Natural Sciences and Mathematics Council Meeting Minutes
19 February, 2019 in SU2579 3:30-5:00 PM

1. Call to Order

- Presiding: Kathy Shan
- Present: Alessandro Arsie, John Bellizzi, Terry Bigioni, Maria Diakonova, Kathy Fisher (secretary), David Krantz, Brenda Leady, Tom Megeath, Song Qian , Qin Shao, Von Sigler, and Sibylle Weck-Schwarz, Rebecca Sturges
- Absent: Yashika Bhoge (excused), Michael Heben (excused), Sally Harmych (excused), Kristi Mock (excused)
- Others: Brian Ashburner**,** John Plenefisch

Approval of Minutes

- January approved (with one minor change from Sibylle W.)

2. University Reports and Proposals

a. Faculty Senate (David Kranz / Sibylle Weck-Schwarz)

- Budget down 3 billion
- Student Group Liability Insurance is still being worked on
- Retention from fall to spring is up for the 2nd year in a row (90% retention)
- We are asked to encourage students to register ahead of time
- Faculty travel abroad (international): has to be registered if part of your work (incudes travel emergency insurance and other benefits if and only if you register your travel)
- UT research symposium 2nd deadline last Friday
- Review of various University policies is now on a 3-year cycle
    - GPA recalculation policy improved
    - Missed class policy under revision and posted for comment
- Amy Thompson working on course evaluation standardization with some common questions emphasizing what the student got out of the course
- Students should ask for help if they have holds on accounts so holds can be removed

b. Grad Council (Brian Ashburner)

- Curriculum needs to be through College Council by March 12 to be included in next catalog
- Academic Grievance policy – will be coming through
- Working on policy similar to undergrad grading policy
- New policy: Incomplete can be submitted with a grade so if a student doesn't complete it will roll to that grade rather than an F
- Frank Calzonetti talked about the 3 research areas of excellence at UT– note that they all reside completely or partly in our college – Astronomy & Astrophysics, Cell Architecture & Dynamics, Renewable Energy / Water Quality

- Midwest Regional Graduate Student Symposium (April 6) registration deadline March 10, opportunities to volunteer as a judge

3. College Reports and Proposals

a. NSM Chair's Council (Kathy Shan)

- Taking nominations for a graduate student to speak at Graduate Commencement
  - Brian: please nominate, forms online
- Campaign to get all students registered early
- Request for metrics and action plans for graduate and doctoral programs from departments and colleges (for US News and World Report)
- Please nominate for college awards - outstanding alumni, faculty: research, teaching, service, staff

4. Council Committee Reports

a. Elections (Sibylle Weck-Schwarz)

- Elections starting soon, will need assistance of elections committee soon to verify ballots

5. Unfinished Business

a. Tenure and Promotion Elaborations Revisions (Qin S, John B and Tom M)

- Revised document presented
- John B. Most of the changes have been adding references to the Faculty Senate Document for clarification, updating deadlines, lining up wording of who external reviewers can and cannot be with Faculty Senate Document
- Qin: One concern is that it cites the contract in many places; if contract is changed dramatically we'll have to make changes to this in future; the Faculty Senate document doesn't do this
- Council Votes: Revision approved, can move forward to faculty vote

4. Council Committee Reports (continued)

b. Curriculum (John Bellizi)

- 90+ proposals for course and program modifications (see document at end)
- Chemistry and Environmental Sciences adding C or C- minimums to all pre-requisite courses; Course and/or program modifications in Math & Stats, Environmental Science and Biology, new Data Science programs housed in both Math & Stats and NSM

- NSM Data Science program
  - John P: Hoping to be able to admit students as early as this fall; minors could be tweaked into a concentration for cases where concentrations don't already exist
  - John P: With all the new data science offerings (majors, minors, concentrations) excellent advising will be essential so students end up in the right place
  - John B: NSM data science program just goes through college council as first approval level, but the concentrations go through the appropriate departments.
  - John P: Since NSM Data Science is an Interdisciplinary program, we may need additional paragraph in catalog - possible conflict between program requirements and existing language about number of hours that must be taken from a single department
- All modifications were voted on and approved by Council

5. Unfinished Business (continued)

b. Faculty Workload Guidelines (Kathy Shan)

- We need to endorse or not endorse this document but will save it for next month
- John P: Came from provost last year and we should check it against the CBA, you were asked to take to your departments, to look at it and make comments to send back.
- Kathy S: If you have any comments get them to me before next month's meeting and we can vote on it then

