American Technical Education Association

OUTSTANDING TECHNICAL PROGRAM AWARD
Nomination Form

The program nominated must be at a college or institute with active institutional membership in ATEA.

Program: **ELECTRONIC SYSTEMS TECHNOLOGY/ROBOTICS**

Address: **1201 Arrow Avenue**

City/State/Zip**: Watertown, SD 57201**

Program's Contact: **Brooks Jacobsen**

Nominated By: **LuAnn Strait, Director of Students Services, Marketing and Public Relations**

Email: **JACOBSBR@lakeareatech.edu**

Institution Name: **Lake Area Technical Institute**

Address: **1201 Arrow Avenue**

City/State/Zip: **Watertown, SD 57201**

Nominator's Email: **straitl@lakeareatech.edu**

Phone: **605-882-5284**

Nominator's Phone: **605-882-5284 ext 241**

REQUIREMENTS FOR NOMINATION DOCUMENTATION

To be considered, a candidate must be nominated on the official nomination form and be a postsecondary technical program. Selection will be made strictly on the merits of the participation/contribution of the nominee. Nomination documentation must not exceed 12 pages and should be organized in sections with appropriate headings. Points will be deducted if any items in the checklist below are not included or if the maximum number of pages is exceeded. Emphasize information from the last five years. A current resume of the director(s) or nominees must be submitted at the time of application. Please do not send a photo with the nomination. Please send the nomination packet hardcopy ready to scan for distribution to the Awards Committee or email as a zip file or with all attachments. To be considered, nomination packets must be emailed or postmarked by Tuesday December 4, 2018. Upon receipt of the nomination packet, an email will be sent to the nominator. Communication of the results will sent to the nominator by January 15.

Checklist:

1. Program Description
   - Narrative
2. Letters of endorsement (1 page each) - 1 from each category listed below:
   - Administrator
   - Advisory Committee Chair/Member
   - Employer of Program Completer
   - Program Completer
3. Professional Affiliations:
   - Professional Organization
4. Evidence of Program Excellence:
   - Summaries of Enrollment Trends
   - Career Advancement and Opportunities
   - Program Advisory Committee Membership List
   - Curriculum and Accreditation
   - List of Faculty and Credentials
   - Program Awards
5. Involvement in Community Service/Service Learning Activities:
   - Organization/Activity
   - Type of participation

Return to: Sandra Gehlen Krebsbach Ph.D.
Executive Director of the American Technical Education Association
818 Dunwoody Boulevard
Minneapolis, MN 55403
Phone 612-381-3315
skrebsbach@dunwoody.edu

Deadline: Emailed by midnight on Tuesday, December 4, 208; or Post-marked by midnight on Tuesday, December 4, 2018
The award will be presented on
April 4, 2019 at the ATEA National Conference on Technical Education,
Host, Ivy Tech Community College. The conference dates are April 3-5, 2019

NOTE: All expenses for the nominee are the responsibility of the institution/company.

Program Description

The **Electronic Systems Technology/Robotics** program(s) has been a staple of Lake Area Technical Institute since 1965. Actually, it was the only program offered when Lake Area Tech opened its doors 53 years ago. Over the years, the content and name have changed but the foundation of the program has remained consistent. The need for this program and its graduates has never waned.

This 18 month program(s) begins by teaching electronics at the basic level. Students can expect to move beyond the basics as they explore and chose their career path of Electronics or Robotics. The two programs walk hand-in-hand throughout the first year and fully complement each other in the second year. Electronics/Robotics Technicians learn to design, manufacture and repair electronic/robotic equipment. This program teaches basic components and advances into microprocessors, circuit board design, and further into programmable logic controllers, pneumatics, hydraulics, robotics, Collaborative Robots (Cobots) and Autonomous Guided Vehicles (AGVs).

Electronics/Robotics **has a 94% job placement rate** and an articulation agreement with South Dakota State University that allows for seamless transfer into a BS degree in Electronic Engineering or Manufacturing Engineering Technology. Graduates work in vast sectors including transportation, agriculture, mining, space exploration, weaponry, healthcare, laboratory research, and the mass production of consumer and industrial goods. Lake Area Tech Electronics/Robotics graduates at entry level are **averaging $24.47 an hour.**

The economic engine of this region is driven by the manufacturing industry. Most industry relies on this program to supply a highly-skilled workforce made up of industrial technicians. With highly automated industries such as 3M, Daktronics, Basin Electric, Valley Queen Cheese, Trail King, Ottertail Power, Agropur, Horton, NASA, Wurth Electronics, and the rapid growth of automated dairies, the demand for those who have skills in automation is significant. This region is facing critical shortages for skilled labor in these areas due to a baby boomer workforce that is looking at retirement and not near enough highly skilled technicians for replacement. As these industries become more automated the needs become even more critical and this program is able to provide that workforce that is trained and ready.

