

# Approval Form

Proposal Title: Animal Histology

Sponsor(s) Maria Tahamont Dept.: Biological Sci. Ext. 3584

Check one:  Course  Specialization  Concentration  Minor  Achievement Certificate  
 Certification Program  Major Program  Minor Change (please name deletion or credit/article/catalog change)

Undergraduate  Graduate      Credit Hours

<p><b>Step 1 (Department)</b></p> <p><input checked="" type="checkbox"/> Approved <u>Oct 21 1997</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>S. J. Moore</u> Dept. CC Chairperson</p> <p><input checked="" type="checkbox"/> Reviewed <u>Oct 21 1997</u> Date</p> <p><u>S. J. Moore</u> Dept. Chairperson</p>	<p><b>Step 2 (Receipt)</b></p> <p><input checked="" type="checkbox"/> SCC# <u>9798-90</u></p> <p>Proposal Received <u>10-23-97</u> Date</p> <p><u>L. Reeves</u> SCC Chairperson</p>	<p><b>Step 3 (School CC)</b></p> <p>Reviewed <u>10/23/97</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p><u>K. Young</u> School Curr Comm Chairperson</p>
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<p><b>Step 4 (Academic Dean)</b></p> <p><input type="checkbox"/> Recommend <input type="checkbox"/> Not Recommend <input type="checkbox"/> Conditionally Recommend (see comments)</p> <p>Reviewed <u>    </u> Date</p>	<p><b>Comments:</b></p> <p><u>    </u> Signature, Dean of School</p>
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**Step 5 (SCC)**

Open Hearing       Approved by Senate Curriculum Committee       
Date Date

Returned to sponsor(s) for the following reasons:

**Step 6 (Senate)**

Presented to Senate       Approved  Not Approved  
Date

Notification to Executive Vice President/Provost 2/24/98 L. Reeves  
Date Signature of Chairperson

**Step 7 (Executive V.P./Provost)**

Received 3/1/98  
Date

Approved  Yes  No

If no, reasons are as follows.

Student credit hours 4

Faculty load hours 4

Equalized credit hours \_\_\_\_\_

Official copy and approval sheet filed 2/26/98  
Date

C. J. Oles  
Signature, Executive Vice-President/Provost

**Registrar**

Approved course description received \_\_\_\_\_  
Date

Hegis Taxonomy and Course Number assigned 111-465

E. P. Eubank  
Signature, Registrar

3/2/98  
Date

**Notification forwarded:**

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

*Transmittal*  
*3/5/98*

## New Course Proposal

2001-705

### 1. Details:

- a. Course Title: Animal Histology
- b. Sponsor: Maria V. Tahamont, Ph. D., Associate Professor  
Biological Sciences
- c. Credit Hours: 4 sh, lecture and laboratory
- d. Course Level: undergraduate, 400 level HEGIS number  
requested
- e. Curricular Effect: This course will be an upper level Biology  
laboratory elective.
- f. Prerequisites: Biology I & II
- g. Implementation: Spring 1999
- h. Adequacy of Resources: Staff, resources, library, equipment are all  
adequate. Laboratory space is adequate for a  
maximum of 18 students.
- i. Short Term Evaluation: The success of this course will be evaluated  
in the same manner as other courses in the  
Department. This includes student evaluation.

### 2. Rationale:

Currently, we offer Biological Techniques as an upper level lab course that allows the students to develop skills in the preparation of plant and animal histological slides. It stresses the theory and practice of slide preparation, microtomy and staining. While this course has been beneficial in the past, it now presents too narrow a focus for well-trained biology majors. Biological technology has significantly out paced the material covered in the course.

In its place, a course in Animal Histology will allow the students to study animal tissue in great detail. Histology has a close relationship with other disciplines, particularly cell biology, physiology and pathology. By integrating an extensive laboratory experience, on the preparation and examination of animal tissues, with the in depth content, this course will offer the Biological Sciences majors an excellent opportunity to grow and gain useful techniques in context.

Many of the students who will take this course will go on to professional training where a background in histology is invaluable. Students who have taken undergraduate histology are more successful in

graduate- and medical-level histology courses. Many of our students pursue these careers.

The plant histology portion of the previous course will be covered in plant courses to be developed. The new techniques in Biology will be addressed in content courses and in a new Biotechnology course to be developed.

### **3. Essence of the Course:**

#### a. Objectives:

1. The student will demonstrate an understanding of the function of different tissues.
2. The students will, through detailed examination of histological slides, be able to identify specific cells, tissues and organs.
3. The student will characterize animal tissue quantitatively and qualitatively.
4. The student will learn how to communicate through writing and discussion.
5. The student will produce a body of work consisting of a collection of histological slides of essential animal organs.

