

Course Approval Form

For approval of new courses and deletions or modifications to an existing course.

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

☒ Create new course ☐ Inactivate existing course

☐ Modify existing course (check all that apply)

☐ Title ☐ Credits ☒ Repeat Status ☐ Grade Type

☐ Prereq/coreq ☐ Schedule Type ☐ Restrictions

☐ Other:

Course Level:

☒ Undergraduate ☐ Graduate

College/School:

College of Science

Submitted by:

Anne Verhoeven

Department:

Biology

Ext: 3-1572

Email:

averhoev@gmail.com

Subject Code:

MLAB

Number:

408

Effective Term:

☐ Fall ☒ Spring ☐ Summer

Year 2018

Title: Current

Clinical Histology

Banner (30 characters max including spaces)

New

Credits: (check one)

☐ Fixed ☒ Variable ☐ or ☐ 1 to 99

Repeat Status: (check one)

☐ Not Repeatable (NR) ☐ Repeatable within degree (RD) ☐ Repeatable within term (RT)

Maximum credits allowed:

99

Grade Mode: (check one)

☒ Regular (A, B, C, etc.) ☐ Satisfactory/No Credit ☐ Special (A, B C, etc. +IP)

Schedule Type: (check one) LEC can include LAB or RCT

☐ Lecture (LEC) ☐ Lab (LAB) ☐ Recitation (RCT) ☒ Internship (INT)

☐ Independent Study (IND) ☐ Seminar (SEM) ☐ Studio (STU)

Prerequisite(s):

Completion of requirements for BS with major in Medical Laboratory Science except for the 30 credits of professional study.

Corequisite(s):

Instructional Mode:

☒ 100% face-to-face ☐ Hybrid: ≤ 50% electronically delivered ☐ 100% electronically delivered

Restrictions Enforced by System: Major, College, Degree, Program, etc. Include Code.

Are there equivalent course(s)?

☐ Yes ☒ No If yes, please list

Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	Notes (List additional information for the course)
Introduction to the field of Histotechnology including lectures on tissue fixation, processing and embedding, microtomy, and staining.	
Indicate number of contact hours: When Offered: (check all that apply) <input checked="" type="checkbox"/> Fall <input type="checkbox"/> Summer <input checked="" type="checkbox"/> Spring	Hours of Lecture or Seminar per week: <input type="text"/> Hours of Lab or Studio: <input type="text"/>

Approval Signatures

Depa	College/School Approval	Date
If this obtain	er units, the originating department must circulate this proposal for review by those units and delay action on this proposal.	
Unit	Unit Approver's Signature	Date

For Graduate Courses Only

Graduate Council Member

Provost Office

Graduate Council Approval Date

For Registrar Office's Use Only: Banner

Catalog

Course Proposal Submitted to the College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference. Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL COURSES (required)

Course Number and Title: BIOL 408

Date of Departmental Approval: February 17, 2017

FOR INACTIVATED/REINSTATED COURSES (required if inactivating/reinstating a course)

- Reason for Inactivating/Reinstating:

FOR MODIFIED COURSES (required if modifying a course)

- Summary of the Modification:

FOR NEW COURSES (required if creating a new course)

Reason for the New Course:

Medical Laboratory Science (MLAB) requires students to take 1 year of class/clinical training at one of GMU's affiliated hospitals or schools. Recently we have decided to add a concentration in histology. In order to accommodate this change we are requesting that MLAB 408 be added to our program. MLAB 408 would encompass the didactic courses taught by our affiliated clinical training programs and as such each program can assign a variable amount of credit for this class. At present we have the Sentara School of Medical Laboratory Science in Harrisonburg, VA and Fairfax INOVA ready to accept our students for Histotechnology Training

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- Relationship to Existing Programs:
None
- Relationship to Existing Courses:
None
- Semester of Initial Offering:
Spring 2018
- Proposed Instructors:
Affiliated Faculty at Affiliated Clinics and Hospitals.
- Insert Tentative Syllabus Below

Syllabus

MLAB 408: Clinical Histology

To be taught by Affiliated Clinical Faculty from Sentara in Harrisonburg and from INOVA, Fairfax.

The course will consist of four modules as follows:

Module 1 Fixation: Two weeks

Didactic – Lecture includes fixation of tissues, anatomy, types of fixation, action of major single and combination fixatives, special fixatives, factors affecting the quality of fixation, fixation for selected individual tissues, incompatible stains and fixatives, useful formulas for fixatives, and dehydrant cross-linking fixatives.

Module 2 Processing and Embedding: Two weeks

Didactic – Lecture includes gross room/surgical cut-up, specimen dissection plans, various types of tissues, tissue processing and microarray, dehydration, clearing, infiltrating and embedding reagents, automated tissue processing, manual tissue processing, tissue microarray including purpose, advantages, types, grid design, donor block, needles, arrayers, smoothing, sectioning, troubleshooting and maintenance.

Module 3 Microtomy: Two weeks

Didactic – Lecture includes basic principles of microtomy applicable to both paraffin and frozen sections and techniques necessary to provide quality microscopic slides for clinical and research histology. Topics include types of microtome, paraffin section cutting, frozen and related sections, uses of frozen sections, cryostat sectioning, freeze drying and freeze substitution, frozen section substitution and plastic embedding for light microscopy.

Module 4 Staining: Eight weeks

Didactic – Lecture includes theory of staining, properties of dyes, problems/troubleshooting, hematoxylin and eosin, alum hematoxylin, routine staining, iron hematoxylin, tungsten hematoxylin, molybdenum hematoxylin, lead hematoxylin, QC in routine H & E Staining. Additional topics include stains for connective and mesenchymal tissues, carbohydrates, pigments and minerals (indogenous and exogenous). Amyloid techniques, microorganisms detection and identification, bone (normal cells, processing decalcified bone, staining etc.), and techniques are covered in neuropathology (normal nervous system, staining neurons, immunohistochemistry of neurons, the neuroglia, clinical correlation). Additional topics include immunofluorescent techniques, immunochemistry, QC, molecular pathology, transmission electron microscopy and quantitative data from microscopic specimens.

Grading:

There will be an exam on each module

Exam Average from the 4 exams

A = 90% and above

B = 80% - 89%

C = 70%- 79%

Failing: less than 70%

Students with less than 70% will be withdrawn from the program.

Academic Integrity

GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit to those people in the proper, accepted form. When doing homework, the work must be yours. It is totally unacceptable to copy the work of another student in this course in any form.

GMU Email Accounts

Students must use their Mason email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.

Other Useful Campus Resources:

Writing Center: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>

UNIVERSITY LIBRARIES "Ask a Librarian" <http://library.gmu.edu/mudge/IM/IMRef.html>

Counseling and Psychological Services (CAPS): (703) 993-2380; <http://caps.gmu.edu>

University Policies

The University Catalog, <http://catalog.gmu.edu>, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at <http://universitypolicy.gmu.edu/>. All members of the university community are responsible for knowing and following established policies.