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**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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| Jason Stewart | 9/13/2016 |

**Department Curriculum Committee Chair** |

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**COPE Chair (if applicable)** |
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| Jason Stewart | 9/13/2016 |

**Department Chair:**  |

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**General Education Committee Chair (If applicable)**   |
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| Jason Stewart | 9/13/2016 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Paul Mixon | 9/21/2016 |

**College Dean** |

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**Graduate Curriculum Committee Chair** |
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**Vice Chancellor for Academic Affairs** |

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

Jason Stewart, jstewart@astate.edu, 972-2088

**2.Proposed Change**

Correct BSCE, BSEE, and BSME 4-hr science elective information in bulletin to reflect requirements which have long been enforced through advising and are acceptable to ABET accreditation standards for all degrees.

BSCE: Accept either CHEM 1023 General Chemistry II and CHEM 1021 Lab for Gen. Chem. II OR PHYS 2044 University Physics II OR GEOL 1003/1001 Environmental Geology and lab (GEOL 1004 may be split as GEOL 1003 and GEOL 1001 if transferred in from ASU-N or other satellite ASU campus locations)

BSEE: Require CHEM 1023 General Chemistry II and CHEM 1021 Lab for Gen. Chem. II

BSME: Require PHYS 2044 University Physics II

**3.Effective Date**

Fall 2017

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

Engineering students have been advised with these standards for their 4-hr science elective since at least 2012 for all disciplines (CE, EE, ME), but it recently came to light that these requirements weren’t in the bulletin as such. The bulletin simply has a 4-hr science elective required for all engineering majors with no specifications as to what it might be. The CAPP degree audit system needs to function better for engineering, and this modification will help us with that functionality. The changes to the bulletin do not reflect changes to our internal degree plan sheets or advising plans but rather serve to put the bulletin in line with what the college has been doing under our accredited programs already.

**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.* |

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| **College of Engineering Core Courses:** Grade of “C” or better required | **Sem. Hrs.** |
| ENGR 1402, Concepts of Engineering | 2 |
| ENGR 1412, Software Applications for Engineers | 2 |
| ENGR 2401, Applied Engineering Statistics | 1 |
| ENGR 2403, Statics | 3 |
| ENGR 2423 AND ENGR 2421, Electric Circuits I and Laboratory | 4 |
| ENGR 3433, Engineering Economics | 3 |
| ENGR 3443, Engineering Thermodynamics I | 3 |
| ENGR 4401, Senior Seminar | 1 |
| ENGR 4453, Numerical Methods for Engineers | 3 |
| ENGR 4463, Senior Design I | 3 |
| ENGR 4482, Senior Design II | 2 |
| **Total:** | **27** |

|  |  |
| --- | --- |
| **Additional Support Course~~s~~:** The additional support course**~~s~~** listed below **~~are~~**is required for all engineering baccalaureate degrees. | Sem. Hrs. |
| MATH 4403, Differential Equations | 3 |
| ~~Science Elective~~ | ~~4~~ |
| Total: | ~~7~~3 |

**Major in Civil Engineering**

|  |  |
| --- | --- |
| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course:** | **Sem. Hrs** |
| ENGR 1402, Concepts of Engineering (See College of Engineering Core Courses) | **-** |
|  **General Education Requirements:** | **Sem. Hrs** |
| See General Education Curriculum for College of Engineering | **38** |
| **Additional Support Course~~s~~:** | **Sem. Hrs** |
| Refer to Additional Support Course**~~s~~** for College of Engineering | **~~7~~**3 |
| **College of Engineering Core Courses:** | **Sem. Hrs** |
| Refer to College of Engineering Core Courses | **27** |
| **Major Requirements:** In addition to the University requirements for all Baccalaureate Degrees, a Bachelor of Science in Civil Engineering requires that one of the two following conditions be met: 1. “C” or better in each course in the 56 hour major courses; **OR**  2. 2.5 (or greater) grade point average in the 56 hour major courses listed below | **Sem. Hrs** |
| BIOL 1063, People and the Environment | **3** |
| CE 2202, Civil Engineering Presentations | **2** |
| CE 2223, Plane Surveying | **3** |
| CE 3213, Structural Analysis I | **3** |
| CE 3223, Civil Engineering Materials | **3** |
| CE 3233, Structural Analysis II OR CE 4263, Water and Waste Treatment | **3** |
| CE 3253, Engineering Hydrology | **3** |
| CE 3263, Introduction to Environmental Engineering | **3** |
| CE 3273, Water and Waste Systems | **3** |
| CE 4203, Transportation Engineering I | **3** |
| CE 4223, Transportation Engineering II | **3** |
| CE 4233, Foundation Engineering | **3** |
| CE 4243, Reinforced Concrete Design | **3** |
| CE 4253, Soil Mechanics | **3** |
| CE 4251, Soil Mechanics Laboratory | **1** |
| CE 4283, Structural Steel Design | **3** |
| ENGR 2411, Mechanics of Materials Laboratory | **1** |
| ENGR 2413, Mechanics of Materials | **3** |
| ENGR 3423, Dynamics | **3** |
| ENGR 3471, Fluid Mechanics Laboratory | **1** |
| ENGR 3473, Fluid Mechanics | **3** |
| Science Elective: CHEM 1023, General Chemistry II and CHEM 1021, Lab for Gen. Chem. II OR PHYS 2044, University Physics II OR GEOL 1003/1001 Environmental Geology and Lab | 4 |
| **Sub-total** | **~~56~~**60 |
| **Total Required Hours:** | **128** |
|  |  |
|  |  |