6. Announcements: (John P)

- Sibylle Weck-Schwarz has been chosen as a Distinguished University Lecturer (first time for a Lecturer in NSM to receive this honor)

7. Meeting Adjourned 4:50 pm.

College of Natural Sciences and Mathematics Curriculum Committee
John Bellizzi (Chemistry and Biochemistry – Chair), Alessandro Arsie (Mathematics and Statistics), Sally Harmych (Biological Sciences), Mike Heben (Physics and Astronomy), Song Qian (Environmental Sciences)

To: **Kathy Shan**
From: **John Bellizzi**
Subject: **NSM Curriculum Committee Report for February 19 2019 Council Meeting**
Date: **February 15, 2019**

The College of Natural Sciences and Mathematics Curriculum Committee has evaluated the **91** course and program proposals detailed below and recommends all for approval by the full NSM Council. (77 undergraduate course modifications, 6 new graduate courses, 4 undergraduate program modifications, 3 new undergraduate courses, 1 new undergraduate program)

1. Consent Agenda Items

NSMCC unanimously recommends approval of the full slate of items in the table.

Undergraduate Course Modifications (Prerequisite changes ONLY):	
From the Department of Environmental Sciences: EEES 2160, EEES 2600, EEES 3050, EEES 3060, EEES 3810, EEES 3900, EEES 4150, EEES 4160, EEES 4240, EEES 4250, EEES 4260, EEES 4330, EEES 4350, EEES 4355, EEES 4510, EEES 4520, EEES 4540, EEES 4550, EEES 4730, EEES 4740, EEES 4750, EEES 4755, EEES 4760, EEES 4790, EEES 4970, EEES 4980, EEES 3800, EEES 4300 EEES 2230, EEES 2510, EEES 3210, , EEES 3220, EEES 3310, EEES 4640, EEES 4920, EEES 4950, EEES 3100, EEES 4100, EEES 4200, EEES 4240, EEES 4150, EEES 4220, EEES 4410, EEES 4450, EEES 4480, EEES 4490, EEES 4610, EEES 3250, EEES 3000, EEES 3900, EEES 4630 From the Department of Biological Sciences: BIOL 3010, BIOL 3030, BIOL 3070, BIOL 3090, BIOL 3100, BIOL 3210, BIOL 3510, BIOL 3910, BIOL 4010, BIOL 4030, BIOL 4040, BIOL 4050, BIOL 4090, BIOL 4110, BIOL 4170, BIOL 4210, BIOL 4230, BIOL 4250, BIOL 4330, BIOL 4700, BIOL 4940	Changes only to the prerequisites. The vast majority of them are simply changing the default D- prerequisite to C or C- (as MATH and CHEM have already done). A few also have minor housekeeping changes to the prerequisites (correcting typos or removing prerequisite courses that no longer exist).
Undergraduate Course Modifications (Minor Changes)	
BIOL 1220 Survey of Biology Laboratory	Only proposed change is adding the classification "General Education"
CHEM 3712 Recitation for CHEM 3710	Change catalog description from "Optional recitation for CHEM 3710" to "Recitation for CHEM 3710" by deleting the word optional.
Undergraduate Program Modification – B.S. in Biology (Department of Biological Sciences)	Change in the entry requirements for the degree program from **2.75 High School GPA** to **2.75 High School GPA AND ACT 21**. No changes to courses or credit hours required for degree.
New Graduate Course Proposals	
BIOL 6300 Advanced Microscopy and Imaging BIOL 8300 Advanced Microscopy and Imaging	3 credit hour graduate course (2 credit hour lecture, 1 credit hour lab) to provide training and experience using modern microscopy and imaging tools and techniques.
MATH 6870 Nonlinear Analysis I MATH 6880 Nonlinear Analysis II MATH 8870 Nonlinear Analysis I MATH 8880 Nonlinear Analysis II	New two-semester graduate lecture sequence (3/3) targeted towards students in the areas of Differential Equations, Differential Geometry, and other areas of Analysis.

