AGENDA
Faculty Senate Meeting
April 19, 2022 – 3:45 pm, Lowrimore Auditorium

I. Call to order

II. Approval of Minutes from the March 22, 2022 meeting

III. Elections
a. Vice-Chair of the Faculty
b. Secretary of the Faculty

IV. Reports from standing committees (The reports will be placed in the minutes for informational purposes only).

V. Report from the Executive Committee

VI. Report from the Academic Affairs Committee ***(See the attachment for complete proposals. See the appendix for supporting materials).***

1. Proposal from the Department of Biology
A. Modify Biology Major
B. Modify BIOL 105
C. Modify BIOL 106
D. Modify BIOL 107
E. Modify BIOL 108
F. Modify BIOL 115L

2. Proposal from the Office of Institutional Effectiveness
A. Presentation of the 2020-2021 General Education Report **-** ***See appendix for the complete General Education Report***

3. Response of the AAC to the 2020-2021 General Education Report (for informational purposes only)

VII. Report from the Graduate Council (*See the attachment for complete proposals. See the appendix for supporting materials).*

There were no proposals sent forth from the GC for this meeting.

VIII. Old Business

IX. New Business

X. Announcements

XI. Adjournment

Attachment to the Faculty Senate Agenda – April 19, 2022

VI. Report from the Academic Affairs Committee

1. Proposal from the Department of Biology

A. **MODIFY** elective requirements on page 65 of the current catalog:

FROM:

A major in Biology requires the following:

Communications……..……9-10 hours
- English 101 (or 101E/L), 102……..……..…..6 or 7
- Speech Communication 101……..……..3

Mathematics.....6 hours
- Mathematics 111, 132, or higher…….……...…….6

Social Sciences…….……..……9 hours
- Political Science 101 or 103…….…….……..3
- Social Science Elective…….…..3
- Social Science Elective 3

Humanities……..... 12 hours
- Literature……..…3
- History…….3
- Fine Art Appreciation 3
- Humanities Elective…….……3

Biology .....33 hours
- Biology 105/115L* or 107…… ……..……4
  - Biology 103 and 104 may substitute for 105 and 115L with permission from the department
- Biology 106 or 108 ……...…….4
- Cellular Biology Block (either 301, 302, or 407)……...……4
- Organismal Biology Block (either 201, 202, 206, 207, 208, 209, 303, 307, 311, 312, 313, 315, or 320) ..…… . 4
- Ecology Block (either 308, 317, 318, 402, 411, or 412)…….……4
- Genetics Block (either 401 or 409)……..4
- Biology Elective……..……4
- Biology Elective…….,,,……..... 4

Senior Seminar (499)……1
Chemistry……..……12 hours
Introductory Chemistry (111, 111L, 112 and 112L)…… 8
Organic Chemistry (201)……..……4
Physics……..……8-12 hours
General Physics (215 and 216)……..8
OR Technical Physics (200, 201, and 202)……..…….. 12
2nd Collateral OR Chemistry Minor ……..…7-12 hours
Electives……..……14-25 hours
Total Hours Required for Graduation…….……..120 hours

TO:

A major in Biology requires the following:
Communications……..……9-10 hours
English 101 (or 101E/L), 102……..6 or 7
Speech Communication 101……..……..……..3
Mathematics.....6 hours
Mathematics 111, 132, or higher…….……..….6
Social Sciences…….……..……9 hours
Political Science 101 or 103…….……..……..3
Social Science Elective…….…..3
Social Science Elective 3
Humanities……..... 12 hours
Literature……..…3
History…….3
Fine Art Appreciation 3
Humanities Elective…….……3