**Major in Electrical Engineering**

|  |  |
| --- | --- |
|  **University Requirements:** |  |
|  See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course:** | **Sem. Hrs.** |
|  ENGR 1402, Concepts of Engineering (See College of Engineering Core Courses) | - |
| **General Education Requirements:** | **Sem. Hrs.** |
|  See General Education Curriculum for College of Engineering | 38 |
| **Additional Support Course~~s~~:** | **Sem. Hrs.** |
| Refer to Additional Support Course**~~s~~** for College of Engineering | **~~7~~**3 |
| **College of Engineering Core Courses:** | **Sem. Hrs.** |
| Refer to College of Engineering Core Courses | 27 |
| **Major Requirements:** Electives denoted with an asterisk (\*) may be selected from any courses within the designated elective group; subject to a program advisor’s approval. They must make a rational contribution to the student’s personal and professional education goals. In addition to the University requirements for all Baccalaureate Degrees, a Bachelor of Science in Electrical Engineering requires that one of the two following conditions be met: 1. “C” or better in each course in the 56-58 hour major courses; **OR** 2. 2.5 (or greater) grade point average in the 56-58 hour major courses listed below | **Sem. Hrs.** |
| CHEM 1023 General Chemistry II and CHEM 1021 Lab for Gen. Chem. II | 4 |
| CS 2114, Structured Programming | 4 |
| EE 2322, Electrical Workshop | 2 |
| EE 3313, Electric Circuits II | 3 |
| EE 3331, Digital Electronics I Lab | 1 |
| EE 3333, Digital Electronics I | 3 |
| EE 3343, Engineering Fields and Waves | 3 |
| EE 3353, Signals and Systems | 3 |
| EE 3363, Semiconductor Materials and Devices | 3 |
| EE 3383, Principles and Practices in Electrical Engineering | 3 |
| EE 3393, Probability and Random Signals | 3 |
| EE 3401, Electronics I Laboratory | 1 |
| EE 3403, Electronics I | 3 |
| EE 4313, Control Systems | 3 |
| EE 4353, Power Systems | 3 |
| EE 4333, Communications Theory | 3 |
| EE 4373, Electronics II | 3 |
| EE 4773, Electronics II Laboratory | 3 |
| \*Electrical Engineering Electives | 6-8 |
| \*Approved Technical Electives | 3 |
| **Sub-total** | **~~56-58~~**60-62 |
| **Total Required Hours:** | **128-130** |
|  |  |

**Major in Mechanical Engineering**

|  |  |
| --- | --- |
| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course:** | **Sem. Hrs.** |
| ENGR 1402, Concepts of Engineering (See College of Engineering Core Courses) | - |
| **General Education Requirements:** | **Sem. Hrs.** |
| See General Education Curriculum for College of Engineering | 38 |
| **Additional Support Course~~s~~:** | **Sem. Hrs.** |
| Refer to Additional Support Course**~~s~~** for College of Engineering | **~~7~~**3 |
| **College of Engineering Core Courses:** | **Sem. Hrs.** |
| Refer to College of Engineering Core Courses | 27 |
| **Major Requirements:** Electives denoted by an asterisk (\*) must be chosen from a list of approved electives, which is available from Mechanical Engineering advisors and through the department office. All students must complete at least one thermal/fluid systems stem elective and one mechanical systems stem elective. In addition to the University requirements for all Baccalaureate Degrees, a Bachelor of Science in Mechanical Engineering requires that one of the two following conditions be met: 1. “C” or better in each course in the 56 hour major courses; **OR** 2. 2.5 (or greater) grade point average in the 56 hour major courses listed below. | **Sem. Hrs.** |
| CHEM 1023, General Chemistry II | 3 |
| ENGR 2411, Mechanics of Materials Laboratory | 1 |
| ENGR 2413, Mechanics of Materials | 3 |
| ENGR 3423, Dynamics | 3 |
| ENGR 3471, Fluid Mechanics Laboratory | 1 |
| ENGR 3473, Fluid Mechanics | 3 |
| ME 2502, Solid Modeling for Mechanical Engineers | 2 |
| ME 3504, Process Monitoring and Control | 4 |
| ME 3513, Mechanical Vibrations | 3 |
| ME 3533, Engineering Thermodynamics II | 3 |
| ME 3613, Control Systems for Mechanical Engineers | 3 |
| ME 4503, Fluid and Thermal Energy Systems | 3 |
| ME 4543, Machine Design | 3 |
| ME 4553, Heat Transfer | 3 |
| ME 4563, Introduction to Manufacturing Processes | 3 |
| ME 4573, Mechanical System Design | 3 |
| ME 4613 Introduction to Mechatronics | 3 |
| \*ME Electives | 6 |
| PHYS 2044 University Physics II | 4 |
| Professional Development Elective This elective may be selected outside the College of Engineering, subject only to advisor’s approval. It must make a rational contribution to the student’s personal and professional education goals. | 3 |
| **Sub-total** | **~~56~~**60 |
| **Total Required Hours:** | **128** |
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