2. Undergraduate Program Revisions and Association New Undergraduate Course Proposals and Undergraduate Course Revisions from the Department of Environmental Sciences
NSMCC unanimously recommends approval of the full slate of items in the table.
More details can be found on pp. 3-5

Undergraduate Program Modifications	
B.S. in Geology	Name of degree changing from B.S. in Geology to B.S. in Environmental Geology. Changes to required courses.
B.S. in Environmental Sciences	Changes to required courses.
New Undergraduate Course Proposals	
EEES 2015 Introduction to the Environment: Land-use and water	3 credit hour lecture. Introduction to issues currently affecting environmental quality associated with land-use (e.g. agriculture and urbanization) and focusing on the impacts to biodiversity and aquatic systems. Fundamental scientific concepts relating to those issues and ethical, economic, legal and political considerations that affect the resolution of environmental problems.
EEES 4975 Senior Seminar	1 credit hour seminar. The intent of the course is to provide senior students with an opportunity to identify relevant positions, create appropriate resumes/CVs and cover letters, and develop necessary interview skills as they plan for their professional careers. Prerequisite: senior standing in ENST, ENSC, GEOL, or BIOM, requiring permission of instructor.
Undergraduate Course Modifications	
EEES 2010 Introduction to Environmental Studies	Title change *Introduction to Environmental Studies → Introduction to the Environment: Energy and Climate* Catalog Description Change
EEES 4940 Internship	Catalog Description Change
EEES 4970 Senior Environmental Capstone	Title change *Senior Environmental Capstone → Engaged Research* Prerequisite Change *Permission of instructor → Junior standing in ENSC, ENST, GEOL or BIOM* Catalog Description Change

3. Undergraduate Program Modification and Associated New Undergraduate Course Proposal from the Department of Mathematics and Statistics
NSMCC unanimously recommends approval of the program modification and new course proposal
More details can be found on pp. 5-6

Undergraduate Program Modification	
B.S. in Mathematics	Creation of new concentration in Data Science within the B.S. in Mathematics. Total of 76 credit hours of required courses.
New Undergraduate Course Proposal	
MATH 4940 Internship in the Mathematical Sciences	New 3-credit hour Co-op Field course for internship experiences approved by the Department. Intended for math majors in BS concentration in Actuarial Science and newly proposed BS concentration in data science, but would be applicable in other concentrations as well.

4. Undergraduate Program Proposal (to be housed in the College of NSM) – B.S. in Data Science
NSMCC recommends approval of the new program by a vote of 4-1
More details can be found on pp. 6-7

New Undergraduate Program	
B.S. in Data Science	New interdisciplinary B.S. degree program (NSM/Engineering/HHS) to be housed in NSM. 57 hours of major/related fields course plus an 18+ hour concentration.

2. Undergraduate Program Revisions and Association New Undergraduate Course Proposals and Undergraduate Course Revisions from the Department of Environmental Sciences

Undergraduate Program Modification – B.S. in Geology

Description: Name of degree changing from B.S. in Geology to B.S. in Environmental Geology. Changes to required courses.

Rationale: To more clearly reflect the character of the degree, integrate better with the mission of the Department, and respond to suggestions from an external review, we are revising the degree to BS in Environmental Geology. There are few substantive changes to the core of the curriculum, but we have added Group C to expand the breadth of topics. Added courses include some from the Environmental Sciences curriculum within the Department and related courses outside the Department (Environmental Economics). The credit hours required for the proposed degree increase from a minimum of 40 up to 43-44 from within the program. The 27- 28 credit hours for Math, Chemistry, and Physics courses is unchanged. The total credit hours for all of the undergraduate degrees offered by the Department was recently reduced from 124 to 120 hours, primarily by lowering the electives required. The 120 hours cover the other course requirements of the College and University, such as the Core Curriculum.

Undergraduate Program Modification – B.S. in Environmental Sciences

Description: 1) Expand current 1-semester introductory course into a 2-semester sequence (so modification of existing EEES 2010 and approval of a new proposed EEES 2015).
2) New requirement for a 2000-level "methods" course (either a lab- or field-based course, EEES 2600, 2760).
3) Split current senior-capstone course (EEES 4970) into 2 courses: 1 retaining the current research-project orientation (so modifying EEES 4970, now in junior yr), 1 focusing on professional preparation (new course EEES 4975, senior yr).
4) Modifying the current internship course (EEES 4940) from 1-3 to 1 hr.
5) Updating required geology course options from EEES 3100 or 2400 or 4240 to EEES 3100 or 4240.
6) Modifying required social-science course options by expanding course options and requiring at least 1 course from each of 2 groups.
7) Reducing required electives in a declared area of concentration (biology/chemistry/geology) to 18 from 21.
8) Reducing total required credit hours from 124 to 120.

