

CURRICULUM CHANGE PROPOSAL

Prepare proposal in accordance with the guidelines below and the format shown on the following pages. Should any item under the headings not pertain to your proposal, write N/A.

PROPOSAL NUMBER: 25-26-15

REVISION (label Revision #1, #2, etc.): [Click or tap here to enter text.](#)

SECTION 1: CONTACT INFORMATION

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SECTION 2: PROGRAM INFORMATION

College:	College of Science & Technology
Department:	Engineering Technology
Title of Degree Program/Certificate:	Mechanical Engineering Technology
Degree Program Level:	Bachelor's Degree
Date Originally Submitted:	11/10/2025
Implementation Date Requested:	8/1/2026

APPROVAL

The Deans of the affected colleges must sign below to indicate their notification and departmental approval of this proposal. Should this proposal affect any course or program in another college, a memo must be sent to the Dean of each college impacted and a copy of the memo(s) must be included with this proposal.

By signing below, you are indicating your college and department(s)'s approval of this proposal.

College	Dean's Signature

ADDITIONAL COMMENTS:

SECTION 3: Curriculum Change Request

A. PROPOSAL ABSTRACT.

Write a brief abstract, not exceeding 150 words, describing proposed changes.

The proposed changes to the B.S.E.T. in Mechanical Engineering Technology program are to add math and science options that have been determined to be equivalent to the current requirements. This will allow more flexibility for the students and reduce the number of course substitutions required. Currently, the curriculum only accepts MATH 1520, TECH 2290, TECH 3300, PHYS 1102, and CHEM 1101. The proposed curriculum will allow students to complete MATH 1410 or MATH 1430 or MATH 1530, MATH 1520 or MATH 1540, TECH 2290 or MATH 2501, TECH 3300 or MATH 2502, CHEM 1101 or CHEM 1105, PHYS 1001 or PHYS 1101 or PHYS 1115 and PHYS 1002 or PHYS 1102 or PHYS 1116. Additionally, the ELEC 1100 course will be replaced by ELEC 1110. This change was made by the Electronics Engineering Technology program which merges Circuit Analysis I and AC/DC Electronics into a single 4-credit course with an integrated lab, improving hands-on learning and aligning with the Mechanical Engineering Technology program schedule.

B. DESCRIPTION OF THE PROPOSAL

1. Full Program Name:	B.S.E.T., Mechanical Engineering Technology
2. Current number of credit hours required for the program:	120
3. Is the program changing the number of credit hours required for the program?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4. How many credit hours will be added to the program?	0
5. How many credit hours will be deleted from the program?	0

6. Added Course(s) (If applicable): List the course(s) to be added to program (if applicable). Indicate whether the course is an existing course or will be a proposed new course.

CHEM 1105, MATH 1430 or 1530, MATH 1540, MATH 2501 & 2502, PHYS 1001 or 1115, and PHYS 1002 or PHYS 1116.

These are existing courses and trying to limit the number of course substitution memos.

ELEC 1110

This is a new course proposed by the Electronics Engineering program.

7. Deleted Courses (if applicable): List course(s) to be deleted from the program (if applicable).

Indicate the term in which the course will no longer be available for students to take and the catalog in which students will not have the option to take the course.

ELEC 1100

8. **Teach-out Arrangement:** If a required course will be deleted from the program, how will you accommodate current students in the program to complete the required course?

- Courses will continue to be offered for students to complete program under previous catalog. (Typical)
- Students must transition to new catalog and meet all requirements. (Student advising required)
- Students in old catalog will take new or existing courses as outlined below. (Student advising required) (ELEC 1110 will be substituted for ELEC 1100 for students on an old catalog)
- Department will petition course changes for each student. (Not recommended)
- Change is only editorial and will not impact student progress. (Math and natural science additions will provide additional options for students)

C. CHANGE IN PROGRAM DESCRIPTION (if applicable)

1. Current Program Description

2. Proposed Program Description

D. RATIONALE

1. What is the rationale for this change?

- Annual assessment results
- Program review
- Program accreditation
- College or Department strategic plan
- To align with University policy or standard
- Other

2. **Description of the Rationale.** Describe the evidence that supports changing the program's curriculum. For example, indicate the types of assessment data (e.g., surveys, interviews, capstone courses, projects, licensure exams, nationally-normed tests, locally developed measurements, accreditation reports, etc.) collected and analyzed to determine that curricular changes were warranted. Is it due to market trends? Does it reflect changes in the discipline? What are the expected results of the change?