Biology ..... 36-37 hours
Biology 105/115L* or 107……..……4
Biology 103 and 104 may substitute for 105 and 115L
with permission from the department
Biology 106 or 108 ……..……...4
Cellular Biology Block (either 301, 302, or 407)……....4
Organismal Biology Block (either 201, 202, 206, 207, 208, 209, 303, 307, 312, 313, 315, 320, 400)…….…4
Ecology Block (either 260, 308, 317, 318, 402, 411, or 412)…….……4
Genetics Block (either 401 or 409)……..4
Biology Electives……..……..... 11-12
Senior Seminar (499)……..….1
Chemistry……..……..……12 hours
Introductory Chemistry (111, 111L, 112 and 112L)……..… 8
Organic Chemistry (201)……..…….…….4
Physics……..……..…….……8-12 hours

General Physics (215 and 216)……..……..8
OR Technical Physics (200, 201, and 202)……..…….... 12
2nd Collateral OR Chemistry Minor ……..……..…7-12 hours
Electives……...……..……11-22 hours
Total Hours Required for Graduation……..120 hours

RATIONALE for A: Traditionally, biology courses have all been 4 credit hours, 3 hours of lecture and 1 hour of lab. However, as our department continues to grow and add additional courses, the number of 3 credit hour courses is increasing. Many disciplines within biology, such as neuroscience, fisheries, forestry, bioinformatics, genomics, and more, lend themselves better to offering courses that are 3 credit hours opposed to 4 credit hours. As our department increases the breadth of courses offered to our students, we are proposing to update the number of required biology elective hours for biology majors from 8 hours to 11 hours. We are proposing this update in part to ensure that students choosing to take courses that are 3 credit hours opposed to 4 credit hours are not penalized for doing so. Additionally, requiring biology majors to complete 11 credit hours of electives will help ensure that graduates of the biology department have a more in depth understanding and appreciation of their chosen field of study. Furthermore, modifying the number of hours earned from elective courses within the major, will update our curriculum to be more in line with those of the other science majors on campus, namely chemistry and physics, which require a minimum of 36 total credit hours from courses taken within the major. In staying aligned with the goals of a liberal arts education, this update will allow our students to become more proficient in their chosen field of study while still having flexibility in their schedule to complete courses outside of biology.

B. **MODIFY** requirements for BIOL 105 on page 67 of the current catalog:

FROM:

105 Biological Sciences I (3) F, S, SU.

TO:

105 Biological Sciences I (3) F, S, SU. (Eligibility to take Math 111)

C. **MODIFY** requirements for BIOL 106 on page 67 of the current catalog:

FROM:

106 Biological Sciences II (4:3-3) F, S, Su.

TO:

106 Biological Sciences II (4:3-3) F, S, SU. (Eligibility to take MATH 111)

D. **MODIFY** requirements for BIOL 107 on page 67 of the current catalog:

FROM:
107 Integrated Biological Concepts I (4:3-3)

TO:
107 Integrated Biological Concepts I (4:3-3) (Eligibility to take MATH 111)

E. **MODIFY** requirements for BIOL 108 on page 67 of the current catalog:

FROM:
108 Integrated Biological Concepts II (4:3-3)

TO:
108 Integrated Biological Concepts II (4:3-3) (Eligibility to take MATH 111)

F. **MODIFY** requirements for BIOL 115L on page 67 of the current catalog:

FROM:
115L Laboratory for Biological Sciences I (1:3)

TO:
115L Laboratory for Biological Sciences I (1:3) (Eligibility to take MATH 111)

RATIONALE for B-F: It is the desire of the department of Biology to increase student success and retention within the biology program by adding eligibility for Math 111 as a pre-requisite. Data collected over the past 8 semesters show that students taking Math 105 at the same time as Biology 105 have a 58% probability of failing (F) or withdrawing (W) from Biology 105. In contrast, students eligible for Math 111 or higher when taking Biology 105 have a 32% probability of failing or withdrawing from Biology 105. There is some variation across individual semesters, however, each semester showed a similar trend where students enrolled in Math 105 have a higher probability of failing or withdrawing compared to students eligible for Math 111 (Figure 1). The data show that there is an increase in the failing or withdrawing probability of 20-40% during these 8 semesters for students in Biology 105 when they are enrolled in Math 105 (Figure 2). Understanding and working with data are a core concept within biology. Many biological concepts (e.g., inheritance and species diversity, calculation of concentrations, unit conversions) covered in introductory biology (BIOL 105, 106, 107, and 108) require a working knowledge of basic algebra (e.g., taking exponents, linear equations, graphs, etc.). Based on the data, the department of Biology feels it would benefit students greatly to be eligible for Math 111 before attempting to take Biology 105. Students that do not begin an introductory course