Even with robust opportunities it is a challenge to recruit the large number of students needed into these training programs. South Dakota and Lake Area Tech have become catalysts for meeting the critical workforce needs by offering full-ride Build Dakota Scholarships (BDS) and partnering with business and industry to specifically attack the shortage. The BDS are awarded to students in high demand areas such as Electronics/Robotics with a commitment to work in the field, in SD for three years. Industry has partnered to provide additional scholarship dollars to recruit, hire and retain their own.

The Lake Area Tech Electronics/Robotics program is “industry facing”. We respond quickly to the needs of our partners and strong partnerships have been forged over the years. Many of these employers are graduates of Lake Area Tech and have a highly personal commitment to the Electronics/Robotics program. Our partners have a seat on the Electronics/Robotics Advisory Board. This Board is made up of 30 different industry representatives, a current student, the SD Department of Labor, and Lake Area Tech support staff and administration. The Advisory Board meets during the fall and spring semester. The Board assists with curriculum development, evaluation and feedback, program enhancements, mock interviews, field trips, recruitment events, donation of equipment, products and supplies and are engaged in the success of the program. Lake Area Tech hosts a large Career Expo and is supported by the partners who provide

internships, interviews, part-time and full-time employment. The annual **Robot Games** allows the students to collaborate, work as a team, and use their knowledge to construct a robot as well as share their STEM knowledge with young people of all ages during the games. Industry provides raw materials, judges the competition and provides cash awards for the winning team. Industry has always been supportive. Most recently, the program received a $100,000 3M Grant for Fanuc Robots and associated training. Horton Industries is providing the safety equipment and cages for the robot cells. The program also provides training and certifications for Fanuc Robots as well as the soldering training for IPC standards.

The Electronics/Robotics programs are fully engaged in recruiting new students for their program. In addition to the traditional methods of obtaining students, the program has developed other methods of achieving program awareness. They participate in **Community U**, a free community education program and offer a 3D Printer class where locals can purchase the 3D Printer Kit, assemble, learn to operate and collaborate on projects. The Electronics/Robotics program was instrumental in developing, providing equipment and promoting the Lake Area Tech **MakerSpace**, the first of its kind in South Dakota. The space which is free to use, is open to the entire campus. The Electronics/Robotics students and staff play an integral part with the MakerSpace in the collaboration of ideas and helping students make them a reality. Lake Area Tech has played host to **Equity Days**, an on-campus event for high school sophomores, who explore and experience non-traditional careers for their gender. The program also participates in **Camps, Career Expo**, and numerous community projects. **As part of a STEM grant,** a large trailer was purchased and converted into a traveling lab that brings the experience to possible future students who are reside in minority or economically disadvantaged communities.

Lake Area Tech's culture of caring is evident as students begin their journey of exploring potential outcomes of their education. Clearly communicated, guided pathways give them focus and clarity of the expected results. The Electronics/Robotics **instructors advise and provide mentorships** for students. The students advise, mentor and provide tutoring for each other. Project-based mentorships provide for a learning environment between the freshman and senior students where teamwork, understanding, communication and motivation are inevitable.

Lake Area Tech is committed to the success of the student. We are cognizant of the financial burden of obtaining a college degree and have advocated to keep the costs at a minimum with a tuition buy down from the State of SD. The Build Dakota Scholarship has provided full-ride opportunities for students in this high-demand field with a promise of employment when finished. Industry also provides students part-time and full-time employment in their field of study while attending college along with several reimbursement programs. When the student is ready to begin their journey in the job market, the South Dakota Department of Labor provides an on-campus job coach for placement assistance and conducts the annual job placement and wage survey.

We are proud of the Electronic Systems Technology/Robotics program and are confident that the student is getting the best education available and industry is getting the best trained technicians in their field.

Letters of Endorsement

1201 Arrow Ave
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Watertown, SD 57201

LAKE AREA TECHNICAL INSTITUTE

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ATEA Selection Committee

4 December 2018

To the Board,

It is with the utmost enthusiasm and confidence that I endorse the nomination of Lake Area Technical Institute's Electronic Systems Technology/Robotics (EST/ROB) program as your outstanding CTE program of the year. You will be hard pressed to find a program with higher completion, retention, and placement rates. This year, in partnership with South Dakota Manufacturing & Technology Solutions, LATI Robotics will be the only two-year post-secondary program in the nation to be provided COBOT and Autonomous Vehicle technology by NIST. But more importantly, you will not find a program with more passionate instructors who care deeply for their students, their college, and their community. Through innovation, passion, and commitment, our EST/ROB program sets the mark of excellence high, not only for LATI, but for the nation!

On par with their historical numbers, LATI's EST/ROB program boasts an 86% retention rate, graduation rate above 65% and 100% placement of graduates. Their graduate's average starting salary last year exceeded $44,000. LATI graduates earn an average of 27% more than other new starts in the region.

