

**University Curriculum Committee
October 27, 2022 Meeting Minutes**

The University Curriculum Committee met on **Thursday, October 27** at 3:00 p.m. via Zoom Meeting.

Members Present:

Julie Baker	Darron Smith	Martin Sheehan	Jerry Gannod
Chris Wilson	Jeannette Luna	Sharon Huo	Jeremy Wendt, Chair
Linda Null	Jeff Boles	Barbara Jared	Ben Mohr
Brandi Fletcher	Wesley Pech	Brittany Copley	Karen Lykins
Jeff Roberts	Colin Hill	Thomas Timmerman	Chris Brown
Kent Dollar	Allan Mills	Allen MacKenzie	Steven Sharp
Mark Stephens	Kim Winkle	Thomas Payne	Lori Maxwell
Lisa Zagumny	Michael Allen	Melinda Anderson	James Baier
Rita Barnes	Marc Hardin, Student		

Members Absent:

Joseph Slater	Christy Killman	LTC James Bryant	Kim Hanna
Jennifer Shank	Mike Gotcher	Fred Vondra	Robby Sanders
Hannah Thomas, Student	Richard Rand	Mohan Rao	Lindsey Taylor, Student
Julie Galloway	Steve Frye	Stephen Robinson	Addison Dorris, Student

Official Representative(s):

Sharon Holderman FOR	Doug Bates	Scott Christen FOR	Brenda Wilson
Elizabeth Honeycutt FOR	Stephanie Kazanas		

Guest(s):

Allen Mullis	Mary McCaskey	Tammy Boles	David Hajdik
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Outline of Proceedings:

1.	Approval of Agenda	9.	Foreign Languages
2.	Approval of September 22, 2022 Minutes	10.	Economics, Finance and Marketing
3.	Curriculum & Instruction	11.	Environmental Studies
4.	Earth Sciences	12.	Communication
5.	Computer Science	13.	Agriculture
6.	General & Basic Engineering	14.	Human Ecology
7.	Mechanical Engineering	15.	Other Such Matters
8.	Chemistry		

Proceedings:

Perceiving a quorum, Dr. Jeremy Wendt, Chair of Committee, called the meeting to order at 3:01pm via Zoom.

1. Approval of agenda

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

2. Approval of minutes, September 22, 2022

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

3. Curriculum & Instruction

A. Addition of New Course/Course/Catalog Changes.

Course Changes:

1) From:

SPED 4100. Collaboration and Inclusive Practice Lec. 3. Credit 3.
Prerequisite: SPED 2010, SPED 3050 and full admission to Teacher Education Program. Corequisite: Residency I. This course is designed so candidates can gain research-based and practical knowledge of inclusion, collaboration, and co-teaching. It is designed for the special educator who will be working in resource or inclusive settings in the local education agency.

To:

SPED 4100. Collaboration and Inclusive Practice Lec. 3. Credit 3.
Prerequisite: SPED 2010, SPED 3050 and full admission to Teacher Education Program. This course is designed so candidates can gain research-based and practical knowledge of inclusion, collaboration, and co-teaching. It is designed for the special educator who will be working in resource or inclusive settings in the local education agency.

Delete: Corequisite: Residency I.

2) From:

SPED 4300. Individualized Educational Planning Lec. 2. Credit 2.
Prerequisite: Full admission to the Teacher Education Program; SPED 3050.
This course will provide an intensive study of the IEP process including writing appropriate Individual Education Plans (IEP) to meet individual needs of a student. A grade of B is required to meet requirements for licensure candidates.

To:

SPED 4300. Individualized Educational Planning Lec. 2. Credit 2.
Prerequisite: Full admission to the Teacher Education Program. This course will provide an intensive study of the IEP process including writing appropriate Individual Education Plans (IEP) to meet individual needs of a student. A grade of B is required to meet requirements for licensure candidates.

Delete: prerequisite of SPED 3050.

Course Addition:

- 3) ECED 4261. Early Childhood Advocacy & Leadership Lec. 6-8. Credit 6-8.
Prerequisite: ECED 4230(5230). Corequisite: ECED 4221.

Course Description: Early childhood administrator leadership skills, administration, and assessment. Knowledge and skills in the planning, implementation and evaluation of early childhood programs. Assessment of administrator knowledge, skills and experience

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

B. Addition of New Concentration.

The department is proposing a new concentration to be titled *Early Childhood Education, Integrated Birth-K Concentration, B.S.*

This new concentration will meet the criteria for Tennessee's new Integrated Birth-K licensure pathway, the program of study will focus primarily on the youngest children ages Birth-K. This undergraduate concentration provides more options for our early childhood education majors who can now choose between concentrations in PreK-3 (licensure), Birth-K (licensure), and Practitioner (non-licensure).