Rationale: The current 1-semester introductory course provides an insufficient foundation for subsequent coursework. We propose to expand this introductory foundation to a 2-semester sequence, as in most other basic-science degree programs. The new requirement for a methods course will improve training in quantitative & analytical skills, plus science communication. Proposed changes to current senior-capstone course will better prepare students for their required internship (summer between junior & senior yr), allowing the new senior seminar to focus on professional preparation (see additional info on attached spreadsheet). Proposed change to internship will standardize credit hrs awarded for this activity. Proposed changes to geology courses reflect current course availability. Proposed changes to social-science courses reflect increases in relevant courses across campus. Proposed changes in the # of required credit hrs in the area of concentration are to meet 120 credit-hr for the degree

New Undergraduate Course Proposal – EEES 2015 Introduction to the Environment: Land-use and water

Description: 3 credit hour lecture. Introduction to issues currently affecting environmental quality associated with land-use (e.g. agriculture and urbanization) and focusing on the impacts to biodiversity and aquatic systems. Fundamental scientific concepts relating to those issues and ethical, economic, legal and political considerations that affect the resolution of environmental problems.
This new course will be the second course in a new two-semester introductory course sequence in environmental sciences. The first, a modification of existing EEES 2010, will now focus on energy and climate, while this new course, EEES 2015, will focus on land-use and water.

***Rationale**:* The current 1-semester introductory course provides an insufficient foundation for subsequent coursework. We propose to expand this introductory foundation to a 2-semester sequence, as in most other basic-science degree programs at UT (eg, biology, chemistry).

New Undergraduate Course Proposal – EEES 4975 Senior Seminar

***Description**:* 1 credit hour seminar. The intent of the course is to provide senior students with an opportunity to identify relevant positions, create appropriate resumes/CVs and cover letters, and develop necessary interview skills as they plan for their professional careers. Prerequisite: senior standing in ENST, ENSC, GEOL, or BIOM, requiring permission of instructor.

Rationale: Currently, EEES 4970 (Senior Environmental Capstone) involves both a team-based research project, plus professional preparation (e.g., resume and interview training). As part of the proposed modifications to the BS in Environmental Sciences degree (see the submitted program modification paperwork), these two course components will be separated into two courses: (1) a modified EEES 4970 will retain the research component, while this new course, EEES 4975, will focus on the professional preparation. These two courses, along with EEES 4940 (Internship), will form a three-course sequence of professional preparation (4970, junior year; 4940, typically taken the summer between junior and summer years; 4975, senior year).

Undergraduate Course Modification – EEES 2010 Introduction to Environmental Studies

Description: Title change

Introduction to Environmental Studies → Introduction to the Environment: Energy and Climate

Catalog Description Change

Current: Introduction to issues currently affecting environmental quality. Fundamental scientific concepts relating to those issues, and ethical, economic, legal and political considerations that affect the resolution of environmental problems. Intended for freshmen and sophomores.

Proposed: Introduction to issues currently affecting environmental quality associated with energy production and the impacts to climate change. Fundamental scientific concepts relating to those issues and ethical, economic, legal and political considerations that affect the resolution of environmental problems.

Rationale: The current course is a 1-semester introductory course in environmental sciences, and it provides an insufficient foundation for subsequent coursework. We propose to expand this introductory foundation to a 2-semester sequence, as in most other basic-science degree programs at UT (eg, biology, chemistry). The first of these courses (EEES 2010, modified) will cover energy and climate, while the second proposed new course (EEES 2015) will cover land-use and water. This course is being changed to allow for more focus on the environmental issues of Energy and Climate. A new course proposal will be a complimentary course to this that will focus on land-use change, agricultural intensification, and degradation of aquatic systems.

Undergraduate Course Modification – EEES 4940 Internship

Description: Catalog Description Change

Current: Student gains up to 4 credits for relevant professional experience with an adviser-approved organization (Dr. Sigler). Student must enroll during the term service is performed. Prerequisite: Consent of undergraduate adviser.

Proposed: The student identifies and communicates with a community professional to earn a short-term, volunteer or paid position that will provide practical experience relevant to the student's plan of study. Student must enroll during the term service is performed.

***Rationale**:* Proposed change to internship will standardize credit hrs awarded for this activity. In the past, variability among student-internship experiences was difficult to assess as far as converting to credit hrs.