EST/ROB engagement with the community and industry are unrivaled. Their advisory board and industry support places them as one of the top supported (financially) program at LATI, with industry stepping forward to fund robots, mechanical trainers and other program supplies. Additionally, their students are well supported through industry scholarships. Because of the high demand for their graduates and the quality of the EST/ROB programs, EST/ROB students are eligible for the elite Build Dakota Scholarship. Build Dakota provides a full-ride Scholarship in exchange for the student working in South Dakota in the field for three years.

Community engagement is also a hall mark of EST/ROB. Their students build technology based items for charity auction, they provide community evening classes in topics such as 3D printers, and they were the drivers on the creation of our Makerspace.

I am sure this will be a tough decision for you, but I want you to know that Lake Area Technical Institute's Electronic System Technology/Robotics program is truly deserving of this recognition.

Sincerely,

MICHAEL D CARTNEY
President

Pivotal Health Solutions

3003 9th Ave SW | PO Box 1060 | Watertown, SD 57201 | Ph: 800.743.7738 | Fax: 605.882.8398

December 4, 2018

Sandra Gehlen Krebsbach Ph.D.
Executive Director of the American Technical Education Association
818 Dunwoody Boulevard
Minneapolis, MN 55403

Dear Dr. Krebsbach:

It is a privilege of mine to endorse Lake Area Technical Institute's (LATI) Robotics (ROB) and Electronic System Technology (EST) programs. They continue to produce outstanding technicians for the regional and national workforce.

I am a current member of the advisory board for the ROB/EST programs at LATI. I have been involved with the board for more than 10 years and continue to see incredible value to these programs. The instructors of these programs are always willing to listen to the needs of the board and they adapt their programs and curriculum to the latest processes in our ever-changing field.

Part of the advisory board process is to approve the outlines and curriculum for the next year. We also put in place the attendance policy and help determine any changes that need to take place throughout the semester. The board is also invited to take part in the capstone project as judges for the Robotic Engineering class. This is one of the greatest parts of being on the advisory board as we get to meet and talk with upcoming graduates that will soon enter the workforce.

I whole heartedly endorse LATI's Robotic and Electronic Systems Technology programs for the ATEA Program of the Year Award.

Sincerely,

Mike Rawlins
Sr. Design Engineer
Pivotal Health Solutions
Direct: 605-753-3666
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Toll Free:1-800-743-7738
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December 4, 2018

Sandra Gehlen Krebsbach Ph.D.
Executive Director of the American Technical Education Association
818 Dunwoody Boulevard
Minneapolis, MN 55403

Re: 2019 ATEA Program Award Nomination

Dear Dr. Krebsbach:

It is a honor of mine and our company to recommend without hesitation, Lake Area Technical Institutes (LATI) Robotics (ROB) and Electronic Systems Technology (EST) programs. They continue to produce outstanding technicians for the regional workforce.

The ROB/EST programs are continually adapting to an ever changing career field. With the constant advances in technology and instrumentation in the manufacturing field the ROB/EST programs are willing to learn, develop curriculum, and train to better engage today's learners. With the ever evolving student, LATI develops and adapts its programs to assist the students in developing the skills necessary for the workforce of the future.

Also, the standards at which students are held to for labs and shop work prepare them for their careers. The employees we have encountered are thoroughly trained and confident in their troubleshooting, mechanical, and critical thinking skills. This not only boasts LATI's standards, but helps the employer to get workers in the field quicker.

I have no reluctance in endorsing LATI's Robotics and Electronic Systems Technology programs for the ATEA Program of the Year Award.

Sincerely,

Matthew Neuberger
Service Manager

DAKOTA FLUID POWER

South Dakota Partners
205 Hwy 22 E
PO Box 709
Clear Lake, SD 57226
T 605.874.6200

December 4, 2018

Sandra Gehlen Krebsbach Ph.D.
Executive Director of the American Technical Education Association
818 Dunwoody Boulevard
Minneapolis, MN 55403

Re: 2018 ATEA Program Award Nomination: Robotics/Electronics LATI

Dear Dr. Krebsbach:

I am proud to recommend the Lake Area Robotics/Electronics program for this award. I attended the program for two years and finished with my Electronic Systems Technology degree. I attended LATI right after high school with a couple classes in electronics under my belt. What I encountered at Lake Area was an environment that enabled me to succeed.

I was held to a high standard and was rewarded for effort. Troubleshooting, which is arguable the most important skill a technician can possess, is refined in these programs. First you are taught the theory, principles of AC/DC, principles of mechanical drives, motor controls, etc. In other words, what will need to know. Then you are taught how to problem solve. Throughout the two years I was at Lake Area I set up multiple electrical and pneumatic circuits and nothing is more frustrating than in not working. The automatic reaction is to say "Brooks, why doesn't this work?" is greeted with a cheery "sounds like you need to troubleshoot it." Which of course means, "I am more than happy to help you, but first you need to tell me a specific problem with the circuit, or at least show me that you have exhausted all the options of what is wrong."