The proposed changes to the B.S.E.T. in Mechanical Engineering Technology program will allow students additional math and science course options and reduce the required number of course substitutions. The proposed program will meet the current core curriculum requirements and the criteria

established by the program's accrediting board (ABET). Currently, the major requires MATH 1520, TECH 2290, TECH 3300, PHYS 1102, and CHEM 1101.

ABET criterion requires the application of integral and differential calculus or other mathematics above the level of algebra and trigonometry. This requirement can be satisfied through TECH 2290: Engineering Analysis I & TECH 3300: Engineering Analysis II or MATH 2501: Calculus I & MATH 2502: Calculus II. MATH 1520: Applied Technical Mathematics II or MATH 1540: Trigonometry provides the pathway for students to take TECH 2290, and only MATH 1540: Trigonometry provides the prerequisite for MATH 2501. Additionally, the core curriculum mathematics requirement will be reclassified as a major requirement and can be satisfied by either MATH 1410: Applied Technical Mathematics I (4 hours), MATH 1430: College Algebra with Support (4 hours), or MATH 1530: College Algebra (3 hours). If a student takes MATH 1530, they will be required to take an additional hour of free elective to reach 120 hours.

Natural sciences remain a requirement by ABET. The criterion states that the natural science content of the curriculum must be appropriate to the discipline and must include laboratory experiences. The program requires students to complete a total of 12 hours of natural science. In the current curriculum, four of the required hours were satisfied through the core curriculum requirements as PHYS 1001, PHYS 1101, or PHYS 1115. The proposed curriculum will move the previously mentioned physics courses to be a major requirement. All these physics courses have a laboratory component. Additionally, the students would complete PHYS 1002, PHYS 1102, or PHYS 1116 and CHEM 1101 or CHEM 1105. The natural science course CHEM 1105 is a five-hour course. If a student elects to complete this course, the free elective or technical elective requirement will be reduced, and the student can still complete the degree in 120 hours.

Additionally, based on the Electronics Engineering Technology curriculum proposal, the ELEC 1100 course will be replaced by ELEC 1110. ABET criterion requires a basic introduction into AC/DC circuits that was covered by the ELEC 1100 course. The new ELEC 1110 course will still cover these fundamentals, along with the addition of a 1-credit-hour lab. These changes will add hands-on learning and align with the Mechanical Engineering Technology program model schedule. However, the addition of the 1-hour lab will reduce the free elective requirement.

E. RESOURCES

1. Will new faculty, be needed to support the program change? If no new faculty are required and the revision is adding classes or substituting courses, identify how current faculty will meet the demand.

2. Will new facilities, equipment, space modification, and/or library materials/services be needed to support the program change? Provide an estimate of the increased cost, or reduction in cost of implementation (if applicable).

N/A

F. PROGRAM CHANGE SUMMARY


A. **APPENDIX A:** For degree programs, majors, and concentrations (only), use the format in Appendix A to show the Current Program and Proposed Changes.

B. For changes to minors and certificates, please attach a document showing the current program and proposed changes. You do not need to complete Appendix A for minors and certificates.

APPENDIX A
B.S. Degree in Mechanical Engineering Technology
Current Program

[NOTE: For current program requirements, you can copy paste your program information from the [Digital Catalog](https://catalog.fairmontstate.edu/index.php?catoid=23) below. Program information can be found here <https://catalog.fairmontstate.edu/index.php?catoid=23>]