Effective: Summer/Fall 2023

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

C. Curriculum Changes.

- 1) **Multidisciplinary Studies, English as a Second Language Concentration, B.S.**

- i. **First Semester Sophomore Year**

From:

Select One:

FREN 2010. Intermediate French I (credit 3) **OR**
GERM 2010. Intermediate German I (credit 3) **OR**
SPAN 2010. Intermediate Spanish I (credit 3)

To:

Select One:

FREN 1010. Elementary French I (credit 3) **OR**
GERM 1010. Elementary German I (credit 3) **OR**
SPAN 1010. Elementary Spanish I (credit 3)

ii. Second Semester Sophomore Year

From:

Select One:

FREN 2020. Intermediate French 2 (credit 3) **OR**
GERM 2020. Intermediate German 2 (credit 3) **OR**
SPAN 2020. Intermediate Spanish 2 (credit 3)

To:

Select One:

FREN 1020. Elementary French II (credit 3) **OR**
GERM 1020. Elementary German II (credit 3) **OR**
SPAN 1020. Elementary Spanish II (credit 3)

iii. Additional notes on Program of Study

From:

Note: Those students who do not place at the 2010 level as determined by a proficiency test administered by the Department of Foreign Languages or those students who have not taken two years of foreign language in high school will take 1010, 1020 and 2010 for nine hours in the same language.

To:

Note: Students may take any of the following foreign language sequences based on guidelines from the Foreign Language department: 1010 and 1020; **OR** 1020 and 2010; **OR** 2010 and 2020.

2) Secondary Education, English Concentration, B.S.ED.

i. First Semester Sophomore Year

From:

Choose three semester hours from the following:
FREN 2010. Intermediate French I (credit 3) **OR**

GERM 2010. Intermediate German I (credit 3) **OR**
SPAN 2010. Intermediate Spanish I (credit 3)

To:

Choose three semester hours from the following:

FREN 1010. Elementary French I (credit 3) **OR**

GERM 1010. Elementary German I (credit 3) **OR**

SPAN 1010. Elementary Spanish I (credit 3)

ii. Second Semester Sophomore Year

From:

Choose three semester hours from the following:

FREN 2020. Intermediate French 2 (credit 3) **OR**

GERM 2020. Intermediate German 2 (credit 3) **OR**

SPAN 2020. Intermediate Spanish 2 (credit 3)

To:

Choose three semester hours from the following:

FREN 1020. Elementary French II (credit 3) **OR**

GERM 1020. Elementary German II (credit 3) **OR**

SPAN 1020. Elementary Spanish II (credit 3)

iii. Additional notes on Program of Study

From:

Note: Those students who do not place at the 2010 level as determined by a proficiency test administered by the Department of Foreign Languages or those students who have not taken two years of foreign language in high school will take 1010, 1020 and 2010 for nine hours in the same language.

To:

Note: Students may take any of the following foreign language sequences based on guidelines from the Foreign Language department: 1010 and 1020; **OR** 1020 and 2010; **OR** 2010 and 2020.

3) Secondary Education, Speech Communication & Theatre Concentration, B.S.ED.

i. First Semester Freshman Year

From:

Choose three semester hours from the following:

FREN 2010. Intermediate French I (credit 3) **OR**

GERM 2010. Intermediate German I (credit 3) **OR**

SPAN 2010. Intermediate Spanish I (credit 3)

To:

Choose three semester hours from the following:

FREN 1010. Elementary French I (credit 3) **OR**

GERM 1010. Elementary German I (credit 3) **OR**

SPAN 1010. Elementary Spanish I (credit 3)

ii. Second Semester Freshman Year

From:

Choose three semester hours from the following:

FREN 2020. Intermediate French 2 (credit 3) **OR**

GERM 2020. Intermediate German 2 (credit 3) **OR**

SPAN 2020. Intermediate Spanish 2 (credit 3)

To:

Choose three semester hours from the following:

FREN 1020. Elementary French II (credit 3) **OR**

GERM 1020. Elementary German II (credit 3) **OR**

SPAN 1020. Elementary Spanish II (credit 3)

iii. Additional notes on Program of Study

From:

Note: Those students who do not place at the 2010 level as determined by a proficiency test administered by the Department of Foreign Languages or those students who have not taken two years of foreign language in high school will take 1010, 1020 and 2010 for nine hours in the same language.

To:

Note: Students may take any of the following foreign language sequences based on guidelines from the Foreign Language department: 1010 and 1020; **OR** 1020 and 2010; **OR** 2010 and 2020.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

4. Earth Sciences

A. Addition of New Course/Curriculum Changes.

Addition of New Course:

1) **GEOL 3900 Economic Geology: Lecture 3, Credit 3**

Course Description: Prerequisite: GEOL 2500. Igneous, hydrothermal

and sedimentary ore-forming processes; Origin of diamonds, rare earth

and base metal deposits; Geospatial resource data analysis;
Metallogeny.

Curriculum Changes:

2) From:

Geology Concentration Directed Electives, any 3 of the following courses (11-12 hours)

GEOL 3120 - Mineralogy Credit: 4.

GEOL 3310 - Planetary Geoscience Credit: 3.

GEOL 3550 - Paleoclimates Credit: 4.

GEOG 4150 (5150) - Geomorphology Credit: 4. or

GEOL 4150 (5150) - Geomorphology Credit: 4.

GEOL 4200 - Geological Exploration Techniques Credit: 4.

GEOL 4610 - Optical Mineralogy and Petrography Credit: 4.

GEOG 4711 (5711) - Hydrogeology Credit: 4. or

GEOL 4711 (5711) - Hydrogeology Credit: 4.