This approach has me re-evaluating the way I approach malfunctioning equipment and general problems even now. Does this circuit work? What part of the circuit does work if any? How do I break it down and simplify my search? Where is the fault and how do I correct it? Learning to look at problems, any problem, as something to be broken down and solved in smaller pieces. While simple, it is easily as important as any theory I have learned. Therefore, I am recommending Lake Area. Not only do they prepare you for work, they prepare you for life.

Sincerely,

Brittany Davis

Brittany Davis
Service and Repair Technician

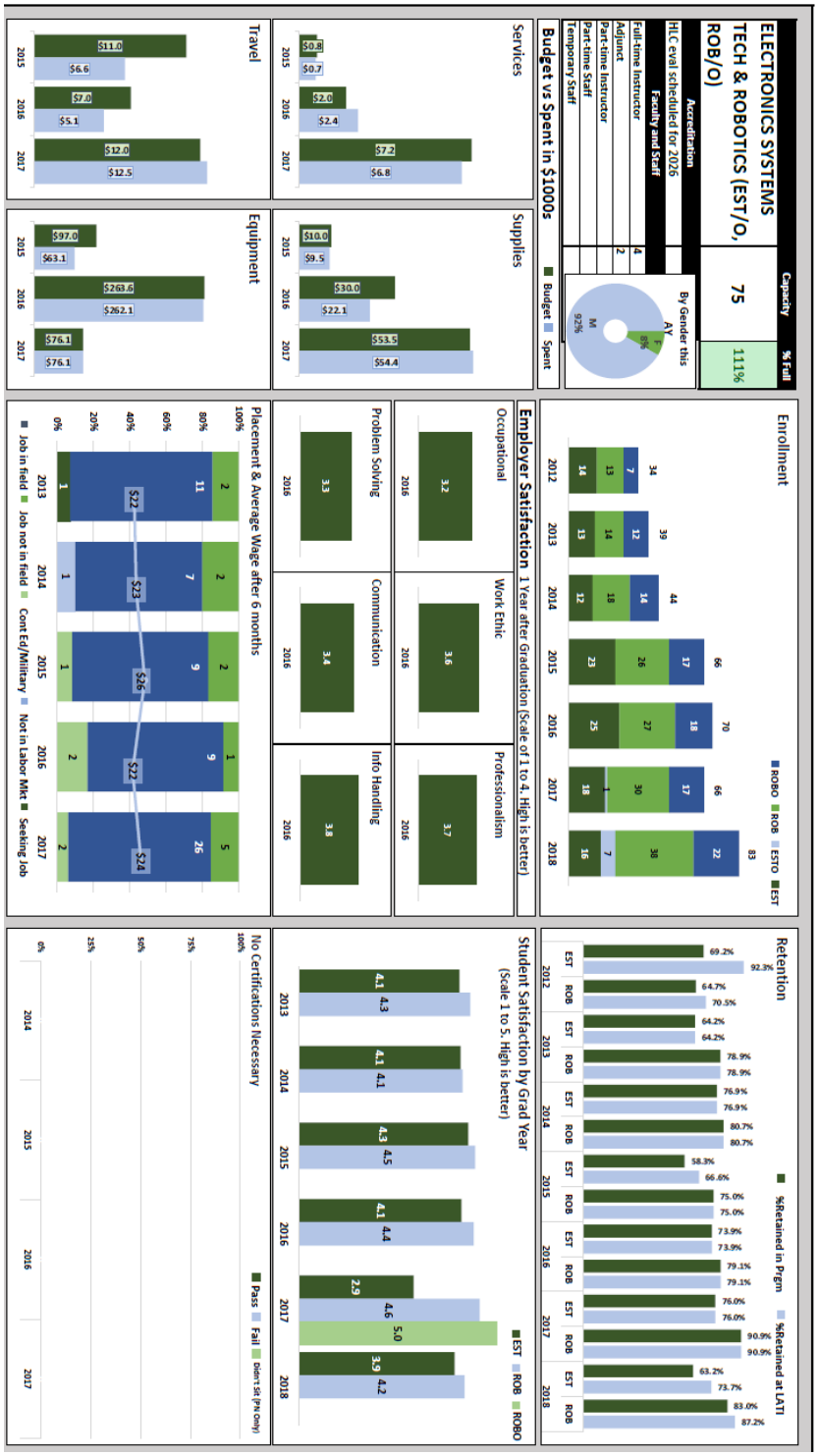
Professional Affiliations

Professional Organizations

- American Technical Education Association
- SD Manufacturing Extension Partnership

