

# Robotics • Part-time Hybrid E-Degree • January Start

## Semester Course Outline • 2023 – 2024

36 Months (7 Semesters, 2 Summer Sessions) • Revised: 1/20/23

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



### First Spring Semester (January – May)

Course Number	Course Title	Clock Hours	Credit
EST 121	Digital Systems A	84	3
EST 123	Digital Systems B	28	1
RBTC 175	Basic Motor Controls	84	3
<b>Total</b>		196	7

### First Fall Semester (August – December)

Course Number	Course Title	Clock Hours	Credit
EST 116	DC/AC Electronics	112	4
EST 267	Rework, Repair, and Surface Mount Soldering	56	2
RBTC 210	Mechanical Systems A	28	1
RBTC 212	Mechanical Systems B	28	1
<b>Total</b>		224	8

### Second Spring Semester (January – May)

Course Number	Course Title	Clock Hours	Credit
EST 115	Electronic Systems	112	4
RBTC 207	Fluid Power	56	2
RBTC 227	Robot Operations and Programming	56	2
<b>Total</b>		224	8

### First Summer Session (May – July)

Course Number	Course Title	Clock Hours	Credit
RBTC 200	Mechanical Design and 3-D Modeling A	56	2
RBTC 203	Mechanical Design and 3-D Modeling B	28	1
<ul style="list-style-type: none"> <li>Selected Mathematics Course (Choose one)                             <ul style="list-style-type: none"> <li>MATH 100 – Applied General Math</li> <li>MATH 101 – Intermediate Algebra</li> <li>MATH 114 – College Algebra *</li> </ul> </li> </ul>		45	3
<ul style="list-style-type: none"> <li>Selected Social Science Course (Choose one)                             <ul style="list-style-type: none"> <li>ECON 105 – Leadership in the Global Workplace</li> <li>ECON 201 – Principles of Economics I (Micro) *</li> <li>ECON 202 – Principles of Economics II (Macro) *</li> <li>SOC 100 – Introduction to Sociology *</li> </ul> </li> </ul>		45	3
<b>Total</b>		174	9

Semester Course Outline • 2023 – 2024

Second Fall Semester (August – December)

Course Number	Course Title	Clock Hours	Credit
EST 219	3D Printer Build	84	3
EST 247	Microcontrollers	84	3
RBTC 205	Programmable Logic Controllers	84	3
<b>Total</b>		252	9

Third Spring Semester (January – May)

Course Number	Course Title	Clock Hours	Credit
EST 246	Circuit Board Design	84	3
CSC 102	Windows Applications for Technicians	45	3
<b>Total</b>		129	6

Second Summer Session (May – July)

Course Number	Course Title	Clock Hours	Credit
<ul style="list-style-type: none"> <li>● Selected Behavioral Science Course (Choose one)</li> <li>PSYC 100 – Psychology of Human Relations</li> <li>PSYC 101 – General Psychology *</li> </ul>		45	3
<ul style="list-style-type: none"> <li>● Selected Communications Course (Choose one)</li> <li>CMST 101 – Fundamentals of Speech * (CSS 100 – Career Search Strategies .5 credit)</li> <li>COMM 101 – Communications and Career Strategies</li> <li>ENGL 101 – Composition * (CSS 100 – Career Search Strategies .5 credit)</li> </ul>		45	3
<b>Total</b>		90	6

Semester Course Outline • 2023 – 2024

Third Fall Semester (August – December)

Course Number	Course Title	Clock Hours	Credit
RBTC 219	PLC Integration	84	3
RBTC 238	Advanced Robot Operation	84	3
<b>Total</b>		168	6

Fourth Spring Semester (August – December)

Course Number	Course Title	Clock Hours	Credit
RBTC 202	Robotic Engineering	168	6
PM 228	Introduction to Precision Machining	112	4
WLD 232	Introduction to Welding	56	2
<b>Total</b>		336	12

**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.