MEMORANDUM

TO: University Curriculum Committee

FROM: R. Elaine Turner, Associate Dean  
       College of Agricultural and Life Sciences

CC: Nicole Stedman, Chair, CALS Curriculum Committee  
    James Fant

DATE: December 2, 2011

SUBJECT: CALS Submission for the 12-20-11 University Curriculum Committee meeting

The College of Agricultural and Life Sciences Curriculum Committee requests consideration of the curriculum proposal listed below. This proposal was approved by the CALS Curriculum Committee on 11-18-11. This request is effective Summer B, 2012.

- New minor in Bioinformatics

The Department of Microbiology and Cell Science has developed a minor in Bioinformatics. Several courses have been developed and approved over the last few years in this area. The proposal has been reviewed by the Departments of Biology and Computer and Information Science and Engineering. Neither department had concerns about moving this proposal forward. Supporting documents and catalog copy are attached.
Thursday, November 10, 2011
Object: Justification for Bioinformatic minor to be offered by the MCS Department

Dear Elaine,

Attached is a proposal for a Bioinformatic minor to be offered to undergraduates who are majoring in a biology related subject (such as but not limited to Microbiology, Biology and Biochemistry). With the avalanche of genome sequence and other large-scale datasets available (nearly 2000 species have had their genome sequenced), biological sciences are not conducted in the same manner as 10 years ago. Biologists are now routinely required to use sophisticated bioinformatic tools to analyze their data. For young biologists to be productive in future research, they need to know how to use bioinformatics in conjunction with laboratory techniques to make new discoveries. The goal of the bioinformatics minor is to expose new generations of biologist to these tools that they will need to be competitive in biology careers.

We expect the Bioinformatics minor to draw a large number of students from various departments across campus. Our estimates based on informal surveys conducted in the Microbiology and Cell Science department suggest that initial enrollment may reach 25-50 students. Subsequent enrollment is likely to increase rapidly. This minor has been approved by the Microbiology and Cell Science undergraduate committee and faculty (see attached e-mail). Let us know if you need additional information.

Yours sincerely,

Valérie de Crécy-Lagard, Ph.D.
Associate Professor
Department of Microbiology and Cell Science
vcrecy@ufl.edu

Bryan Kolaczkowski
Assistant Professor
Department of Microbiology and Cell Science
bryank@ufl.edu
Bioinformatics Minor

Hours: 15-16 credits, all completed with grades of C or better

The Bioinformatics minor is designed to provide students with a solid exposure to bioinformatics with an emphasis on microbes. With the avalanche of genomic information available, bioinformatics skills are necessary to mine and analyze genomic data. This minor is open to all UF students who have a science background and meet course prerequisites. It is particularly appropriate for students majoring in biology, mathematics, microbiology and cell science, statistics and zoology, and students who are interested in professional programs in medicine, dentistry and pharmacy.

Microbiology and Cell Science majors should meet with their academic adviser prior to applying for this minor to plan a program of study that includes no more than 6-7 credits that count for both the major and the minor.

For more information about the minor, contact the Microbiology and Cell Science Department.

**Required Courses**  
*12 credits*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BSC 2891</td>
<td>Python Programming for Biology</td>
<td>3</td>
</tr>
<tr>
<td>or CAP 5510</td>
<td>Bioinformatics</td>
<td></td>
</tr>
<tr>
<td>BSC 4434</td>
<td>Introduction to Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>MCB 4320C</td>
<td>Bacterial Genome Sequencing and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MCB 4934</td>
<td>Independent Study in Bioinformatics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Elective Courses**  
*3-4 credits (choose one)*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOS 3305</td>
<td>Introduction to Plant Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>MAP 4484</td>
<td>Modeling in Mathematical Biology</td>
<td>3</td>
</tr>
<tr>
<td>PCB 3063</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td>PCB 4674</td>
<td>Evolution</td>
<td>4</td>
</tr>
<tr>
<td>PCB 5065</td>
<td>Advanced Genetics</td>
<td>3</td>
</tr>
<tr>
<td>MCB 4934</td>
<td>Advanced Independent Studies in Bioinformatics</td>
<td>3</td>
</tr>
</tbody>
</table>
Dear Valerie,

The Undergraduate Curriculum Committee has approved your proposed Bioinformatics Minor. This was also recently approved by the full Microbiology and Cell Science faculty. Congratulations!

Bill Gurley

Chair, Undergraduate Curriculum Committee
Microbiology & Cell Science
Hi Elaine,

The Department of Biology Curriculum Committee reviewed the materials you provided regarding Bioinformatics Minor proposed by MCS. The committee did not find any conflicts with existing programs offered by our department. It is likely to be a valuable minor to the UF community.

David

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David Julian
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Dr. Turner,

Gerhard Ritter asked me to let you know that no one in CISE who was consulted about the proposed minor has expressed concerns about it.

Steve Thebaut

On 11/29/2011 9:13 PM, Turner,R Elaine wrote:
> Do any of you have any comments or concerns about the proposed Bioinformatics minor? I would like to submit this for consideration at the December meeting of the University Curriculum Committee, and submissions are due on Friday. Appreciate any input you might have.
> 
> Elaine Turner
> 
> Dr. R. Elaine Turner
> Associate Dean
> College of Agricultural and Life Sciences
> University of Florida
> 2002 McCarty Hall D
> PO Box 110270
> Gainesville, FL 32611-0270
> Phone: 352-392-1963
> Fax: 352-392-8988
> Email: returner@ufl.edu
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>
> From: Stephen M. Thebaut [smt@cise.ufl.edu]
> Sent: Sunday, November 20, 2011 7:58 AM
> To: Turner,R Elaine; Wilson,Joseph N; Ritter,Gerhard
> Cc: Lindner,Angela S
> Subject: [Fwd: Bioinformatics minor proposal]
> 
> Dear Dr. Turner,
>
> Thanks for contacting CISE about this. I am forwarding the proposal to the Chair of our Curriculum Committee, Dr. Joe Wilson, and to our Dept. Chair, Dr. Gerhard Ritter, for review.
>
> Steve Thebaut
> CISE Assoc. Chair

> Subject: Bioinformatics minor proposal
> From: "Turner,R Elaine"<returner@ufl.edu>
> Date: Sat, November 19, 2011 5:25 pm
> To: "Thebaut, Stephen M"<smt@cise.ufl.edu>
> Cc: "Lindner, Angela S"<ALINDE@eng.ufl.edu>
> > Dr. Thebaut,
> > Attached is a proposal for a Bioinformatics minor that was recently approved
> > by the College of Agricultural and Life Sciences Curriculum Committee. Before
> > I submit it to the University Curriculum Committee, I would like to know if
> > you have any comments or concerns. Thanks in advance,
> >
> > Elaine Turner
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> > Associate Dean
> > College of Agricultural and Life Sciences
> > University of Florida
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