Evidence of Program Excellence

Summary of Enrollment Trends



Career Advancement and Opportunities

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http://www.lakeareatech.edu

Lake Area Technical Institute 2013-2018 Day 10 Fall Enrollment Report, by Career Cluster

Career Clusters	Programs	Program Options	CIP Code	13-14	14-15	15-16	16-17	17-18	18-19
Agriculture, Food & Natur	Agriculture (AAS)		01.0101	254	306	338	340	323	295
Agriculture, Food & Natur	Environmental Tech (AAS/Diploma)		03.0104	14	15	13	15	10	18
Architecture & Constructio	Building Trades Technology (AAS)		46.0415	34	28	28	43	47	53
Architecture & Constructio	Heavy Equipment Operator (AAS/Diploma)		49.0202	12	21	22	13	24	27
Finance	Financial Services (AAS)		52.0803	56	34	57	62	60	68
Health Science	Community Healthcare Worker (Cert/Dipl/AAS)		19.0710	*	*	*	*	*	*
Health Science	Dental Assisting (AAS/Diploma)		51.0601	58	57	52	50	42	42
Health Science	Medical Assisting (AAS)		51.0801	26	25	29	29	28	23
Health Science	Medical Lab Tech (AAS)		51.1004	37	42	34	46	50	69
Health Science	Occupational Therapy Assistant (AAS)		51.0803	49	42	48	40	37	33
Health Science	Physical Therapy Assistant (AAS)		51.0806	51	55	50	49	48	46
Health Science	Practical Nursing (Diploma)		51.3901	97	96	108	124	112	126
Health Science	Registered Nursing (AAS)		51.3801	*	*	*	*	*	24
Human Services	Cosmetology (Diploma)		12.0401	59	65	60	63	55	42
Human Services	Human Services Technician (AAS/Diploma)		44.0000	161	169	146	69	70	78
Information Technology	Computer Information Systems (AAS)		11.0701	51	39	44	53	58	73
Law, Public Safety, Correct	Law Enforcement (AAS)		43.0107	*	23	32	31	45	39
Law, Public Safety, Correct	Medical/Fire Rescue (AAS)		51.0904	25	24	22	29	29	53
Manufacturing	Electronics Systems Tech (AAS)		15.0303	13	12	23	25	19	23
Manufacturing	Energy Operations (AAS)		15.0613	10	11	28	22	14	9
Manufacturing	Energy Technology (AAS)		15.1001	29	26	21	28	25	38
Manufacturing	Precision Machining (AAS)		48.0501	29	38	43	32	40	41
Manufacturing	Robotics (AAS)		15.0405	26	32	43	45	47	60
Manufacturing	Welding Technology (AAS/Diploma)		48.0508	44	45	59	74	80	68
Marketing	Business Associate (AAS)		52.1401	121	111	112	128	129	126
Science, Technology, Engi	Surveying and Mechanical CAD (AAS)		15.1301	7	*	*	*	*	*
Transportation, Distributio	Automotive Technology (AAS)		47.0604	71	68	60	47	55	64
Transportation, Distributio	Aviation Maintenance (AAS/Diploma)		47.0608	28	28	30	33	30	32
Transportation, Distributio	Custom Paint & Fabrication Technology (AAS/Diplo		47.0603	35	36	31	33	30	31
Transportation, Distributio	Diesel Technology (AAS)		47.0605	138	137	144	153	160	167
Transportation, Distributio	High Performance Engine Machining (AAS)		47.0615	5	16	14	14	19	13
	Reduced Rate Dual Credit**			*	72	117	232	235	337
	Concurrent Credit ##			*	*	*	6	6	4
	Nondegree Seeking			*	*	*	32	32	27
	Program Prep****			44	44	38	101	96	96
	TOTALS			1593	1726	1846	2061	2055	2245

*No data available/New course offering or separated

**Reduced Rate Dual Credit (nonconcurrent): SD high school students enrolled in the State's reduced rate tuition program

Concurrent credit: high school students enrolled in a concurrent credit class (classes taught by high school faculty)

***Non-degree Seeking Other: All other credit for students not eligible for financial aid. Students eligible for financial aid must be included either in a program or in program prep.

***Program Prep: financial-aid eligible, degree-seeking students not yet accepted into technical programs

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Lake Area Technical Institute 2016-17 Placement Report

