**Engineering and Electronics Technology – Robotics and Automation**

**Diploma**

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**Program Coordinator: Kevin Jensen E-mail:** [**kevin.jensen@kctcs.edu**](mailto:kevin.jensen@kctcs.edu) **Phone: 859-246-6681**

[**Program Website**](https://bluegrass.kctcs.edu/education-training/program-finder/engineering-electronics-technology.aspx)

**Student Name: Student ID:**

***Students must meet college readiness benchmarks as identified by the Council on Postsecondary Education or remedy the identified skill deficiencies.***

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| **First Semester** | **Credit Hours** | **Term** | **Grade** | **Prerequisites** | **Notes** |
| ELT 110 Circuits I | 5 |  |  | MAT 065 or higher |  |
| ELT 114 Circuits II | 5 |  |  | ELT 110 with grade of C or greater |  |
| MAT 126 Technical Algebra and Trigonometry or higher level Quantitative Literacy course | 3 |  |  | KCTCS Placement Policy |  |
| Digital Literacy- CIT 105 Introduction to Computers or CAD 100 Introduction to Computer Aided Design | 3 |  |  | CIT 105- RDG 20 |  |
| **Total Semester Credit Hours** | **16** |  |  |  |

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| **Second Semester** | **Cr. Hrs.** | **Term** | **Grade** | **Prerequisites** | **Notes** |
| ELT 210 Devices I | 4 |  |  | ELT 110 with grade of C or greater |  |
| Technical Elective | 4 |  |  | ELT 214- ELT 210 with grade of C or greater | ELT 214 is strongly recommended |
| EET 270 Motor Controls I | 2 |  |  | ELT 110 with C or greater, Coreq: EET 271 |  |
| EET 271 Motor Controls Lab | 2 |  |  | ELT 110 with C or greater, Coreq: EET 270 |  |
| BRX 120 Basic Blueprint Reading OR CAD 100 Computer Aided Design | 3 – 4 |  |  |  |  |
| **Total Semester Credit Hours** | **15 – 16** |  |  |  |

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| **Third Semester** | **Cr. Hrs.** | **Term** | **Grade** | **Prerequisites** | **Notes** |
| ELT 120 Digital I | 3 |  |  | MAT 065 or higher |  |
| EET 276 Programmable Logic Controllers | 2 |  |  | EET 270 with C or greater, Coreq: EET 277 |  |
| EET 277 Programmable Logic Controllers Lab | 2 |  |  | EET 271 with C or greater, Coreq: EET 276 |  |
| Technical Elective | 1 |  |  |  |  |
| Written Communication OR Oral Communications | 3 |  |  | KCTCS Placement Policy |  |
| **Total Semester Credit Hours** | **11** |  |  |  |

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| **Fourth Semester** | **Cr. Hrs.** | **Term** | **Grade** | **Prerequisites** | **Notes** |
| ELT 260 Robotics and Industrial Automation | 5 |  |  | Consent of instructor | IMT 200 substituted for ELT265. **See note on back** |
| ELT 265 Applied Fluid Power | 3 |  |  |  | See note on back. |
| ELT 289 Engineering and Electronics Tech Capstone | 1 |  |  | ELT 120 and 210 | This is an online class. |
| COE 199 Cooperative Education OR,  COED 198 Practicum OR, Equivalent Course With  Consent of Program Coordinator | 1 – 2 |  |  | 12 hrs completed in an AAS and cumulative GPA of 2.0 |  |
| **Total Semester Credit Hours** | **10 – 11** |  |  |  |  |
| **Total Diploma Credit Hours** | **52 – 54** |

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| * **25% or more of Total Diploma Credit Hours must be earned at BCTC** * **Cumulative GPA must be 2.0 or higher** |

**Graduation Requirements:**

**Advisor Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Advisor Contact \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Additional Information** |
| Students must complete MAT 065 or 075 or demonstrate an equivalent placement level before enrolling in an ELT class.  CIT 105 or CAD 100 can be taken in any semester. BRX 120 or CAD 100 or CAD 103 can be taken in any semester.  Students who take CAD 100 to meet the Digital Literacy requirement must take an additional 3 credit hours of technical electives in place of the CAD 100/BRX 120 requirement.  Technical Electives can be any EET, ELT, IMT, CIT, ISM, CAD, ICT, MFG, PLW, WLD or any other courses approved by the Engineering and Electronics Technology Program Coordinator. EET 270, 271, 276, and 277 are strongly recommended to meet the Technical Electives requirements due to the use of Programmable Logic Control in industry.  If ELT 265 Applied Fluid Power is not available, FPX 100/101 Fluid Power and Lab may be substituted with the approval of the Engineering and Electronics Technology Program Coordinator.  If ELT 260 Robotics and Industrial Automation is not available IMT200 Industrial Robotics and Robotic Maintenance can be substituted with the approval of the Engineering and Electronics Technology Program Coordinator. This may require an additional 1 credit hour taken to make up the credit hour difference between ELT 260 and IMT 200 to meet the minimum 52 credit hour requirement for the diploma. |

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| **Embedded Credentials** | | | |
| Credential | Title | Requirements | Total Credit Hours |
| Certificate | Automation  Technician | ELT 110, ELT 265, ELT 270, ELT 271, ELT 276, ELT 277 | 16 |
| Certificate | Electronics  Tester | ELT 110, ELT 114, ELT 120 | 13 |
| Certificate | Industrial Electronics Technician I | ELT 110, ELT 114, ELT 120, ELT 276, ELT 277 | 17 |
| Certificate | Maintenance  Technician | BRX 120 or CAD 100 or CAD 103, ELT 110, ELT 114, ELT 265, EET 270, EET 271, EET 276, EET 277 | 24-25 |
| Certificate | Robotics and Automation Technician | ELT 110, ELT 114, ELT 120, ELT 260, ELT 265, EET 270, EET 271, EET 276, EET 277 | 29 |

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| * **25% or more of Total Certificate Credit Hours must be earned at BCTC** * **Grade of C or higher in each course required for certificate** |

**Certificate Requirements:**