

Glassboro State College Senate Curriculum Committee

# Approval Form



Proposal Title: "Cell Culture Technology"

Sponsor(s) Joanne Scott, Ph.D. Dept.: Biological Sciences Ext. 6414

Richard Meagher, Ph.D. 6182

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

Undergraduate  Graduate 4 Credit Hours

<p><b>Step 1 (Department)</b></p> <p><input type="checkbox"/> Approved <u>4/18/94</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>Richard Meagher</u> Dept. CC Chairperson</p> <p><input checked="" type="checkbox"/> Reviewed <u>4/18/94</u> Date</p> <p><u>Richard Meagher</u> Dept. Chairperson</p>	<p><b>Step 2 (Receipt)</b></p> <p><input type="checkbox"/> SCC# _____</p> <p>Proposal Received _____ Date</p> <p style="text-align: center;">APR 8 1994</p> <p style="text-align: center;">RECEIVED</p> <p>_____ SCC Chairperson</p>	<p><b>Step 3 (School CC)</b></p> <p>Reviewed <u>4/18/94</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p><b>Comments:</b></p> <p>_____ School Curr Comm Chairperson</p>
--	--	---

**Step 4 (Academic Dean)** **Comments:**

Recommend  
 Not Recommend  
 Conditionally Recommend (see comments)

Reviewed 4/22/94 Date

Richard Meagher  
Signature, Dean of School

**Step 5 (SCC)**

Open Hearing 5/10/94 Date  Approved by Senate Curriculum Committee 5/10/94 Date

Returned to sponsor(s) for the following reasons:

**Step 6 (Senate)**

Presented to Senate 5/10/94 Date  Approved  Not Approved

Notification to Executive Vice-President/Provost \_\_\_\_\_ Date 5/10/94 \_\_\_\_\_  
Signature, SCC Chairperson

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

Received 6/17/94  
Date

Approved  Yes  No

If no, reasons are as follows:

Student credit hours 410

Faculty load hours \_\_\_\_\_

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

Official copy and approval sheet filed \_\_\_\_\_  
Date

[Signature]  
Signature, Executive Vice-President/Provost

**Registrar**

Approved course description received 22 Aug 94  
Date

Hegis Taxonomy and Course Number assigned 0451, 435

[Signature]  
Signature, Registrar

27 Aug 94  
Date

**Notification forwarded:**

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

NEW COURSE PROPOSAL

1. Details:

a. Course Title: "Cell Culture Technology"

b. Sponsors:

Joanne Scott, Ph.D.; Richard Meagher, Ph.D.;  
Biological Sciences Department

David P. Beck, Ph.D.; President,  
Coriell Institute for Medical Research, Camden, NJ

Arthur Greene, Ph.D.; Selena Dwight;  
Members, Coriell Institute; Rowan College adjunct faculty

c. Course Level: Undergraduate (senior level -- recommend a 400  
level HEGIS number)

d. Credit Hours: 4.0 semester hours (laboratory course)

e. Curricular Effect:

It is proposed that this course serve as a senior-level elective within the Biological Sciences major requirements (among the total of 38 hours of Biology all majors must take). It may also be taken by Chemistry majors who have had Biology I and II as well as Cell Biology.

This course is currently (Spring '94) being taught as a Pilot Course; no similar course is offered at Rowan College. The Biological Sciences Department routinely offers a course in Cell Biology; the proposed Cell Culture Technology course will build on that course, providing the student with further insight into the nature of living cells.

The proposed course will have limited curricular impact, with respect to both the School and the Department, since it will be taught only 1 semester per year, and will be limited to an enrollment of 5 senior-level (or post-baccalaureate) students.

f. Prerequisites:

Senior standing and permission of the instructor; Biology I and II, and Cell Biology

g. Suggested Time and Scale of Implementation:

Since the course has already been offered once, we would like 1 section to be offered each year, with the next offering in the Fall of 1994.

This course need not be listed in the Fall '94 schedule, since selection of the 5 students for the course will be made by Dr. Scott, and only from among Biology and Chemistry majors. (We will advertise the course "in-house".) Also, since the class and laboratory meet off-campus (at Coriell), the time of the course will, in the future, always be listed "TBA" (to be arranged). This semester, for example, the Pilot Course is held on Fridays.

h. Adequacy of Resources:

Present resources are adequate, especially since the laboratory facilities are at Coriell. The teaching staff will be members of the Coriell Institute. Dr. Scott will serve as an on-campus liason between the students and the Coriell staff.

Coriell Institute for Medical Research is internationally recognized as a leader in the field of tissue culture. Their staff are highly-skilled experts in the technology of culturing cell lines. Corriell will provide training facilities and essential equipment. The Institute plans to invite local experts in for special lectures. Coriell also has excellent library facilities, to which our students will be provided access.

2. Rationale:

Members of the staff at Coriell Institute have expressed an interest in providing some of our students with a unique opportunity -- to take a "hands-on" course in cell culture technology at a working laboratory, with facilities far beyond any we could possibly maintain at Rowan College, and taught by Coriell staff who have considerably more experience and expertise in cell culturing than any of our Biological Sciences faculty.

The ability to offer this off-campus course has been a long-term developmental process involving several meetings between Coriell Institute personnel, Drs. Meagher and Scott, Dean Bartelt, and Dr. Flack. Both the Biological Sciences faculty and Rowan College Administration are enthusiastic about this educational link between a local institute and the College.

### 3. Essence of the Course:

The course is designed to provide a select group of Biology majors (or minors) with the unique opportunity to take a "hands-on" course in cell culture technology at a working laboratory of international reknown. This course is not intended to merely "train" the student in laboratory skills and techniques (although that in itself would be valuable). Rather, it will provide the student with a scholarly pursuit of the theoretical concepts of cells in vitro -- how they grow, how they differ from cells in vivo -- in addition to invaluable "hands-on" experience in the laboratory.

#### a. Objectives of the Course:

The proposed course is designed to introduce advanced biology students to the history, theory, and laboratory techniques of maintaining live cells in long-term culture. The combination of lectures and lab experiences have been designed to demonstrate cell biology in both theory and practice. The course is very much geared to a "hands-on" approach in the context of real laboratory operations in neighboring work areas.

#### b. Topical Outline:

A syllabus for the course is attached.

#### c. Evaluation and Grading Procedure of Students:

As described in the attached syllabus, several examinations will be given. Some will test on concepts discussed in the course. Others will be laboratory "practicals", testing on mastery of laboratory skills.

#### d. Course Evaluation:

Students will have the opportunity to evaluate the course during the last 3 weeks of the semester, by anonymously submitting an evaluation to the Department Chairperson. The evaluation form that will be used is one that is currently used by Biological Sciences faculty submitting promotion and/or tenure/recontracting applications.

The Pilot Course currently being offered has been receiving on-going evaluation by Dr. Scott, via private discussions with the students and Coriell personnel. The students have expressed tremendous enthusiasm for the course, and have generally stated that the course is one of the best science courses they have ever taken. To date, we have heard no negative comments.

## CATALOG DESCRIPTION

### Cell Culture Technology (4 s.h.)

Prerequisites: Senior standing; permission of the instructor;  
0401.100 Biology I, 0401.101 Biology II, and  
0401.430 Cell Biology

This laboratory course introduces advanced biology students to the history, theory, and techniques of maintaining live cells in long-term culture. The combination of lectures and lab experiences have been designed to demonstrate cell biology in both theory and practice. The course is very much geared to a "hands-on" approach in the context of real laboratory operations in neighboring work areas.

Suggested HEGIS number for the course: 0401.431