To:

Geology Concentration Directed Electives, any 3 of the following courses (~~11~~10-12 hours)

GEOL 3120 - Mineralogy Credit: 4.

GEOL 3310 - Planetary Geoscience Credit: 3.

GEOL 3550 - Paleoclimates Credit: 4.

GEOL 3900- Economic Geology Credit: 3.

GEOG 4150 (5150) - Geomorphology Credit: 4. or

GEOL 4150 (5150) - Geomorphology Credit: 4.

GEOL 4200 - Geological Exploration Techniques Credit: 4.

GEOL 4610 - Optical Mineralogy and Petrography Credit: 4.

GEOG 4711 (5711) - Hydrogeology Credit: 4. or

GEOL 4711 (5711) - Hydrogeology Credit: 4.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried.

5. Computer Science

A. Prerequisite Changes.

1) CSC 3570- IT Security

From:

Prerequisite: C or better in CSC 2500 or CSC 2510, and CSC 2570 or CSC 4200(5200).

To:

Prerequisite: C or better in CSC 2510, and CSC 2570, and CSC 2770 or CSC 4200(5200).

2) CSC 4760- Parallel Programming

From:

Prerequisite: CSC 2400 and C or better in CSC 2500.

To:

Prerequisite: CSC 2400 and C or better in CSC 2510.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

B. Delete Courses from Catalog.

1) CSC 2500 – Unix Lab Lab 2. Credit 1.

Catalog Data:

Prerequisites or Corequisites: C or better in CSC 1310 or both CSC 2110 and CSC 2111.

Course Description: Introduction to the facilities, tools, and development procedures in an environment designed for systems programming.

Prerequisites may be taken concurrently.

2) CSC 3030 - Pract/Prof Issues-Comp Sci. Lecture 1. Lab 1. Credit 1.

Catalog Data:

Prerequisite: Junior standing, COMM 2025 or PC 2500, and C or better in CSC 1310 or both CSC 2110 and CSC 2111.

Course Description: Social ethical, and career aspects of computing. Course includes written, oral, and audio-visual communication in computer science.

3) CSC 3350 - Probabilistic Computer Models. Lecture 3. Credit 3.

Catalog Data:

Prerequisites: MATH 3470.

Course Description: Stochastic models of queuing, game, inventory, and decision theory with computer solutions in algorithmic form and by digital simulation.

4) CSC 4020/5020 - Compiler Construction. Lecture 3. Credit 3.

Catalog Data:

Prerequisites: C or better in CSC 3710 and CSC 3410.

Course Description: Programming language translator design with emphasis on design concepts, parsing, code generation, tools, and code improvement; and construction of a small compiler.

5) CSC 4450 Intro. to Automata Theory and Computation. Lecture 3. Credits 3.

Catalog Data:

Prerequisite: CSC 3710. CSC 2400 recommended.

Course Description: Finite automata; regular sets; context-free languages, pushdown automata; Turing machines; recursive languages; computability; and computational complexity.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

6. General & Basic Engineering

A. Add Prerequisite.

1) From:

ENGR 3120 - Solid Modeling Lec. 2. Lab. 2. Credit 3.

Prerequisite: ENGR 1110, CEE 3110. (CEE 3110 may be taken concurrently.)

Introduction to computer-aided 3D solid modeling.

To:

ENGR 3120 - Solid Modeling Lec. 2. Lab. 2. Credit 3.

Prerequisite: ENGR 1110, **ENGR 1120**, CEE 3110. (CEE 3110 may be taken concurrently.) Introduction to computer-aided 3D solid modeling.

Curriculum Changes.

- 2)** Add a graduation requirement for students to take the Fundamentals of Engineering (FE) exam. Students be required to provide proof they have completed the exam. Because the BSE is joint degree with ETSU, students that are ETSU-based will provide proof to their ETSU advisor and ETSU's program director will forward a list to Tennessee Tech. Then, the Tennessee Tech advisor and/or the Tennessee Tech director will notify Records and Registration so that the requirement can be marked as completed in Degree Works. The same process will be done by Tennessee Tech-based students so that ETSU can properly track the completion of requirements.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

7. Mechanical Engineering

A. Addition of New Course/Change in Emphasis Area.

ME 4710: Propulsion Lec. 3 Cr. 3.

Prerequisite: ME 3220 and ME 3720. Co-requisites: NA.

Course Description: This course presents aerospace propulsive devices as systems, with functional requirements and engineering and environmental limitations along with requirements and limitations that constrain design choices. Both air-breathing and rocket engines are covered, at a level which enables rational integration of the propulsive system into an overall vehicle design. Mission analysis, fundamental performance relations, and exemplary design solutions are presented.

This course was created and added to the ME curriculum in Fall 2022, and the curriculum committee would like to **add it to the ME Area of Emphasis (AOE) course list.**

Area of Emphasis (AOE) Courses (Updated 02/22/2022)

There are a large number of courses that can be used to satisfy the Area of Emphasis (AOE) course requirements for the Bachelor of Science degree in Mechanical Engineering with no designated concentration. These courses fall into four categories: (1) ME electives as regular course offering; (2) mathematics courses applicable to ME; (3) select general engineering and business courses; and (4) miscellaneous upper division engineering, technology and science offerings with departmental approval.