Clusters	Programs	CIP Code	Diplomas Degrees	Unduplicated Graduates separated by CIP Code	Number Responding	Number in South Dakota	Continuing Ed / Military	Not in Labor Market^	Total Employable	Still Seeking	Total Employed	% Employed	Employed in Field	% Employed in Field	Employed in SD	% Employed in SD	Employed in Field in SD	% Employed in Field in SD	Avg Hourly Salary
Agriculture, Food & Natural Resources	Agriculture (AAS)*	01.0101	147	146	144	120	17	0	127	1	126	99%	119	94.4%	103	81.7%	97	81.5%	$19.04
Agriculture, Food & Natural Resources	Environmental Tech (AAS/Diploma)	03.0104	16	9	9	6	3	0	6	0	6	100%	5	83.3%	3	50.0%	3	60.0%	$18.94
Architecture & Construction	Building Trades (AAS)	46.0201	15	15	15	15	0	0	15	0	15	100%	13	86.7%	15	100.0%	13	100.0%	$17.02
Architecture & Construction	Heavy Equipment Operations (AAS/ Diploma)	49.0202	10	10	9	6	3	0	6	0	6	100%	6	100.0%	3	50.0%	3	50.0%	$20.19
Finance	Financial Services (AAS)	52.0803	24	23	23	21	2	0	21	1	20	95%	18	90.0%	19	95.0%	17	94.4%	$16.00
Health Science	Community Healthcare Worker (Cert/Dipl/AAS)	51.1504							0		0								
Health Science	Dental Assisting (AAS/Diploma)	51.0601	43	43	43	36	4	2	37	0	37	100%	31	83.8%	32	86.5%	26	83.9%	$16.70
Health Science	Medical Assisting (AAS/Diploma)	51.0801	9	9	9	9	0	0	9	0	9	100%	7	77.8%	9	100.0%	7	100.0%	$14.06
Health Science	Medical Lab Tech (AAS)	51.1004	12	12	11	11	0	0	11	0	11	100%	11	100.0%	11	100.0%	11	100.0%	$17.50
Health Science	Occupational Therapy Asst (AAS)	51.0803	16	16	16	7	1	0	15	1	14	93%	10	71.4%	6	42.9%	3	30.0%	$23.29
Health Science	Physical Therapist Asst (AAS)	51.0806	24	24	24	13	1	0	23	0	23	100%	19	82.6%	13	56.5%	11	57.9%	$20.21
Health Science	Practical Nursing (Diploma)	51.3901	69	69	69	62	20	0	49	0	49	100%	47	95.9%	44	89.8%	42	89.4%	$17.72
Human Services	Cosmetology (Diploma)**	12.0401	30	30	29	27	0	0	29	1	28	97%	24	85.7%	26	92.9%	22	91.7%	
Human Services	Human Services Tech (AAS/Diploma)	44.0000	54	53	53	44	28	0	25	0	25	100%	18	72.0%	19	76.0%	12	66.7%	$11.81
Information Technology	Computer Information Systems (AAS)	11.0701	13	13	12	12	0	0	12	2	10	83%	8	80.0%	10	100.0%	8	100.0%	$16.05
Law, Public Safety, Corrections & Security	Law Enforcement (AAS)	43.0107	16	16	16	16	1	0	15	0	15	100%	13	86.7%	15	100.0%	13	100.0%	$18.49
Law, Public Safety, Corrections & Security	Med/Fire Rescue (AAS)	51.0904	7	7	7	7	0	0	7	0	7	100%	7	100.0%	7	100.0%	7	100.0%	$21.84
Manufacturing	Energy Operations (AAS)	15.0613	13	13	13	11	0	0	13	0	13	100%	13	100.0%	11	84.6%	11	84.6%	$24.83
Manufacturing	Energy Technology (AAS)	15.1001	14	14	14	12	0	0	14	1	13	93%	13	100.0%	11	84.6%	11	84.6%	$23.16
Manufacturing	Precision Machining (AAS/Diploma)	48.0501	17	17	16	16	1	0	15	0	15	100%	15	100.0%	15	100.0%	15	100.0%	$19.39
Manufacturing	Electronics/Robotics (AAS)	15.0400	40	33	33	30	2	0	31	0	31	100%	26	83.9%	28	90.3%	24	92.3%	$24.47
Manufacturing	Welding Technology (AAS/Diploma)	48.0508	66	64	63	59	28	0	35	1	34	97%	30	88.2%	31	91.2%	27	90.0%	$18.31
Marketing	Business Associate/Entrepreneurship (AAS/Diploma)	52.1401	46	46	43	34	4	1	38	0	38	100%	33	86.8%	30	78.9%	25	75.8%	$15.85
Transportation Distribution & Logistics	Automotive (AAS)	47.0604	23	23	23	21	1	0	22	0	22	100%	18	81.8%	20	90.9%	16	88.9%	$17.25
Transportation Distribution & Logistics	Aviation Maintenance (AAS/Diploma)	47.0608	16	16	16	6	2	0	14	0	14	100%	12	85.7%	5	35.7%	4	33.3%	$23.97
Transportation Distribution & Logistics	Custom Paint & Fabrication Technology	47.0603	26	18	18	15	2	0	16	0	16	100%	12	75.0%	13	81.3%	9	75.0%	$17.08
Transportation Distribution & Logistics	Diesel Technology (AAS)	47.0605	67	67	67	46	1	0	66	0	66	100%	65	98.5%	45	68.2%	44	67.7%	$19.85
Transportation Distribution & Logistics	High Performance Engine Machinging (AAS/Diploma)	47.0615	7	7	7	4	0	0	7	0	7	100%	4	57.1%	4	57.1%	2	50.0%	$15.58
Science Technology, Engineering &	Engineering/ Drafting Technology (AAS)#	15.1301	1	1	1	1	0	0	1	0	1	100%	1	100.0%	1	100.0%	1	100.0%	
	TOTALS		841	814	803	667	121	3	679	8	671	99%	598	89.1%	549	81.8%	484	80.9%	$18.78

