

Robotics • Full-time Hybrid E-Degree • January Start

Semester Course Outline • 2021 – 2022

23 Months (5 Semesters) • Revised: 6/21/21

Associate of Applied Science (A.A.S.) Degree • Credits Required for Graduation: 72



First Spring Semester (January – May)

| Course Number | Course Title | Clock Hours | Credits |
|--|------------------|-------------|---------|
| EST 219 | 3D Printer Build | 84 | 3 |
| RBTC 207 | Fluid Power | 56 | 2 |
| <ul style="list-style-type: none"> Selected Behavioral Science Course (Choose one) PSYC 100 – Psychology of Human Relations PSYC 101 – General Psychology * | | 45 | 3 |
| <ul style="list-style-type: none"> Selected Mathematics Course (Choose one) MATH 100 – Applied General Math MATH 101 – Intermediate Algebra MATH 114 – College Algebra * | | 45 | 3 |
| <ul style="list-style-type: none"> Selected Social Science Course (Choose one) ECON 105 – Leadership in the Global Workplace ECON 201 – Principles of Economics I (Micro) * ECON 202 – Principles of Economics II (Macro) * SOC 100 – Introduction to Sociology * | | 45 | 3 |
| Total | | 275 | 14 |

First Fall Semester (August – December)

| Course Number | Course Title | Clock Hours | Credits |
|---------------|---|-------------|---------|
| EST 116 | DC/AC Electronics | 112 | 4 |
| EST 121 | Digital Systems A | 84 | 3 |
| EST 123 | Digital Systems B | 28 | 1 |
| EST 267 | Rework, Repair, and Surface Mount Soldering | 56 | 2 |
| RBTC 200 | Mechanical Design and 3-D Modeling A | 56 | 2 |
| RBTC 203 | Mechanical Design and 3-D Modeling B | 28 | 1 |
| RBTC 210 | Mechanical Systems A | 28 | 1 |
| RBTC 212 | Mechanical Systems B | 28 | 1 |
| Total | | 420 | 15 |

Second Spring Semester (January – May)

| Course Number | Course Title | Clock Hours | Credits |
|---------------|--------------------------------------|-------------|---------|
| EST 115 | Electronic Systems | 112 | 4 |
| RBTC 175 | Basic Motor Controls | 84 | 3 |
| RBTC 205 | Programmable Logic Controllers | 84 | 3 |
| CSC 102 | Windows Applications for Technicians | 45 | 3 |
| Total | | 325 | 13 |

Second Fall Semester (August – December)

| Course Number | Course Title | Clock Hours | Credits |
|---|---------------------------------|-------------|-----------|
| EST 246 | Circuit Board Design | 84 | 3 |
| EST 247 | Microcontrollers | 84 | 3 |
| RBTC 219 | PLC Integration | 84 | 3 |
| RBTC 227 | Robot Operation and Programming | 84 | 3 |
| <ul style="list-style-type: none"> Selected Communications Course (Choose one) CMST 101 – Fundamentals of Speech * (CSS 100 – Career Search Strategies .5 credit) COMM 101 – Communications and Career Strategies ENGL 101 – Composition * (CSS 100 – Career Search Strategies .5 credit) | | 45 | 3 |
| Total | | 381 | 15 |

Third Spring Semester (January – May)

| Course Number | Course Title | Clock Hours | Credits |
|---------------|-------------------------------------|-------------|-----------|
| RBTC 202 | Robotic Engineering | 168 | 6 |
| RBTC 238 | Advanced Robot Operation | 84 | 3 |
| PM 228 | Introduction to Precision Machining | 112 | 4 |
| WLD 232 | Welding Process | 56 | 2 |
| Total | | 420 | 15 |

Note: Labs will be on campus and scheduled in order to best accommodate all enrolled students.

Elective Courses: Students can take any Electronics course as an elective that is not listed on the current semester outline. Anatomy 142 and Chemistry 106/106L can also be taken as elective courses.

With the instructor’s approval, SCT 100 – Solar Car Team may be substituted for up to 6 credits of course work or taken as an additional elective.

- Students will select a course in each of the areas listed to meet general education requirements. Courses marked with an asterisk (*) can be transferred directly to the university system and may be substituted for recommended courses on the outline. Students should speak with an advisor before doing so.

Students who select to take transferable communications course CMST 101 or ENGL 101, must also register for CSS 100 – Career Search Strategies for .5 credit. This curriculum is required for all Lake Area Tech graduates and is included in the COMM 101 course but is separate from the university system.