Category 1: Mechanical engineering elective courses (a minimum of 9 cr. hrs must be taken from this category for AOE)

ME 4020 (5020) – Applied Machine Design
ME 4060 (5060) - Machine Vibrations
ME 4120 (5120) - Intermediate Dynamics
ME 4140 (5140) - Introduction to Robotics and Intelligent Machines Engineering
ME 4160 (5160) - Experimental Stress Analysis
ME 4180 (5180) - Finite Element Methods in Mechanical Design
ME 4190 (5190) - Advanced Mechanics of Materials
ME 4210 (5210) - Refrigeration and Air Conditioning
ME 4220 (5220) - Air Conditioning Design
ME 4260 (5260) - Energy Conversion and Conservation
ME 4310 (5310) - Gas Dynamics
ME 4370 (5370) - Mechatronics and Intelligent Machines Engineering
ME 4380 (5380) - Introduction to Data Acquisition and Signal Processing
ME 4450 (5450) - Design for Manufacturability
ME 4460 (5460) - Mechanical Properties of Materials
ME 4480 (5480) - Microstructural Analysis
ME 4490 (5490) - Properties and Selection of Engineering Materials
ME 4510 (5510) - Aerodynamics
ME 4610 (5610) - Steam Power Plants
ME 4620 (5620) - Turbomachinery
ME 4630 (5630) - Internal Combustion Engines
ME 4640 (5640) – Dynamics of Machinery II
ME 4710 – Propulsion
ME 4720 (5720) – Thermal Design
ME 4730 (5730) - Numerical Heat Transfer
ME 4810 (5810) - Automatic Controls
ME 4900 - Special Topics (maximum of 3 cr. hrs shall be counted as AOE)
ME 4930 (5930) - Noise Control
ME 4990 – Undergraduate Research (maximum of 3 cr. hrs shall be counted as AOE)

Any VE 4000- and ME 6000-level courses may be used with prior approval of both the course instructor and the ME department chair/associate chair. The student must be within 18 credit hours of graduation.

Category 2: Mathematics directly applicable to mechanical engineering

MATH 3470 - Introductory Probability and Statistics
MATH 3810 - Complex Variables

MATH 4210 (5210) - Numerical Analysis I
MATH 4220 (5220) - Numerical Analysis II
MATH 4250 (5250) - Advanced Ordinary Differential Equations I
MATH 4510 (5510) – Advanced Mathematics for Engineers
MATH 4530 (5530) - Linear Algebra I
MATH 4710 (5710) - Vector Analysis

Category 3: Select General Engineering and Business Courses (maximum of 3 cr. hrs shall be counted as AOE)

BMGT 3510 - Management and Organization Behavior
ENGR 4510 – Engineering Management
ENTR 4500 – Innovation and Entrepreneurship through Lean Launchpad

Category 4: Miscellaneous Engineering, Technology and Science Courses

The following MET courses are preapproved:
MET 4400 - Geometric Dimensioning and Tolerancing
MET 4450 – Additive Manufacturing
MET 4650 - Lean Six Sigma Manufacturing

Other upper division (3000 and 4000-level) engineering, technology and science courses may be used with prior approval of both the course instructor and the ME department.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

8. Chemistry

A. Curriculum Changes.

- 1. Addition of Undergraduate Research Methods (CHEM 2910) to the requirements for certification by the American Chemical Society.**

Make the following change to the paragraph before the chemistry curricula entry on page 100 of the 2022-2023 catalog. **Add CHEM 2910 to the required courses in item 2.**

A.C.S. Certification

A student in any chemistry concentration may attain certification by the American Chemical Society as determined by the Chemistry faculty. The Chemistry Department defines specific areas of certification including, but not restricted to, pure chemistry, biochemistry and environmental chemistry. The requirements for certification in these areas are outside the curricular requirements of the three major concentrations.

To attain ACS-certification within one of the following concentrations, a student must complete the following minimum requirements:

1. The student must take MATH 1920.
 2. The student must take CHEM 2010, **CHEM 2910**, CHEM 3510, CHEM 4210 (5210), CHEM 4520 (5520), CHEM 4610 (5610) and CHEM 4991. CHEM 3510 and CHEM 4520 (5520) may be substituted for CHEM 3500 and CHEM 3420, respectively, in curricula where the lower courses are required.
 3. The student must take a minimum of two advanced courses chosen from: CHEM 3520, CHEM 4110 (5110), CHEM 4150 (5150), CHEM 4310 (5310), CHEM 4320 (5320), CHEM 4410 (5410), CHEM 4620 (5620), CHEM 4650 (5650), CHEM 4710 (5710), CHEM 4720 (5720).
 4. The advanced courses above must include a minimum of three credit hours of laboratory including either CHEM 4150 (5150) or CHEM 4650 (5650).
 5. Requirements for specific areas of certification can be obtained from the Chemistry Advisor.
2. **Add CHEM 2910 to the Pure Chemistry Concentration (CHMP)**
 3. Make the following changes to the Sophomore Year curriculum:
Add CHEM 2910 Undergraduate Research Methods to the list of required courses in the first semester. Change total hours from 15 to 16.

Course Changes.