Degree Requirements

Core Curriculum Courses		
If a core curriculum course is also listed as a required major course, place an X in the 'credits' column. 		
Core Area	Course Prefix and Number	Credit Hours
First Year Seminar	SOAR 1100, HONR 1100, BSBA 1100, NURS 1025, STEM 1100	1-3
Written Communication	ENGL 1101, ENG 1102, ENG 1103	6-7
Oral Communication	COMM 2200, COMM 2201, or COMM 2202	3
Mathematics	MATH 1407, MATH 1410, MATH 1430, MATH 1507, MATH 1510, , MATH 1530, MATH 1540, MATH 2501	3-4
Humanities	ENGL 2220, ENGL 2221, ENGL 2240, FOLK 2200, HIST 2211, HIST 2212, HIST 2213, PHIL 2200, PHIL 2250, PHIL 2275	3
Fine Arts	ART 1120, ART 1141, MUSI 1120, MUSI 1167, MUSI 1168, MUSI 1169, THEA 1120	2-3
Natural Science	BIOL 1104, BIOL 1105, BIOL 1106, BIOL 1180 & 1181, CHEM 1101, CHEM 1105, FORS 2201, GEOL 1101, GEOL 1102, PHYS 1001, PHYS 1101, PHYS 1104, PHYS 1115, SCIE 1100, SCIE 1103, SCIE 1105, SCIE 1107, SCIE 1115, SCIE 1120, SCIE 1130, SCIE 1210, SCIE 1250, SCIE 2200	4-5
Social Science	BSBA 2200, BSBA 2211, CHEP 2210, CRIM 1100, CRIM 2202, GEOG 2210, MANF 2205, POLI 2200, PSYC 1101, SOCY 1110, SOCY 2205, TECH 1100	3
Citizenship	HIST 1107, HIST 1108, POLI 1100, RECR 1141	3
Personal Development	Global Awareness: FREN 2202, SPAN 2202, LANG 1110, POLI 2210, POLI 2220 Fitness & Wellness: CRIM 2212, CHEP 1101, CHEP 1110, HLTA 1100, HLTA 1150, HLTA 2203, , NUTR 1110, PHED 1100 Technology: ART 2245, BISM 1200, CIVL 2210, EDUC 2201, MATH 1550, MANF 2250, MUSM 1100, TECH 1101	2-3

Required Major Courses – MATH and Science UPDATE ONLY

Course Prefix & Number	Course Name	Credit Hours
MATH 1520	Applied Technical Mathematics II	3
TECH 2290	Engineering Analysis I	4
TECH 3300	Engineering Analysis II	4
CHEM 1101	General Chemistry I	4
PHYS 1102	Introduction to Physics II	4
COMP 1110	Introduction to Programming	3
ELEC 1100	Circuit Analysis I	3
ELEC 2250	AC-DC Machinery and Controls	3
MANF 1100	Material and Processes	3
MECH 1100	Statics	3
MECH 2200	Strength of Materials	4
MECH 2210	Thermodynamics I	3
MECH 2220	Fluid Mechanics	3
MECH 2240	Machine Design I	3
MECH 3300	Thermodynamics II	3
MECH 3320	Dynamics	3
MECH 3330	Heat Transfer I	3
MECH 3340	Heating, Air Conditioning, and Ventilation	3
MECH 3350	Numerical Methods	3
MECH 4400	Mechanical Measurements	3
MECH 4420	Machine Design II	3
SFTY 1100	Safety and Environmental Components of Industry	3
TECH 1108	Engineering Graphics I	3
TECH 2208	Engineering Graphics II	3
	Total	77

Major Elective Courses (6 Credit Hours) – IF APPLICABLE

[Electives are selected from a specific major or program]

Course Prefix & Number	Course Name	Credit Hours
BSBA 2209	Principles of Management	3
BSBA 2204	Principles of Marketing	3
CIVL 1100	Introduction to Civil Engineering Technology	1
CIVL 2200	Introduction to Surveying	3
COMP 1100	Introduction to Computer Science	3
COMP 1120	Principles of Programming I	3
COMP 1130	Principles of Programming II	4
COMP 2200	Object-Oriented Programming	3
COMP 2201	Machine Organization	3
COMP 2220	Fundamentals of Computer Security	3
COMP 2230	Client-Server Systems	3
COMP 2270	Data Structures	3
COMP 2541	Fundamentals of Data Science	3