Degrees Diplomas indicate the number of degree awarded per program; Unduplicated Grads Separated by CIP Code represents a single graduate and all other data are calculated from this unduplicated number.

* Wage figures do not necessarily include bonuses, overtime, or the earnings of graduates who are self employed farmers.
**Cosmetology salaries are heavily comprised of commission, tips, and retail sales so accurate salary data is not available.
#Previous diploma holder completed necessary courses to be granted an AAS degree.

2016-2017 LATI Graduates

Total Degrees/Diplomas Conferred	841	
Graduates	814	
Graduates Responding	803	98.65% of Total Graduates
Graduates Not in the Labor Market*	3	0.37% of Graduates Responding
Graduates in the US Armed Forces	2	0.25% of Graduates Responding
Total Available for Placement (Responding - Not in Labor Market - Military)	798	99.38% of Total Graduates Responding
Graduates Reporting Continuing Education	119	14.91% of Graduates Available for Placement
Graduates Employed	671	84.09% of Graduates Available for Placement
Graduates employed in South Dakota	549	81.8% of Total Graduates Employed
Graduates employed in a training-related field	598	89.1% of Total Graduates Employed
Graduates employed in a training-related field in South Dakota	484	80.9% of Total Graduates Employed in training-related field
Graduates Seeking Employment	8	1.0% of Graduates Available for Placement

Graduates in South Dakota 667 83.1% of Responding Graduates

OVERALL GRADUATE PLACEMENT RATE (Employed or Continuing Education) = 99.00%

^"Not in Labor Market" is self-reported status and includes such cases as chronic illness, raising families, or severe injury

ADVISORY
MEMBERSHIP LIST

Adam Imberi	Central Plains Industries	Marty Geffre	Sparton
Ben Schell	Big Stone Power Plant	Matt Karels	Big Stone Plant
Byron Garry	South Dakota State University	Michelle Giesen	Valley Queen Cheese
Cathy Willemssen	SD Partners Inc.	Mike Borman	Sparton
Christine Berger	Twin City Fan	Mike Rawlins	Pivitol Health Systems
Cyndi Self	Acieta	Nick Rice	Angus-Palm (Worthington Industries)
Dave Groon	Dakota Automation	Patrick Glasser	DigiKey
Dave Karlen	Banner Engineering	Richard Couch	Horton
Dave Phillips	Daktronics	Robert Schulte	Applied Engineering
Elizabeth Flemming	Sweeney Controls	Ryan Maxwell	Kooima
Gregg Yonkovich	3M	Tim Cossete	Agropur
Jared Lenards	Worthington Industries	Tim Revalee	Worthington Industries
Jason Handke	Dakota Automation	Tony Grohs	3M
Jason Humpton	Valley Queen Cheese	Travis Schultz	Northeast Technical High School
Jason Warne	Daktronics	Troy Sather	Fanuc Robotics
Jeff Heiberger	Falcon Plastics	Dave Austin	Wharf Resources
Jerry Martinmaas	Daktronics	Louis LaSart	South Dakota Partners
Jim Holdahl	Minntronix	Shane Thorstenson	Trail King Industries
Joe Arthur	Daktronics	Matt Neuberger	Dakota Fluid Power
John Steinbauer	Dakota Tube	Sarah Hansen	Persona
Julie Mollenhoff	Department of Labor and Regulation		
Karissa Karels	Valley Queen Cheese		
Kevin Dornbusch	Valley Queen Cheese		
Lyle Hawkinson	3M		
Marty Comes	Angus-Palm (Worthington Industries)		

Curriculum and Accreditation

Robotics & Electronic Systems Technology First Year – Fall Semester

Course Number	Course Title	Clock Hours	Credits
EST 103	DC Electronics	112	4
EST 109	AC Electronics	112	4
EST 267	Rework, Repair, and Surface Mount Soldering	56	2
RBTC 200	Mechanical Design and 3-D Modeling	84	3
RBTC 210	Mechanical Systems	56	2
● Selected Mathematics Course (Choose one) MATH 100 – Applied General Math MATH 101 – Intermediate Algebra MATH 102 – College Algebra *		45	3
	Total	465	18