1. Change the prerequisite for Undergraduate Research Methods (CHEM 2910)
2. Remove prerequisite of "Permission of Instructor" and add "CHEM 1110, with a grade of C or better, or MATH ACT Score of 27 or higher".

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

9. Foreign Languages

A. Course and Prerequisite Changes.

1. From:

SPAN 3020 – Oral Communication in Spanish Lec. 3. Credit 3.
Prerequisite: SPAN 3010. Oral communication (speaking and listening) with additional practice in writing and reading while exploring cultural topics. Required for majors. Students with native-like fluency in Spanish will substitute a different upper-level course for this one. Qualified students may be able to take this course without the prerequisite by contacting the instructor.

To:

SPAN 3020 – Oral Communication in Spanish Lec. 3. Credit 3.

Prerequisite: SPAN 2020. Oral communication (speaking and listening) with additional practice in writing and reading while exploring cultural topics. Required for majors. Qualified students may be able to take this course without the prerequisite by contacting the instructor.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

10. Economics, Finance, and Marketing

A. Addition of New Course.

ECON 4710 – Behavioral Economics Lec. 3. Credit 3.

Pre-requisite: ECON 3810 or consent of instructor.

Course Description: Topics in behavioral economics, both in the context of individual decisions and strategic interactions, including: heuristics and biases, prospect theory, social preferences, bounded rationality, time-inconsistent preferences, and psychological game theory.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

11. Environmental Studies

A. Elevating Options to Concentrations.

1. Elevation of ESS-Environmental Science – Biology option to ESS-Environmental Science Biology
2. Elevation of ESS-Environmental Science – Chemistry to ESS-Environmental Science Chemistry
3. Elevation of ESS-Environmental Science – Natural Resources to ESS – Natural Resources

Options do not show up as distinct curricula in Degree Works, nor does the system allow for appropriate specialization to appear on transcripts. Elevating Biology, Chemistry and Natural Resources from options to concentrations will increase the visibility of the curriculum so that it is easily recognizable by prospective students and professionals, creating a stronger brand identity. It will also make it easier for students to access program information and take a more significant role in their progress through the curriculum.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

B. Addition of New Concentration.

The department proposed to create a new concentration, Environmental Sustainability, for Environmental and Sustainability Studies.

There is an increasing demand for graduates with a broad understanding of environmental sustainability concepts, as well as local and global sustainability issues and initiatives. This concentration focuses on important sustainability issues related to societal concerns regarding water, climate, food, ethics, etc. This differs in many ways from traditional environmental science concepts, which typically focus more on biological and chemical environmental concerns and how they affect ecosystems and human health.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

C. Name Change of Existing Concentration.

The department proposed to change the name of an existing concentration.

From:

Society, Culture, and Communication

To:

Environmental Leadership, Communication, and Policy.

Justification: The ESS Society, Culture and Communication Concentration currently has three options available: Communication & Media, Leadership & Environmental Management, and Social Science & Policy. Historically, we have had very few students in any given option, students have often moved from one option to another during their time at TTU, and sometimes couldn't recall the option they were in. We are eliminating the choice of options, but keeping the essential elements of each with a new title that reflects the focal areas: Environmental Leadership, Communication and Policy.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

D. Create curriculum under existing concentration.

The department proposed to create a curriculum for the Environmental Science concentration in Environmental and Sustainability Studies.

Justification: The Environmental Science concentration has existed only with options and has never had a curriculum outside of the options. Because we are proposing that the options under the Environmental Science concentration be elevated to concentrations, we created a curriculum that reflects the interdisciplinary nature of environmental science. Additionally, several ESS courses have been created since the ESS degree was developed. We expanded

the major field core to include those new courses and to give the students more flexibility in choosing courses.

**Environmental and Sustainability Studies, Environmental Science Concentration,
B.S.**

Curriculum

Freshman Year

First Semester

BIOL 1020 - Diversity of Life Credit: 4.
ENGL 1010 - English Composition I Credit: 3.
Elective Credit: 1-2.
ESS 1100 - Introduction to Environmental
Studies Credit: 3.
MATH 1710 - Pre-calculus
Algebra Credit: 3. or
MATH 1830 - Applied
Calculus Credit: 3. or
MATH 1910 - Calculus
Credit: 4. Total: 15

Second Semester

CHEM 1010 - Introductory Chemistry
I Credit: 4. or CHEM 1110 - General
Chemistry I Credit: 4.
Elective Credit: 3.
ENGL 1020 - English Composition II Credit: 3.
Humanities/Fine Arts
Elective Credit: 3. Total:
13

Sophomore Year

First Semester

Elective Credit: 3.
ENGL 2130 - Topics in American
Literature Credit: 3. or ENGL
2235 - Topics in British Literature
Credit: 3. or ENGL 2330 - Topics
in World Literature Credit: 3.
GEOL 1040 Physical Geology Credit: 4. or
GEOL 1045 - Earth Environment, Resources
and Society Credit: 4.
HIST 2010 - Early United States History
Credit: 3.
Humanities/Fine Arts
Elective Credit: 3. Total:
16