#### b. Topical Outline/Content

Cell Biology  
Skeletal Muscle and Cell Motility  
Epithelium  
Connective Tissue  
    Loose, Dense, Cartilage, Bone  
Neurocytology and Nervous Tissue  
Central Nervous System, Neuroglia, Peripheral Nervous System  
Circulatory System  
Integumentary (Skin)  
Respiratory System  
Digestive System  
Renal System  
Reproductive System  
Histochemistry  
Selected Topics

In the laboratory portion of the course, the students will fix, embed, section, stain and mount tissue slides. It is extensive laboratory work and reinforces the lecture/discussion content of the course.

c. Evaluation Procedures:

Students will be evaluated by class participation, exams, quizzes and their slide collection.

d. Course Evaluation:

The Biological Sciences Department, as a whole, routinely reviews the Department's courses to assess the success in meeting the course goals and objectives of the program and the College.

**4. Results of Consultation:**

Discussion within the Department prompted a reassessment of the current course offering. It was determined that a new course in Animal Histology would better serve the needs of our majors.

Included with the proposal are letters from Dr. Robert Nagele, the coordinator of the Histology course for first year medical students at the University of Medicine and Dentistry of New Jersey, and Dr. Richard Meagher, the chair of the Rowan Preprofessional Committee. In Dr. Nagele's letter he points to the value and importance of an undergraduate course in histology for medical students. Dr. Meagher's letter further supports the development of this course.

**5. Possible Textbooks:**

Histology Text and Atlas, Ross, Williams and Wilkins.

Text/Atlas of Histology, Leeson, et al, W.B. Saunders.

Color Atlas of Histology, Gartner & Hiatt, Williams and Wilkins.

**6. Catalog Description:**

See next page.

## CATALOG DESCRIPTION

Animal Histology 0401.4XX  
(Prerequisite: Biology I & II)

4 s.h.

This upper level lecture and laboratory course provides an in depth study of animal tissue. It includes the examination and identification of specific cells, tissues and organs. The students will develop laboratory skills in cytological and histological techniques. The relationship of histology to cell biology, physiology and pathology will be emphasized.



University of Medicine and Dentistry of New Jersey  
School of Osteopathic Medicine

Department of Molecular Biology  
Phone: (609) 566-6273  
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Two Medical Center Drive  
Stratford, New Jersey 08084-1489

October 20, 1997

Maria Tahamont, Ph.D.  
Department of Biology  
Rowan University  
Glassboro, NJ 08028

Dear Dr. Tahamont:

I am the Human Histology course director here at UMDNJ and have been involved in teaching histology at the medical school level at UMDNJ since 1980. The experience of these years has shown me clearly that students who have taken undergraduate courses that relate directly to courses that they will be taking in medical school have a strong advantage during their basic science years over their fellow students lacking this background. For example, this fall, out of a class of 75 students, approximately 10 have taken Histology at the undergraduate level. All of these students are currently in the upper one-third of the class, and five of them are among the top 10 students in Histology thus far. The same appears to hold true for students that enter medical school with strong undergraduate backgrounds in Biochemistry, Microbiology/Immunology and Physiology, all of which are core courses during the medical school freshman year. Needless to say, such strong backgrounds will also result in better MCAT scores, which will make it more likely that your students will be able to gain admission into medical schools in this competitive climate. My experience has also shown that students who manage to "slide" into medical school with a minimum background in the hard sciences generally suffer miserably while making the effort to come "up to speed" and on-level with their classmates with stronger backgrounds.

If I were designing a strong pre-medical curriculum, courses like Animal or Human Histology, Biochemistry, Animal or Human Physiology and Microbiology/Immunology would be core courses, since these are the courses that they will take during their first year of medical school. Such a curricular core would help to ensure that your students would score above the national average in the MCATs and, upon entering medical school, would allow them to start their medical careers comfortably at the top of their class, rather than struggling to compete with students with a much stronger science base.



If you require any further information or need any help in the future in the planning of a Histology course at Rowan, please don't hesitate to contact me.

Sincerely,



Robert G. Nageler, Ph.D.

Tel: 609-566-6083

Fax: 609-566-6232

e-mail: nagelero@umdnj.edu

P.S. Please give my best regards to Andy Prieto.



*Biological Sciences*

TO: Maria Tahamont, Ph.D., Biological Sciences  
FROM: Richard Meagher, Ph.D., Biological Sciences  
RE: Animal Histology Course  
DATE: October 22, 1997

I am happy to see that you have developed a course in Animal Histology. This course will be of tremendous benefit to our Pre-Medical/Pre-Dental students. Many medical schools allow students who have had a histology course to test out of the course in their program.

I endorse your development of the course Animal Histology and most highly recommend its approval by the All College Curriculum Committee.