performance of QC
      C. QC versus QA, Acceptable errors.
      D. Specificity versus Sensitivity, Setting thresholds.

   VI. Safety
      A. OSHA
      B. Material Safety Data Sheets
      C. Autoclave, Biohazard, Universal precautions
      D. Laboratory Design
      E. Fire Control and Prevention
VII. Aseptic Techniques
   A. Culture and transfer
   B. Culture and processing
   C. Contact and surface
   D. Disinfectants and cleaning compounds-solutions

VIII. Phlebotomy
   A. Specimen requirements and processing.
   B. Vacutainer, single sample and multi-sample collection
   C. Butterfly Draws
   D. Syringe Draws
   E. Additional processing

IX. Slide Making
   A. Hematology slides
   B. Microbiology slides
   C. Staining techniques
   D. Histology review

X. Pipettes
   A. Differences and types of pipettes
   B. Proper pipette usage, dexterity

XI. Site Visits and Observation
   A. Hospital Clinical laboratory visit and observation
   B. Office/ clinic clinical laboratory visit and observation
   C. Review of Instrumentation
   D. Review of laboratory layout and design.

3. Basic Instructional plan and methods utilized.

This course will be a hands on clinical laboratory techniques course that will include lecture/instruction time prior to each laboratory session. The students will physically have to participate and perform each step in the clinical procedures outline within each unit and topic. The assumption upon completion of this course is that the student will be ready to step into a clinical laboratory and perform these basic physical procedural skills. It becomes a laboratory techniques prerequisite for the following clinical courses that will be taught, such as hematology, blood banking, urinalysis, microbiology, clinical physiology.

4. Course requirements (papers, lab work, projects, etc.) and means of evaluation.

Students will actually make up solutions to the correct percentages, molarity, pH, composition. Students will actually make clinical slides and stain them to acceptable
standards. Students will learn and perform phlebotomy procedures for drawing blood including vacutainer, syringe and butterfly techniques, with an understanding of basic anatomy. Students will perform spectrophotometric hemoglobin tests, and turbidity controls. They must demonstrate aseptic culturing techniques and plate streaking techniques.

This will be a means of measuring physical aptitude for performing laboratory procedures, they will have to be academically passing tests and physically able to perform the procedures with a dexterity that is acceptable for safe performance within the clinical lab setting.

Evaluations will include written testing, and laboratory performance. Participation in class and demonstration of problem solving and time management will also be evaluated.

C. Rationale for the changes proposed.

The course changes made will meet the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) standards. This accreditation is necessary for the Clinical Laboratory Science/Medical Technology program currently in place at WSU and for the new program accreditation that the program is seeking. The clinical laboratory techniques required is very detailed and extensive and warrants a course with these expanded instruction times and evaluation. We are going from an observational class on site visit to a participatory techniques instruction and methods class for the student.

D. Description of any impact of this proposal on other departments, programs, majors or minors.

This course should not have any impact on other departments with the exception of whether they might want to include it as a department elective for credit. It will become an evaluation tool for the CLS/MT program to help advise students for acceptance into the CLS/MT program. If you don’t perform within acceptable limits for this course, it becomes a good indicator for success in other clinical laboratory courses. The increase in semester hours works within the graduation semester hours for the degree.

E. Describe any impact that this proposal may have on the University Studies Program.

This program does not have any impact on the University Studies Program.

Course Contact Person for this Proposal:
Judith A. Loewen
209 Stark Hall
Jloewen@winona.edu
457-2993 or Biology Office 457-5270
Course: **Clinical Laboratory Techniques**

Winona State Financial and Staffing Data Sheet

1. **Would this course or program be taught with existing staff or with new or additional staff? If this course would be taught by adjunct faculty, include a rationale.**

   This class would be taught by Dr. Loewen who is the program director for Winona State’s Clinical Laboratory Science program. She is a fixed term employee, who has been with the University since 1997. The course is part of the new curriculum development to comply with NAACLS accreditation standards, which must include a techniques class. Dr. Loewen is the only current staff member who is qualified to teach the class. Future instructors would have to have the appropriate clinical background for procedure and techniques instruction, which might involve adjunct staffing.

2. **What impact would approval of this course/program have on current course offerings? Please discuss number of sections of current offerings, dropping of courses, etc.**

   This would be a modification of an existing course. It would be directed towards the CLS program students, but depending upon enrollment could be offered to other biology majors looking to improve their laboratory techniques and procedures. It will supplement the Hematology course, # 444 with the inclusion of teaching phlebotomy techniques. Based on expected class size it should be offered just in one laboratory course section in the spring semester rotation. No classes will be dropped or modified.

3. **What effect would approval of this course/program have on the department supplies? Include data to support expenditures for staffing, equipment, supplies, and instructional resources. etc.**

   There should be no additional equipment expenditures, as the biology laboratories have all of the current equipment readily available in the labs- spectrophotometers, pH meters, incubators, safety hoods, drawing equipment, glassware. The instructional resources will be lab procedures, manuals, reference books that again are readily available and current. Supplies should be minimal and would be offset through tuition and fee reimbursement.