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| For Academic Affairs and Research Use Only |
| Proposal Number | ECS02 |
| CIP Code:  |  |
| Degree Code: |  |

**Program Modification Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| --- |
| **Modification Type: [ ]Admissions, [ ]Curricular Sequence, or [X]Other**  |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| Rajesh Sharma | 3/7/2022 |

**Department Curriculum Committee Chair** |

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**COPE Chair (if applicable)** |
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| Rajesh Sharma | 3/7/2022 |

**Department Chair**  |

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Head of Unit (if applicable)**   |
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| Jason Stewart | 3/7/2022 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Abhijit Bhattacharyya | 3/7/2022 |

**College Dean** |

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**Graduate Curriculum Committee Chair** |
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**General Education Committee Chair (if applicable)**   |

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| Alan Utter | 3/14/2022 |

**Vice Chancellor for Academic Affairs** |

1. **Contact Person** (Name, Email Address, Phone Number)

Rajesh Sharma, rsharma@astate.edu, 972-2270

1. **Proposed Change** (for undergraduate curricular changes please provide an 8-semester plan (appendix A), if applicable)

Changing the name of existing emphasis from CADD to Manufacturing and CAD

Curricular changes:

Moving TECH 2863 from emphasis area to major requirements

Removing ISBA 3013 from the major requirements.

Adding MATH 1054. Precalculus Mathematics as an option to MATH 1033 Plane Trigonometry

Adding ENGR 1412, CS 1114, TECH 389V/TECH 489V and EGRM 3013 to the emphasis area requirements.

Removing TECH 3853 from the emphasis area requirements/

1. **Effective Date**

Fall 2022

1. **Justification –** *Please provide details as to why this change is necessary.*

The purpose of this change of name is to better define this emphasis to our students, their parents, high-school counselors and industrial partners. Almost all of the graduates of this emphasis go on to work for manufacturing industry in a variety of roles. This program prepares them for various facets of manufacturing operations along with design. This new name aligns closely with the curricular offerings of this emphasis.

TECH 2863 Principles of Technology is a gateway course for all the emphasis areas. It is just being moved from emphasis area to major area requirements.

Most of the Engineering Technology majors do not have the pre-requisites for ISBA 3013, which poses a problem for the students trying to enroll for this course, hence the decision to remove this course from the major requirements. The students who wish to take this course (and have pre-requisites) will still be able to take this course and have it counted towards the electives.

MATH 1054. Precalculus Mathematics covers many of the topics of Plane Trigonometry and analytical geometry, which will provide sufficient background for CADD courses.

ENGR 1412. Software Applications for Engineers will introduce students to software applications and CS 1114 is an introductory course in programming. These changes were recommended by our industry partners. TECH 389V Internship was available to our students, but now it is being added as an emphasis area requirement. EGRM 3013 Project management and Practice is another valuable course which recently became available to our students. This further adds to the skillset of our students.

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

Paste bulletin pages here...