Undergraduate Course Modification – EEES 4970 Senior Environmental Capstone

Description: Title change *Senior Environmental Capstone → Engaged Research*

Prerequisite Change *Permission of instructor → Junior standing in ENSC, ENST, GEOL or BIOM*

Catalog Description Change

Current: A theme-based capstone course focused on integration, synthesis and applications of course work students have taken in their program of study, including a comprehensive assessment of that program of study. Departmental majors with different academic backgrounds work in small teams to complete a practical, interdisciplinary project for a client culminating in a scope of work, team-presentation and project report. Clients might include a conservation organization, governmental agency, private industry, school, or other.
Proposed: A theme-based capstone course focused on integration, synthesis and applications of course work students have taken in their program of study, including a comprehensive assessment of their program of study. Departmental majors work in small teams to complete a practical project for a client, based on a project proposal, research on that project, a team-presentation and project report. Clients might include a conservation organization, governmental agency, private industry, school, or other.
Rationale: Currently, this course involves the research-project component described above, as well as a component devoted to professional preparation (eg, resume and interview preparation). As part of the current proposed modifications to the BS in Environmental Sciences degree, we propose to separate these two aspects of the course into two separate courses: (1) EEES 4970 (this course, modified), taken during the junior year, and (2) a new course, EEES 4975, taken during the senior year, which will focus on the professional-preparation aspects of the current course (a new-course-proposal form has been submitted for this course). These two course, along with EEES 4940 (Internship, typically completed during the summer between Jr and Sr years), will constitute a three-course sequence in career preparation.

3. Undergraduate Program Modification and Associated New Undergraduate Course Proposal from the Department of Mathematics and Statistics
NSMCC unanimously recommends approval of the program modification and new course proposal
Undergraduate Program Modification – B.S. in Mathematics (adding Concentration in Data Science)
Description: New concentration within the B.S. in Mathematics. Total of 76 credit hours of required courses.
Rationale: The proposed new concentration provides an in depth exposure to the statistical and computational methods central to developing strong competency in data science, one of the mathematical sciences' newest sub-disciplines. The objective of this program is to provide a pathway for the mathematically inclined student to gain the credentials for future study in the area or for innovative work as data scientists in the technology sector. It provides an integrated program of study based on existing mathematics and computer science courses that provide the foundational material needed to become proficient in the area.

Comment from NSMCC (see item 4 below):
Having a B.S. in Data Science and a B.S. in Mathematics with a Concentration in Data Science is at the very least potentially confusing. A strong argument can be made that the two proposed programs are distinct enough that both are justifiable but having nearly identical names has the potential to confuse students, advisors, etc. If the distinction is that the B.S. in Data Science focuses on scientific applications and the B.S. in Mathematics concentration focuses on statistical methodology rather than application, perhaps that can be somehow incorporated into the program names in some way to better differentiate them.

New Undergraduate Course Proposal – MATH 4940 Internship in the Mathematical Sciences
Description: New 3-credit hour Co-op Field course for internship experiences approved by the Department. Intended for math majors in BS concentration in Actuarial Science and newly proposed BS concentration in data science, but would be applicable in other concentrations as well.
Rationale*:* The Department of Mathematics and Statistics has a BS concentration in Actuarial Science for which an internship experience is highly recommended. Opportunities for such internships have recently increased with the advent of the Choose Ohio First grant for Actuarial Science - COFACT. This program connects us to similar programs at the Universities of Akron and Cincinnati, which also connects us with their internship pipelines - as well as connecting them to ours.
We have recently submitted a program revision proposal to add a BS concentration in Data Science. An internship experience has been built into that program. So rather than employ a 4000 level special topics course, we have decided to submit this application for the internship in either of these programs, indeed it

would be applicable to any of our concentrations. The internship is a highly valuable experience for any student and we believe that it is worthy of this college credit.

4. Undergraduate Program Proposal (to be housed in the College of NSM) – B.S. in Data Science
NSMCC recommends approval of the new program by a vote of 4-1
Description*:* New interdisciplinary B.S. degree program (NSM/Engineering/HHS) to be housed in NSM. 57 hours of major/related fields course plus an 18+ hour concentration.
Rationale: Data Science is an emerging academic field that essentially did not exist ten years ago. The recent explosion in big data has created a need for individuals who can take the raw data, collate it into appropriate databases, extract meaningful information from it, and analyze and communicate that extracted information to interested parties. These individuals need to have acquired proficiency in programming, statistics, communications, and in application areas. The programming skills are essential for meaningful querying of databases, the mathematical and statistical skills for assembling the data into meaningful assemblages, and in identifying meaningful relationships in the data. Proficiency in an application area, allows understanding of what is of value to the practitioners in that area and the ability to meaningfully communicate with those in that discipline.
The BS in Data Science will give students experience and proficiency in these three areas. The suite of programming courses provide programming proficiency and are train students in the types of programming environments best suited to working with big data. The suite of mathematics courses provides a grounding in the mathematical and statistical areas most relevant to working with and interpreting large data sets. The "concentrations" and the other core courses give a grounding in a discipline that uses big data, and also in ethics and data visualization.