Second Semester

COMM 2025 - Fundamentals of Communication Credit: 3. or PC 2500 - Communicating in the Professions Credit: 3.
ECON 2010 - Principles of Microeconomics Credit: 3.
ESS 2100 — Environment and Ethics Credit: 3.
HIST 2020 - Modern United States History Credit: 3.
PHYS 2010 — Algebra-Based Physics Credit: 4. Total: 16

Junior Year

First Semester

BIOL 3120 - General Ecology Credit: 3. or
BIOL 3130 - General Ecology Credit: 4.
Elective Credit: 1-2
ESS 3000 - Introduction to Environmental Law Credit: 3.
ESS 3200 Nonprofit Organizations and the Environment Credit: 3. or HIST 3900 - Environmental History Credit: 3.
CHEM 3005 — Elementary Organic Chemistry Credit: 4. Total: 15

Second Semester

BIOL 4220 (5220) - Biostatistics Credit: 3. or
MATH 3070 - Statistical Methods I Credit: 3
ESS 3100 — Global Sustainability Issues and Initiatives Credit: 3. ESS 3710 - Chemistry and the Environment Credit: 3.
ESS 4110— Human Dimensions of Natural Resources Credit: 3. or SOC 3600 - Environmental Sociology Credit: 3.
GEOL 3200 - Water Resources Credit: 3.
Total: 15

Senior Year

First Semester

AGBE 4120 (5120) - Natural Resource Economics Credit: 3. or ECON 4120 - Natural Resource Economics Credit: 3.
AGRN 3000 - Soils Credit: 4.
ESS 4093 — Special Topics Credit: 3. or

ESS 4300 — Environmental Management System Credit: 3. or ESS 4900 — Internship Credit: 3.
ESS 4001 - Society and the Environment: Capstone Experience Part 1. Credit: 3.
GEOL 3550 — Paleoclimates Credit: 3. or
GEOL 4150 — Geomorphology Credit: 3.
Total: 16

Second Semester

BIOL 4840 Limnology Credit: 3. or
WFS 4730 — Conservation Biology Credit: 3.
Elective Credit: 5
ESS 4002 - Society and the Environment: Capstone Experience Part 2. Credit: 3.
GEOG 4510 - Theory of GIS 1 Credit: 3.
Total: 14

Motion to approve. Julie Baker
Second. Kimberly Winkle
Vote. Motion carried

E. Curriculum Changes.

The department proposed to change the curriculum in the Environmental Technology concentration.

Justification: Changes reflect the addition of recently developed ESS courses to the Major Field Core, as well as additional core course options to give students more flexibility, especially when required courses conflict.

Environmental and Sustainability Studies, Environmental Technology Concentration, B.S.

Curriculum

Freshman Year

First Semester

CHEM 1110 - General Chemistry I Credit: 4.

Elective Credit: 1.

~~Elective Credit: 3.~~

ENGL 1010 - English Composition I Credit: 3.

ESS 1100 - Introduction to Environmental Studies Credit: 3.

~~ESS 1020 – Connections to Environmental and Sustainability Studies Credit: 1.~~

~~HIST 2010 – Early United States History Credit: 3.~~

MATH 1910 – Calculus Credit: 4.

Total: 44 15

Second Semester

CHEM 1120 - General Chemistry II Credit: 4.

Elective Credit: 1.

ENGL 1020 - English Composition II Credit: 3.

Humanities/Fine Arts Elective Credit: 3.

MATH 1920 - Calculus II Credit: 4.

~~ESS 1100 – Introduction to Environmental Studies Credit: 3.~~
~~HIST 2020 – Modern United States History Credit: 3.~~
~~SOC 1010 – Introduction to Sociology Credit: 3.~~
Total: ~~16~~ 15

Sophomore Year

First Semester

BIOL 1020 - Diversity of Life Credit: 4.
ENGL 2130 - Topics in American
Literature Credit: 3. or ENGL 2235 -
Topics in British Literature Credit: 3. or
ENGL 2330 - Topics in World Literature
Credit: 3.
ESS 2100 — Environment and Ethnics Credit: 3.
HIST 2010 - Early United States History Credit: 3.
Humanities/Fine Arts Elective Credit: 3.
~~MATH 1910 – Calculus I Credit: 4.~~
~~PHIL 1030 – Introduction to Philosophy Credit: 3.~~
Total: ~~17~~ 16

Second Semester

COMM 2025 - Fundamentals of Communication Credit: 3. or
PC 2500 - Communicating in the Professions Credit: 3.
ECON 2010 - Principles of Microeconomics Credit: 3.
HIST 2020 - Modern United States History Credit: 3.
~~MATH 1920 – Calculus II Credit: 4.~~
PHYS 2010 - Algebra-based Physics I Credit: 4.
Total: ~~14~~ 13

Junior Year

First Semester

BIOL 3130 - General Ecology
Credit: 4. or BIOL 3120 -
General Ecology Credit: 3.
CEE 3413 - Environmental Engineering Credit: 3.
Elective Credit: 3-4.
ESS 3000 - Introduction to Environmental Law
Credit: 3.
ESS 3200 — Nonprofit Organizations and the Environment Credit: 3. or
HIST 3900 — Environmental History Credit: 3.
~~MATH 3070 – Statistical Methods I Credit: 3. or~~
~~BIOL 4220 (5220) – Biostatistics Credit: 3.~~
Total: 16