**Appendix A, 8-Semester Plan**

(**Referenced in #2** - **Undergraduate Proposals Only)**

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| **Arkansas State University - Jonesboro** |
| **Degree: Bachelor of Science** |
| **Major: Technology Emphasis: Manufacturing and CAD** |
| **2021-22** |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minumum of 45 hours of upper division credit (3000-4000 level) is required for this degree. Mandatory state and institutional assessment exams will be required during your degree program. ***Failure to participate in required assessments may delay graduation.*** |
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|
| **Year 1** |   | **Year 1** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **ENG 1003** | Composition I | **3** | X |   | **ENG 1013** | Composition II | **3** | X |
| **COMS 1203** | Oral Communication | **3** | X |   | **ECON 2313** | Principles of Macroeconomics | **3** | X |
| **MATH 1023** | College of Algebra | **3** | X |   | **MATH 1033 or MATH 1054** | Plane Trigonometry or Precalculus Mathematics | **3/4** |   |
| **ANTH 2233 or HIST 1013 or 1023 or GEOG 2613** | Intro to Cultural Anthropology **or** World History to 1500 **or** World History since 1500 **or** Intro to Geography | **3** | X |   | **ENG 2003 or ENG 2013 or PHIL 1103** | World Literature to 1660 **or** World Literature since 1660 **or** Intro to Philosophy | **3** | X |
| **UC 1013** | Making Connections (or equivalent course) | **3** |   |   | **ART 2503 or MUS 2503 or THEA 2503** | Fine Arts Visual or Musical or Theatre | **3** | X |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **15/16** |   |
| **Year 2** |   | **Year 2** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **PHY 2054** | General Physics I | **4** | X |   | **BIOL 1001** | Biological Science Laboratory | **1** | X |
| **TECH 2703** | Technical Graphics and AutoCAD | **3** |  |   | **BIOL 1003** | Biological Science | **3** | X |
| **TECH 2863** | Principles of Technology  | **3** |   |   | **TECH 4823** | Quality Assurance  | **3** |   |
| **TECH 3773 or STAT 3232**  | Statistics **or** Applied Statistics | **3** |   |   | **HIST 2763/2773 or POSC 2103** | US History to **or** since 1876 **or**  Intro to US Government | **3** | X |
| **ENGR 1412** | Software Applications for Engineers | **2** |  |   | **TECH 4743** | Computer Numeric Control | **3** |   |
|  |   |  |   |   | **EGRM 3013** | Project Management and Practice | **3** |   |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **16** |   |
| **Year 3** |   | **Year 3** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **RET 3113** | Fundamentals and Applications of Renewable Energy | **3** |   |   | **CS 1114** | Concepts of Programming | **4** |   |
| **TECH 4813** | Operations Systems Research | **3** |   |   | **TECH 4853** | Lean 6 Sigma for Manufacturing | **3** |   |
| **TECH 3413** | Auto CAD/Inventor | **3** |   |   | **TECH 3433** | AutoCAD 3D Modeling | **3** |   |
| **TECH 3453** | Advance Technology Design - SolidWorks | **3** |   |   | **TECH 4883** | Work Center Management  | **3** |   |
| **ELECTIVE**  | Elective 1 | **3** |   |   | **ELECTIVE** | Elective 2 | **3** |   |
| **Total Hours** |   | **15** |   |   | **Total Hours** |   | **16** |   |
| **Year 4** |   | **Year 4** |
| **Fall Semester** |   | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |   | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| **TECH 3863** | Industrial Safety | **3** |   |   | **TECH 3843** | Manuf Materials and Processes | **3** |   |
| **MGMT 3123**  | Organizational Behavior | **3** |   |   | **TECH 3473** | Tool Design  | **3** |   |
| **ENG 3043**  | Technical Writing  | **3** |   |   | **TECH 4873** | Motion and Time Study | 3 |   |
| **ELECTIVE** | Elective 3 | **3** |   |   | **TECH 389V OR TECH 489V** | Occupational Internship OR Special Problems in Technology | **3** |   |
| **ELECTIVE** | Elective 4 | **3/4** |   |   |  |   |  |   |
| **Total Hours** |   | **1516** |   |   | **Total Hours** |   | **12** |   |
|  |  |  |  |  |  |  |  |  |
| **Total Jr/Sr Hours after 1st 30** | **45** |  |  | **Total Degree Hours** | **120** |  |
|  |  |  |  |  |  |  |  |  |
| **Graduation Requirements:** |   |
| Completion of HIST 2763 or HIST 2773 or POSC 2103  |   |
| English Proficiency (Grade of C or better in ENG 1003 and ENG 1013) |   |
| Grade C or better in all Technology Core courses |   |
| 2.00 GPA at ASU |   |
| 2.00 GPA Overall |   |
| Maximum of 25% of the degree program via examination, PLA, Military or similar means; CLEP (30 hrs max)  |
| 45 JR/SR Hours ***after completing 30 hours*** |   |
| 120 Total Credit Hours |   |
| 18 of last 24 hours must be ASU-Jonesboro courses |   |
| Complete half of the last 50% of semester hours through the A-State campus |   |