COMP 2542	Applied Data Science	3
ELEC 1120	AC/DC Electronics Analysis	3
ELEC 2200	Shop Practices	3
ELEC 2210	Circuit Analysis	3
ELEC 2225	Electronic Devices	3
ELEC 2230	Digital Electronics	3
ELEC 2240	Industrial Electronics	3
ELEC 2260	Communications Systems	3
ELEC 2270	Microcomputers	3
ELEC 2280	Programmable Controllers	3
MANF 2250	Total Quality & SPC	3
MATH 1550	Applied Statistics	3
MATH 3503	Calculus III	4
MATH 3504	Differential Equations	3
MATH 3520	Linear Algebra	3
MATH 3540	Numerical Analysis	3
MATH 3550	Probability	3
SFTY 1150	Safety Management and Concepts in Accident Prevention	3
SFTY 2210	Disaster Preparedness and Emergency Systems	3
SFTY 2250	Safety Law and Compliance	3
SFTY 2280	Construction Safety & Law	3
SFTY 2290	Industrial Hygiene and Toxicology	3
SFTY 2291	Environmental Engineering Technology: Hazardous Waste	4
TECH 1100	Technology and Society	3
TECH 1101	Introduction to Technology	3

Concentration Courses (0 Credit Hours) – IF APPLICABLE

[A concentration is a focused curriculum within an approved major; adds a specialization within a major area of study. Undergraduate concentrations comprise 12-18 credits; Graduate concentrations comprise 6-15 credits. Concentrations associated with certification or licensure requirements may exceed the credit limit.

Course Prefix & Number	Course Name	Credit Hours

Total Core Curriculum Credit Hours:	32
Total Required Major Courses Credit Hours:	77
Total Required Concentration Credit Hours:	0
Total Elective Credit Hours (If applicable):	6
Total Free Electives Credit Hours:	5
TOTAL CREDIT HOURS	120

B.S. Degree in Mechanical Engineering Technology
Proposed Program

Degree Requirements

Core Curriculum Courses		
If a core curriculum course is also listed as a required major course, place an X in the 'credits' column.		
Core Area	Course Prefix and Number	Credit Hours
First Year Seminar	SOAR 1100, STEM 1100, HONR 1100, BSBA 1100, NURS 1025	1-3
Written Communication	ENGL 1101, ENG 1102, ENG 1103	6-7
Oral Communication	COMM 2200, COMM 2201, or COMM 2202	3
Mathematics	MATH 1407, MATH 1410, MATH 1430, MATH 1507, MATH 1510, , MATH 1530, MATH 1540, MATH 2501	3-4 X
Humanities	ENGL 2220, ENGL 2221, ENGL 2240, FOLK 2200, HIST 2211, HIST 2212, HIST 2213, PHIL 2200, PHIL 2250, PHIL 2275	3
Fine Arts	ART 1120, ART 1141, MUSI 1120, MUSI 1167, MUSI 1168, MUSI 1169, THEA 1120	2-3
Natural Science	BIOL 1104, BIOL 1105, BIOL 1106, BIOL 1180 & 1181, CHEM 1101, CHEM 1105, FORS 2201, GEOL 1101, GEOL 1102, PHYS 1001, PHYS 1101, PHYS 1104, PHYS 1115, SCIE 1100, SCIE 1103, SCIE 1105, SCIE 1107, SCIE 1115, SCIE 1120, SCIE 1130, SCIE 1210, SCIE 1250, SCIE 2200	4-5 X
Social Science	BSBA 2200, BSBA 2211, CHEP 2210, CRIM 1100, CRIM 2202, GEOG 2210, MANF 2205, POLI 2200, PSYC 1101, SOCY 1110, SOCY 2205, TECH 1100	3
Citizenship	HIST 1107, HIST 1108, POLI 1100, RECR 1141	3
Personal Development	Global Awareness: FREN 2202, SPAN 2202, LANG 1110, POLI 2210, POLI 2220 Fitness & Wellness: CRIM 2212, CHEP 1101, CHEP 1110, HLTA 1100, HLTA 1150, HLTA 2203, NUTR 1110, PHED 1100 Technology: ART 2245, BISM 1200, CIVL 2210, EDUC 2201, MATH 1550, MANF 2250, MUSM 1100, TECH 1101	2-3