Core courses in the "major":
MATH 1850* 4 Calc I
MATH 1860* 4 Calc II
MATH 2850 4 Elementary multivariable calculus
MATH 1890 3 Elementary linear algebra
MATH 3610 3 Statistical Methods I
MATH 3620 3 Statistical Methods I
MATH 4680 3 Introduction to Theory of Probability
MATH 4690 3 Introduction to Mathematical Statistics
CSET 1100 3 Introduction to Computer Science
CSET 3300 3 Data driven websites
EECS 1510 3 Introduction to Object Oriented Programming
EECS 4750** 3 Machine Learning
HHS 2500 3 Data Science I
HHS 4500 3 Data Science II
GEPL 4110 3 Geographic Information Systems
or EEES 4480 GIS Applications in environmental science ***
ECON 2810 3 Econometrics
PHIL 3160 3 Data Science Ethics
ART ???? 3 Data Visualization

* Already required in the NSM skills area for all BS majors
** prereq substitute would be needed – helpful if pre-reqs are revised by EECS to accommodate the data science pathway
*** prereq is EEES 2500 – could this be waived or subbed by CSET 1100?

Total of 57 hours in the courses listed above. Courses in bold are also in the BS in Data Analytics degree proposal.

We also require additional hours in a specific area application concentration – an 18 credit hour group of courses that would give the students a grounding in the area of application and some experience with manipulating big data in that area. NSM also requires that all BS degrees include courses in at least 3 science areas. These could "double-dip" with the concentration. A minor in a specific discipline not shown below could also be used to complete the concentration requirement with approval of the students academic advisor.

Concentration in Environmental Data (17-18 ch)

EEES-2010 3 Introduction to Environmental Studies I (title change and course change going through CCT now)

EEES-2015 3 Introduction to Environmental Studies II (new course going through curriculum tracking now) **or** EEES-2200 3 Climate Change

2100 Fundamentals of Geology (4) **AND** EEES-1050 geology lab (1) **or** EEES-3050 Ecology (3) **AND** EEES-3060 Ecology lab (1)

EEES-4160 Environmental Data Management

EEES-4490 Remote Sensing of the Environment

EEES 2010 3 Introduction to Environmental Studies

Concentration in Public Health Data (18 ch)

HEAL 2750 3 Introduction to Epidemiology

HEAL 2700 3 Introduction to Public Health

HEAL 3000 3 Global Health

HEAL 3500 3 Environmental Health

HEAL 3600 3 Prevention And Control Of Disease

HEAL 4800 3 Public Health Research And Statistics

Concentration in Astrophysics Data (20 ch)

PHYS 2130 5 Physics for Science and Engineering Majors I

PHYS 2140 5 Physics for Science and Engineering Majors II

ASTR 2020 3 Stars, Galaxies, and the Universe

PHYS 3310 3 Modern Physics I

ASTR 3880 4 Foundations of Astronomy

Comments:

NSM majors require a minimum of 34 hours in the major plus an additional number of hours in a related area for a minimum of 64 hours (major plus related). In NSM courses in the "major" are typically in the home department, however one example of a interdisciplinary major in NSM has special rules that limit work in one department to no more than 24 hours. I do not think this rule is intended to cover interdisciplinary majors in general. **NSM council has the ability to clarify what would be considered "major" courses and waive or modify specific college requirements for any new program within the college.**

Comments from NSMCC:

1. Having a B.S. in Data Science and a B.S. in Mathematics with a Concentration in Data Science is at the very least potentially confusing. A strong argument can be made that the two proposed programs are distinct enough that both are justifiable but having nearly identical names has the potential to confuse students, advisors, etc. If the distinction is that the B.S. in Data Science focuses on scientific applications and the B.S. in Mathematics concentration focuses on statistical methodology rather than application, perhaps that can be somehow incorporated into the program names in some way to better differentiate them.
2. There is some concern that a B.S. degree is inadequate preparation for the intended job market and that the program should be focused on preparing students for graduate programs in Data Science/Analytics or in a related field of science to which they can apply these tools.
3. There was also concern noted that the College/University is not taking enough time to fully think this program through and that there is no/insufficient resource commitment from the University for this program.