Second Semester

ESS 3100 — Global Sustainability Issues and Initiatives Credit: 3
ESS 3710 - Chemistry and the Environment Credit: 3. or
~~CHEM 4710 (5710) – Environmental Chemistry Credit: 3.~~
ESS 4110 Human Dimensions of Natural Resources Credit: 3. or
SOC 3600 - Environmental Sociology Credit: 3.
~~GEOG 4510 (5510) – Theory of GIS I Credit: 3.~~

GEOL 1040 - Physical Geology Credit: 4. Or
GEOL 1045 - Earth Environment, Resources and Society Credit: 4.
~~HIST 3900 - Environmental History Credit: 3.~~
MATH 3070 - Statistical Methods I Credit: 3. or
BIOL 4220 (5220) - Biostatistics Credit: 3.
Total: 16

Senior Year

First Semester

AGBE 4120 (5120) - Natural Resource Economics Credit: 3. or
ECON 4120 - Natural Resource Economics Credit: 3.
~~ET Elective Credit: 3.³~~
~~Elective Credit: 3.~~
ESS 4001 - Society and the Environment: Capstone Experience Part 1. Credit: 3.
ESS 4300 - Environmental Management System Credit: 3.
Directed Elective Credit: 3. ¹
GEOG 4510 (5510) - Theory of GIS I Credit: 3.
~~GEOG 4511 (5511) - Theory of GIS II Credit: 3.~~
Total: 15

Second Semester

~~Electives Credit: 6.~~
Elective Credit: 5.
~~ET Elective Credit: 3.³~~
ESS 4002 - Society and the Environment: Capstone Experience Part 2. Credit: 3.
Directed Elective Credit: 3. ¹
GEOG 4511 (5511) - Theory of GIS II Credit: 3.
Total: ~~12~~ 14

Note:

³Environmental Technology Electives

¹Directed Elective

AGET 3510 Agricultural Surveying

AGET 3620 Computer Aided Design in Agriculture

AGET 2110 Agricultural Engineering Technology

BIOL 4130 (5130) Environmental Microbiology

BIOL 4840 (5840) Limnology

CEE 4410 (5410) Solid and Hazardous Waste Management

CEE 4430 (5430) Water and Wastewater Engineering

CEE 4450 (5450) Water Quality Modeling

~~ESS 4300 Environmental Management System~~

ESS 4093 — Special Topics Credit: 3.

ESS 4900 Internship

~~GEOG 1130 Geography of Natural Hazards~~

GEOG 3200 Water Resources/GEOL 3200 Water Resources

GEOG 4210 — Cartography Credit: 3.

GEOG 4650 (5650) Environmental Applications of GIS

GEOG 4850 (5850) Advanced GIS

GEOL 4711 (5711) Hydrogeology

~~PHYS 2010 Algebra-based Physics I or PHYS 2110 Calculus-based Physics I~~

~~WFS 4500 (5500) National Wildlife Policy~~

~~WFS 4730 (5730) Conservation Biology~~

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

12. Communication

A. Course Changes and Cross-Listing.

1. From:

COMM 4030 (5030) Event Management and Promotion, Lec. 3. Credit 3.
(Deleted Effective Fall 2020.)

To (RE-ENABLE):

COMM 4030 (5030) Field Experience in Event Management and
Promotion, Lec. 3 Credit 3.

Prerequisite: Comm 3030 (JOUR 3030) and COMM 3040 (JOUR 3040) or
consent of instructor. Course is cross listed with JOUR 4030 (5030). This
course will provide students with the opportunity to implement skills
learned to manage and promote an actual event, either in pairs or small
groups.

Change of Minor Requirements.

2. From:

A minor in event planning, promotion and management will consist of the
following courses:

COMM/JOUR 3030 Principles of Event Planning, Credit: 3.
COMM/JOUR 3040 Event Planning and Risk Management, Credit: 3.
JOUR 4030/5030 Field Experience in Event Management and
Promotion, Credit: 3

And 6 hours of these courses:

COMM 2090 Interpersonal Communication or
COMM 3620 Intercultural Communication, Credit: 3.
COMM 3080 Communication and Effective Teamwork, Credit: 3.
JOUR 3460 Introduction to Public Relations, Credit: 3.
ACCT 2120 Principles of Accounting II or ACCT 3720 Survey of
Accounting, Credit: 3.
HEC 3350 Merchandising I, Credit: 3.
HEC 4242 Food Systems Administration, Credit: 3.

To:

A minor in event planning, promotion and management will consist of the
following courses:

COMM/JOUR 3030 Principles of Event Planning, Credit: 3.
COMM/JOUR 3040 Event Planning and Risk Management, Credit: 3.

COMM/JOUR 4030/5030 Field Experience in Event Management and Promotion, Credit: 3

or

Internship in Event Planning (COMM 4853 or JOUR 4853/5853), Credit 3 (Pre-Approved by Communication Department)

And 6 hours of these courses:

COMM 2090 Interpersonal Communication, Credit: 3.

COMM 3620 Intercultural Communication, Credit: 3.

