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| **Oregon Department of Community Colleges and Workforce Development** | Office of Educational Improvement & Innovation |
| 255 Capitol Street NESalem, OR 97310-0203 | Phone: (503) 378-3600FAX: (503) 378-5156 |

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| Community Colleges & Workforce Development Logo | **COMMUNITY COLLEGE ASSOCIATE OF SCIENCE AREA OF EMPHASIS AMENDMENT FORM** |

**This form should be completed electronically and the boxes will expand to accommodate text.**

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| **College:** | **Clackamas Community College** | **Date** |  |

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| Career Learning Area |
| 🞏 Ag, Food & Natural Resource Systems | **🞏 Health Services** |
| **🞏 Arts, Information & Communications** | **🞏 Human Resources** |
| **🞏 Business & Management** | **√ Industrial & Engineering Systems** |

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| Program Information |
| *APPROVED*Program Title | ***APPROVED*CIP Code(Include 7th & 8th digits used for OCCURS reporting.)** | *APPROVED*Recognition Award | *Current*Credits |
| ***6-digit CIP*** | *7th digit* | *8th digit* |
| **AS Area of Emphasis Title:****Engineering** |  |  |  |  **Associate of Applied Science Area of Emphasis** | **104** |
| **Partnering Institution Name****Oregon Institute of Technology (Oregon Tech)** |  |  |  |  |  |

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| TYPE OF PROGRAM AMENDMENT(Check ALL That Apply) |
| 🞏 **New Agreement** | 🞏 **Curriculum Revision** | 🞏 **Revision in Program Credits** |
| ***Proposed* Total Credits:** |  |
| 🞏 ***SUSPENSION* of Program** | *Reason for Suspension:* |
| **Suspension Effective Date:** |  |  |