Required Major Courses MATH and Science UPDATE ONLY		
Course Prefix & Number	Course Name	Credit Hours
Mathematics Requirement	Choose from 1 of the following options	
MATH 1410 & 1520	Applied Technical Mathematics I & II	7
MATH 1430 & 1540	College Algebra with Support & Trigonometry	7
MATH 1530 & 1540	College Algebra & Trigonometry	6
Engineering Analysis or Calculus Requirement	Choose from 1 of the following options	
TECH 2290 & 3300	Engineering Analysis I & II	8
MATH 2501 & 2502	Calculus I & II	8
MATH 2501 & TECH 3300	Calculus I & Engineering Analysis II	8
Physics Requirement	Choose from 1 of the following options	
PHYS 1001 & 1002	General Physics I & II	8
PHYS 1101 & 1102	Introduction to Physics I & II	8
PHYS 1115 & 1116	Principles of Physics I & II	8
Chemistry Requirement	Choose from 1 of the following courses	
CHEM 1101	General Chemistry I	4
CHEM 1105	Chemical Principles	5
	Sub-total	26-28
ELEC 1110	Introduction to Circuit Analysis	4
COMP 1110	Introduction to Programming	3
ELEC 2250	AC-DC Machinery and Controls	3
MANF 1100	Material and Processes	3
MECH 1100	Statics	3
MECH 2200	Strength of Materials	4
MECH 2210	Thermodynamics I	3
MECH 2220	Fluid Mechanics	3
MECH 2240	Machine Design I	3
MECH 3300	Thermodynamics II	3
MECH 3320	Dynamics	3
MECH 3330	Heat Transfer I	3
MECH 3340	Heating, Air Conditioning, and Ventilation	3
MECH 3350	Numerical Methods	3
MECH 4400	Mechanical Measurements	3
MECH 4420	Machine Design II	3
SFTY 1100	Safety and Environmental Components of Industry	3
TECH 1108	Engineering Graphics I	3
TECH 2208	Engineering Graphics II	3
	TOTAL	85-87

Major Elective Courses (6 Credit Hours) – IF APPLICABLE
 [Electives are selected from a specific major or program]

Course Prefix & Number	Course Name	Credit Hours
BSBA 2209	Principles of Management	3
BSBA 2204	Principles of Marketing	3
CIVL 1100	Introduction to Civil Engineering Technology	1
CIVL 2200	Introduction to Surveying	3
COMP 1100	Introduction to Computer Science	3
COMP 1120	Principles of Programming I	3
COMP 1130	Principles of Programming II	4
COMP 2200	Object-Oriented Programming	3
COMP 2201	Machine Organization	3
COMP 2220	Fundamentals of Computer Security	3
COMP 2230	Client-Server Systems	3
COMP 2270	Data Structures	3
COMP 2541	Fundamentals of Data Science	3
COMP 2542	Applied Data Science	3
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ELEC 2200	Shop Practices	3
ELEC 2210	Circuit Analysis	3
ELEC 2225	Electronic Devices	3
ELEC 2230	Digital Electronics	3
ELEC 2240	Industrial Electronics	3
ELEC 2260	Communications Systems	3
ELEC 2270	Microcomputers	3
ELEC 2280	Programmable Controllers	3
MANF 2250	Total Quality & SPC	3
MATH 1550	Applied Statistics	3
MATH 3503	Calculus III	4
MATH 3504	Differential Equations	3
MATH 3520	Linear Algebra	3
MATH 3540	Numerical Analysis	3
MATH 3550	Probability	3
SFTY 1150	Safety Management and Concepts in Accident Prevention	3
SFTY 2210	Disaster Preparedness and Emergency Systems	3
SFTY 2250	Safety Law and Compliance	3
SFTY 2280	Construction Safety & Law	3
SFTY 2290	Industrial Hygiene and Toxicology	3
SFTY 2291	Environmental Engineering Technology: Hazardous Waste	4
TECH 1100	Technology and Society	3
TECH 1101	Introduction to Technology	3

Concentration Courses (0 Credit Hours) – IF APPLICABLE
 [A concentration is a focused curriculum within an approved major; adds a specialization within a major area of study. Undergraduate concentrations comprise 12-18 credits; Graduate concentrations comprise 6-15 credits. Concentrations associated with certification or licensure requirements may exceed the

credit limit.		
Course Prefix & Number	Course Name	Credit Hours

Total Core Curriculum Credit Hours	23-28
Total Required Major Courses Credit Hours	85-87
Total Required Concentration Credit Hours (if applicable)	0
Total Elective Credit Hours (if applicable)	5-6
Total Free Electives Credit Hours (if applicable)	0-6
TOTAL CREDIT HOURS	120