COMM 3080 Communication and Effective Teamwork, Credit: 3

or BMGT 3720 Business Communication I, Credit: 3

or BMGT 4410 (5410) Conflict Management and Negotiation, Credit: 3

or COMM 4410 Conflict Resolution and Negotiation, Credit: 3

or LIST 3410 Teambuilding and Workplace Dynamics, Credit: 3

or LIST 4710 Workplace Conflict and Resolution, Credit: 3

or PSY 3410 Group Dynamics, Credit: 3

ACCT 2120 Principles of Accounting II or ACCT 3720 Survey of Accounting, Credit: 3.

HEC 3350 Business Aspects of the Design Industry, Credit: 3.

JOUR 3460 Introduction to Public Relations, Credit: 3.

JOUR 3470 Public Relations Writing, Credit: 3

JOUR 4460 Public Relations Cases and Practices, Credit 3

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

B. Addition of New Courses/Course Changes.

1. JOUR 2860-2869 Topics in Journalism and Media, Credit 1-2-3.

Prerequisite: None.

Course Description: Introductory seminar or lecture course on a selected topic, issue, or interest area in journalism not covered in existing courses.

Course may be repeated for credit under a different subtitle, up to nine hours of credit.

Course Changes.

2. **From:**

JOUR 4860-4869 Special Topics, Lec. 3. Credit 3.

Prerequisite: Junior or senior standing or consent of instructor.

Course Description: Seminar or lecture course on a selected topic, issue, or interest area in journalism not covered in existing courses. Course may be repeated for credit under a different subtitle, up to nine hours of credit.

To:

JOUR 4860-4869 Special Topics, Credit 1-2-3.

Prerequisite: Junior or senior standing or consent of instructor.

Course Description: Seminar or lecture course on a selected topic, issue, or interest area in journalism not covered in existing courses. Course may be repeated for credit under a different subtitle, up to nine hours of credit.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

13. Agriculture

A. Addition of New Course/Deletion.

1. AGRN 2400 Introduction to Soils, Fall. Lec. 3. Credit 3.

Course Description:

This course emphasizes soil physical, chemical, and biological properties as they relate to plant growth, the environment, and the soil's place in our daily lives. The course is intended to familiarize students with the importance of soils to humans and the environment through study of soil formation, distribution, physical and chemical properties, fertility, and environmental quality.

Deletions.

2. Delete the chemistry prerequisite so all majors can register for the AGRN 2400 course. Most majors who need to take soils often require a prerequisite permit as they are taking chemistry during the same semester. Removing the chemistry prerequisite alleviates the burden of Tawnya Robinson issuing permits.

This proposal creates consistency for all students taking the lecture and reduces the instructional load from three courses to one. Separating the lecture and lab allows students the option to take only the lecture or both, depending on specific curriculum requirements. Additionally, restructuring the course with a separate lab allows flexibility in the animal science/pre-vet curricula and may ease some constraints with course scheduling. This also allows transfer students to carry soil credits from 2-yr institutions and only take AGRN 2415 – Soils lab to meet curriculum requirements of concentrations requiring 4 credit hours. If not, they must take AGRN 2000 or 3000 to gain the lab credit.

B. Addition of New Course.

AGRN 2415 Soils Lab, Fall. Lab. 2. Credit 1

Course Description:

This lab emphasizes the practical application of soil physical, chemical, and biological properties as they relate to plant growth, the environment, and the soil's place in our daily lives. The lab is intended to demonstrate the

principles and concepts regarding soil formation, physical and chemical properties, fertility, and environmental quality.

C. Addition of New Course.

AGET 3600 Unmanned Aircraft Operations

AGRN 3600 Unmanned Aircraft Operations

Course Description:

This course will teach the fundamentals of unmanned aircraft system (UAS) concepts and prepare the student to sit for the FAA Part 107 certification exam. Students will develop skills necessary for safe UAS operation to improve operational efficiency within various industries.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

14. Human Ecology

A. Curriculum Changes.

1. From:

Child Life Curriculum Sheet Note section.

As an Endorsed Academic Program, Tennessee Tech's Child Life Concentration conforms to the Association of Child Life Professionals standards. In order to graduate with a B.S. degree in Human Ecology, Child Life, the following requirements must be completed prior to graduation.

Note 1: Students must apply for, be accepted into, and successfully complete a Child Life Practicum under the direct supervision of a Certified Child Life Specialist. Students who are unsuccessful in securing a Child Life Practicum or passing the Child Life Practicum prior to graduation may NOT graduate with a degree in Human Ecology, concentration Child Life.

Note 2: Students must apply for a Child Life Clinical Experience (Internship) which is directly supervised by a Certified Child Life Specialist. To pass the clinical experience course, students must earn minimal entry-level competence during the internship experience.

To:

Child Life Curriculum sheet Note section.

As an Endorsed Academic Program, Tennessee Tech's Child Life Concentration conforms to the Association of Child Life Professionals standards

Note 1: Students securing a Child Life Clinical Experience (internship) must be directly supervised by a Certified Child Life Specialist. To pass the clinical experience course, students must earn minimal entry-level competence during the internship experience.

Motion to approve. Julie Baker

Second. Kimberly Winkle

Vote. Motion carried

No other such matters being presented, the meeting was adjourned at 3:33pm.