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| **CURRICULUM AMENDMENT**[List in a Defined Sequence of Courses Format, e.g., Quarter-to-quarter mapping.For a New Program, complete the Proposed Curriculum section only.] |
| *CURRENT CURRICULUM 2016-17*[List entire curriculum as last approved) | PROPOSED CURRICULUM 2017-18[List only course(s) to be amended] |
| Course Number | Course Title | ClockHours | **Credits** | Course Number | **Course Title** | Clock**Hours** | **Credits** |
| **Program Requirements – 1st Year** |
| **Fall Term** |
| CH-221 | General Chemistry | 77 | 5 |  |  |  |  |
| COMM-111 | Public Speaking | 44 | 4 |  |  |  |  |
| MTH-251 | Calculus I | 55 | 5 |  |  |  |  |
| WR-121 | English Composition | 44 | 4 |  |  |  |  |
| **Winter Term** |
| ~~COMM-219~~ | ~~Small Group Communications~~ | ~~44~~ | ~~4~~ | ~~COMM-219~~ | ~~Small Group Communications~~ | ~~44~~ | ~~4~~ |
| CH-222 | General Chemistry | 77 | 5 |  |  |  |  |
| MTH-252 | Calculus II | 55 | 5 |  |  |  |  |
| WR-122 | English Composition | 44 | 4 |  |  |  |  |
| **Spring Term** |
| WR-227 | Technical Writing | 44 | 4 |  |  |  |  |
| -- | Social Science Elective |  | 4 |  |  |  |  |
| -- | Track Requirement |  | 8 |  |  |  |  |
| **Summer Term** |
| -- | Track Requirement |  | 8 |  |  |  |  |
| **Program Requirements – 2nd Year** |
| **Fall Term** |
| ENGR-221 | Electrical Circuit Analysis | 66 | 4 |  |  |  |  |
| MTH-254 | Vector Calculus | 55 | 5 |  |  |  |  |
| PH-211 | General Physics with Calculus | 70 | 5 |  |  |  |  |
| **Winter Term** |
| ENGR-222 | Electrical Circuit Analysis II | 66 | 4 |  |  |  |  |
| MTH-256 | Differential Equations | 44 | 4 |  |  |  |  |
| PH-212 | General Physics with Calculus | 70 | 5 |  |  |  |  |
| **Spring Term** |
| ~~ENGR-223~~ | ~~Electrical Circuit Analysis III~~ | ~~66~~ | ~~4~~ | ~~ENGR-223~~ | ~~Electrical Circuit Analysis III~~ | ~~66~~ | ~~4~~ |
| ~~MTH-261~~ | ~~Linear Algebra~~ | ~~44~~ | ~~4~~ | ~~MTH-261~~ | ~~Linear Algebra~~ | ~~44~~ | ~~4~~ |
| PH-213 | General Physics with Calculus | 70 | 5 |  |  |  |  |
| -- | Track Requirement |  | 4 | -- | Track Requirement |  | 12 |
| **Track Requirements** |
| **Electrical** |
| CS-161 | Computer Science I | 44 | 4 |  |  |  |  |
| ENGR-171 | Digital Logic | 66 | 4 |  |  |  |  |
| ENGR-271 | Digital Systems | 66 | 4 |  |  |  |  |
| MTH-253 | Calculus III | 55 | 5 |  |  |  |  |
|  |  |  |  | COMM-219 | Small Group Communications | 44 | 4 |
|  |  |  |  | ENGR-223 | Electrical Circuit Analysis III | 66 | 4 |
|  |  |  |  | MTH-261 | Linear Algebra | 44 | 4 |
|  |  |  |  | **-----** | **Humanities or Social Science Electives** | **33** | **3** |
|  | **Mechanical**  |
|  |  |  |  | **CDT-103** | **Computer Aided Drafting I** | **33** | **3** |
|  |  |  |  | **EC-201** **or** **EC-202** | **Principles of Economics MICRO****EC-202 Principles of Economics MACRO**  | **44** | **4** |
|  |  |  |  | **ENGR-111** | **Introduction to Engineering**  | **33** | **3** |
|  |  |  |  | **ENGR-112** | **Engineering Programming** | **33** | **3** |
|  |  |  |  | **ENGR-211** | **Statics** | **44** | **4** |
|  |  |  |  | **ENGR-212** | **Dynamics** | **44** | **4** |
|  |  |  |  | **ENGR-213** | **Strength of Materials** | **44** | **4** |
|  |  |  |  | **ENGR-231** | **Properties of Materials** | **44** | **4** |
|  |  |  |  | **-----** | **Humanities Electives** | **33** | **3** |
| **Renewable Energy** |
| EC-201 or EC-202 | Principles of Economics: MICROPrinciples of Economics: MACRO | 44 | 4 |  |  |  |  |
| ENGR-211 | Statics | 44 | 4 |  |  |  |  |
| ~~GIS-201~~ | ~~Introduction to Geographical Information System~~ | ~~33~~ | ~~3~~ |  |  |  |  |
| MTH-243 | Statistics I | 44 | 4 |  |  |  |  |
| MTH-244 | Statistics II | 44 | 4 |  |  |  |  |
| RET-200 | Renewable Energy Systems | 44 | 4 |  |  |  |  |
|  |  |  |  | COMM-219 | Small Group Communications | 44 | 4 |
|  |  |  |  | ENGR-223 | Electrical Circuit Analysis III | 66 | 4 |
|  |  |  |  | MTH-261 | Linear Algebra | 44 | 4 |
| **Social Science Electives** |
| **ANT**-101, 102, 103, 231, 232; **EC**-200, 201, 202; **GEO**-100, 110, 121, 122, 130, 230; **HST**-101, 102, 103, 130, 131, 132, 136, 137, 138, 201, 202, 203, 210, 220, 239, 200, 201, 203, 204, 205, 206, 225, 297; **PSY**-101, 110, 200, 205, 214, 215, 219, 221, 231, 240; **SSC**-160, 170, 171, 172, 180, 181, 182, 233, 235, 240, 241, 242; **SOC**-204, 205, 206, 210, 225; **WS**-101 |  |
| **Recommended: 2 Additional Arts & Letters/Humanities Electives** |
| **ART**-101, 102, 103, 115, 116, 117, 131, 132, 133, 195, 204, 205, 206, 225, 226, 227, 250, 251, 252, 253, 254, 255, 281, 282, 283, 284, 285, 286, 291, 292, 293; **ASL**-201, 202, 203; **BA**-130; **COMM-**105, 126, 140, 212, 218, 219, 227; **DMC**-195; **ENG**-100, 104, 105, 106, 107, 108, 109, 116, 121, 130, 195, 201, 202, 204, 205, 213, 214, 218, 226, 240, 241, 242, 250, 251, 252, 253, 254, 266, 270, 275; **FR**-201, 202, 203, 211**; GER**-201, 202, 203; **HUM**-160, 170, 171, 172, 180, 181, 182, 233, 234, 240, 241, 242; **J**-211; **MUS**-105, 111, 112, 113, 205, 206, 211, 212, 213; **PHL**-101, 102, 103, 205, 210, 213, 215; **SPN**-201, 202, 203; **TA**-101, 102, 103, 141, 142, 143; **WR**-220, 241, 242, 243, 244, 245, 248, 262, 263, 265, 270 |  |
| **TOTAL *CURRENT* CREDITS:** | 104 | **TOTAL *PROPOSED* CREDITS:** | 104 |
| College Contact | Eric Lee | **Telephone No.** | 503-594-6163 |
| E-Mail Address | elee@clackamas.edu | **Fax No.** | n/a |
| **Chief Academic Officer *or* CTE Dean Signature** |  | **Date** |  |