Code # ENGR 002

**Bulletin / Banner Change Transmittal Form**

**[x] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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

Email completed proposals to curriculum@astate.edu for inclusion in curriculum committee agenda.

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**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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**Department Chair:**  |

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**Head of Unit (If applicable)**   |
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**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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**College Dean** |

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

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**Vice Chancellor for Academic Affairs** |

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

Jason Stewart, jstewart@astate.edu, 870-972-3228

**2.Proposed Change**

ENGR 1412 prerequisite change - increase the minimum acceptable Math ACT score to 24 from 21 and require High School Algebra II. Also add an SAT score of 590 or higher.

**3.Effective Date**

Fall 2019

**4.Justification –** *The prerequisites for ENGR 1412 – Software Applications for Engineers should coincide with the prerequisites for MATH 1054 – Precalculus Mathematics. Students are expected to have, at a minimum, an understanding of College Algebra, or a standardized test score and High School Algebra II which would indicate this level of mathematical competency.*

**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. Follow the following guidelines for indicating necessary changes.** **\*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.** - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)- New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font). - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)*You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.**Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

2018-2019 Bulletin, Page 476

**ENGINEERING PROGRAMS**

**Engineering (ENGR)**

**ENGR 1402. Concepts of Engineering** An introduction to the various engineering disciplines. Topics include conservation principles, elementary measurement techniques, teamwork, and an introduction to technical practices. Prerequisite, 21 Math ACT or C or better in MATH 1023 or higher MATH. Fall, Spring.

**ENGR 1412. Software Applications for Engineers** An introduction to software applications used by the various engineering disciplines. Technical word processing and the use of spreadsheets as a mathematics tool are developed. Accepted practices of data presentation and an introduction to presentation graphics are covered. Prerequisite, High School Algebra II and a score of ~~21~~ 24 or above on Math ACT or 590 or above on Math SAT, or C or better in MATH 1023 or higher MATH. Fall, Spring.

**ENGR 2401. Applied Engineering Statistics** The practical application of statistical principles as they apply to scientific and engineering topics, with focus on solving engineering problems in various disciplines such as civil, electrical, and mechanical engineering. Lecture one hour per week. Corequisite, MATH 2214. Fall, Spring.

**ENGR 2403. Statics** Principles of vector analysis, static equilibrium, analysis of structures, fric­tion, internal forces, center of gravity, moment of inertia, and product of inertia. Prerequisite, C or better in MATH 2204 and ENGR 1402. Fall, Spring, Summer.

**ENGR 2411. Mechanics of Materials Laboratory** Material will be tested in the laboratory consis­tent with topics covered in Mechanics of Materials course, which will include strain measurement testing machines and properties of materials. Laboratory two hours per week. Corequisites, ENGR 2401 and ENGR 2413. Fall, Spring.

**ENGR 2413. Mechanics of Materials** Stress and deformation of members in tension, compres­sion, torsion, and bending. Allowable stress, combination loading, stress and strain transformation, and beam deflection techniques introduced. Prerequisites, C or better in ENGR 1412 and ENGR 2403. Fall, Spring, Summer.

**ENGR 2421. Electric Circuits I Laboratory** Basic experimentation consistent with the theory in ENGR 2423. Prerequisite, C or better in ENGR 1402. Corequisites, ENG 1013 and ENGR 2423. Fall, Spring.