First Year – Spring Semester

Course Number	Course Title	Clock Hours	Credits
EST 115	Electronic Systems	168	6
EST 121	Digital Systems	168	6
ET 175	Basic Motor Controls	84	3
CIS 102	Windows Applications for Technicians	45	3
	Total	465	18

Second Year – Fall Semester

Course Number	Course Title	Clock Hours	Credits
EST 219	Computer Control Systems	56	2
EST 247	Microcontrollers	84	3
RBTC 205	Programmable Logic Controllers	84	3
RBTC 207	Fluid Power	56	2
RBTC 227	Robot Operation and Programming	56	2
● Selected Communications Course (Choose one) COMM 101 – Communications and Career Strategies ENGL 101 – Composition * (CSS 100 – Career Search Strategies .5 credit) SPCM 101 – Fundamentals of Speech * (CSS 100 – Career Search Strategies .5 credit)		45	3
● Selected Social Science Course (Choose one) ECON 105 – Leadership in the Global Workplace ECON 201 – Principles of Microeconomics I *		45	3
	Total	426	18

Robotics Second Year – Spring Semester

Course Number	Course Title	Clock Hours	Credits
RBTC 202	Robotic Engineering	168	6
RBTC 219	PLC Integration	84	3
PM 228	Introduction to Precision Machining	112	4
WLD 232	Welding Process	56	2
● Selected Behavioral Science Course (Choose one) PSYC 100 – Psychology of Human Relations PSYC 101 – General Psychology *		45	3
	Total	465	18

Electronic Systems Technology Second Year – Spring Semester

Course Number	Course Title	Clock Hours	Credits
EST 246	Circuit Board Design and Layout	84	3
EST 262	Advanced Digital Systems	84	3
EST 271	Advanced Electronic Systems	84	3
RBTC 202	Robotic Engineering	168	6
• Selected Behavioral Science Course (Choose one) PSYC 100 – Psychology of Human Relations PSYC 101 – General Psychology *		45	3
	Total	465	18

Accreditation Information

Accredited by The Higher Learning Commission

Current status: Accredited **Most recent reaffirmation of accreditation:** 2016 – 2017 **Next reaffirmation of accreditation:** 2026 - 2027

List of Faculty and Credentials

Brooks Jacobsen – Department Supervisor; EST/ROB Instructor

- AAS Robotics 2006, AAS Electronic Systems Technology 2010, BS Engineering Management Technology 2013, MS Education 2018
- South Dakota Army National Guard 1999-Present, 94P MLRS Repairer
- Automation Engineer – Daktronics
- FANUC certified in Basic Robot Operation and 2D Vision

Tim Moes – EST/ROB Instructor

- Electronics 1976
- Radio Repair – Burghardt Amateur Center
- A+ Certified in computer repair, cabling, and FCC First Class Radio Telephone License

Bob Poor – EST/ROB Instructor

- Diploma Mechanical Drafting 2011, AAS Electronic Systems Technology 2013
- Sign Frame Finisher – Persona, Senior R&D Technician – IDT
- Kawasaki Robot Instructor Certified, Motoman Robot Instructor Certified, FANUC Certified Basic Robot Operation and 2D Vision

Mathew Weinzirl – EST/ROB Instructor

- AAS Electronic Systems Technology 2013
- Robot Technician – Dakota Tube
- Kawasaki Robot Instructor Certified, Motoman Robot Instructor Certified, FANUC Certified in Basic Robot Operation and 2D Vision

Program Awards

- NASA Grants
- NASA Internships
- 3M Grants
- Recognized by the Aspen Institute for Community College Excellence for outstanding connections with industry
- Manufacturing Extension Partnership Competitive Awards Program grant from the National Institute of Standards and Technology (NIST) in which Lake Area Technical Institute will be part of a collaborative effort to increase competiveness and efficiency in regional manufacturing industries using Collaborative Robots (cobots) and Autonomous Guided Vehicles (AGVs).

Involvement in Community Service/Service Learning Activities

Equity Day – Career exploration in nontraditional fields by gender for 10th graders.*
Robot Games – Competition and exploration for current Lake Area Tech and high school students from NE South Dakota.*
Big Camp Out – Career Exploration for grades 9-12
Mobile Lab - EST/ROB lab on wheels that attends events and visits high schools for career exploration in STEM.*
MakerSpace - Developed and currently operate the MakerSpace free of charge for student entrepreneurs. Assists all Lake Area Tech students with equipment usage.**

*Provides STEM awareness to underrepresented populations.

Each year, students and staff construct and donate a display for the **Festival of Trees** event, a fundraiser for student scholarships.

Community – Volunteer for research and development of many community and business projects, including building and troubleshooting, within the community and surrounding region. Donate food to the PACH programs and Salvation Army. Purchase gifts for the Angel Tree.

Community U – provide 3D Printer building classes for the community.

3D Printer Club – provide the expertise and a lab to host the members.