in their first semester will not be off schedule for graduating in 4 years with a Biology degree. Additionally, pre-nursing students will still be able to make application to the Nursing program in a 2-year window and still complete a Nursing degree in the 4 year time frame.

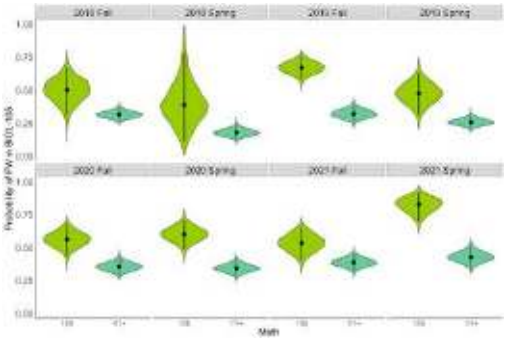

Figure 1: Probability of Failing (F) or Withdrawing (W) from Biology 105 while enrolled in Math 105 (green) or Math 111 (blue). Violin plots represent the full posterior probability distribution of the estimated FW rate by semester/Math course. Points are the median of the posterior probability and the error bars are the bounds of the 95% posterior probability range.

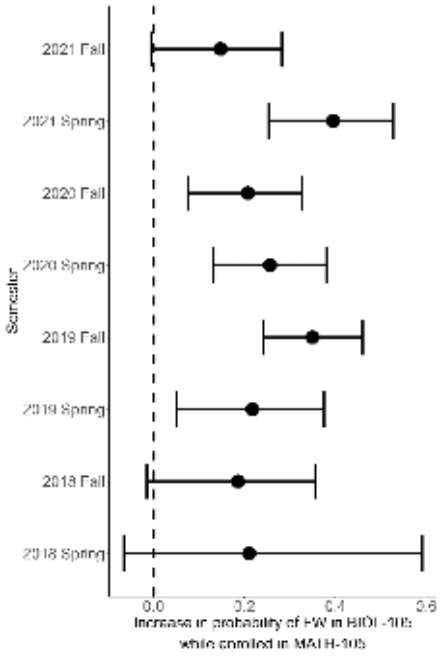

Figure 2: Increase in probabilities for students enrolled in Biology 105 and taking Math 105 being assigned an F or W for several semesters. Points are the median change in probability of getting an FW and the error bars are the 95% probability intervals.

2. Proposal from the Office of Institutional Effectiveness

A. Presentation of the 2020-2021 General Education Report ***- See appendix for the complete General Education Report.***

3. Response of the Academic Affairs Committee to the 2020-2021 General Education Report (for informational purposes only)

After a review of the 2020-2021 General Education Report, the Academic Affairs Committee finds that the General Education goals are presently being met under the current model of assessment as indicated by student responses on the Exit Survey. The committee also recognizes the unique strain placed on data collection and evaluation during the pandemic and encourages

the continuing progress of departments toward meeting the target standard for their student learning outcomes. To that end, the committee supports the following action items identified by the Institutional Effectiveness Committee based on this year's report:

- To review other universities' general education assessment methods
- To develop an appropriate process for our campus based on our institution's needs
- To establish an alignment among goals, content of student knowledge, and courses within the General Education curriculum
- To determine what courses should participate in the General Education assessment
- To standardize an appropriate rotation method for the assessment procedure
- To work with others in identifying artifacts for the assessment
- To create any universal rubrics needed for the assessment procedure
- To determine method of assessing artifacts and evaluating the data presented