

**APPLIED & INDUSTRIAL TECHNOLOGIES, CONCENTRATION -  
 MECHATRONICS TECHNOLOGY ACADEMIC MAP: DEGREE BS (120  
 CREDIT HOURS)**

This degree map is a semester---by---semester sample course schedule for students majoring in **Applied and Industrial Technology with a concentration in Industrial Electronics Technology**. The milestones listed to the right of each semester are designed to keep a student on track to graduate in four years. The schedule serves as a general guideline to help build a full schedule each semester. Milestones are courses and special requirements necessary for timely progress to complete a major. When one or more milestones are missed, a student should consult with an academic advisor to determine if another degree path would be more suitable.

The Industrial Electronics Technology Concentration prepares students for positions in business and industry that require a broad technical and management background. It emphasizes the maintenance, operation and management of systems and sub---systems within the industrial and manufacturing sector.

Tennessee State University recognizes that students have diverse learning, life, and professional experiences. The University provides opportunities for students to earn college credit toward the degree through a number of assessment options that evaluate their learning experiences. These paths are grouped under the category "Prior Learning Assessment" (PLA). Various means of earning PLA credit at TSU are the following: Advanced Placement Program, American Council of Education (ACE) Military Credit, College Level Exam Program (CLEP), DSST Credit by Examination Program (includes DANTES Examination), Institutional Course Challenge Exams (Departmental Exams), International Baccalaureate Credit, Other Military Service, Portfolio Assessment. To learn more about PLA contact your academic advisor or the Office of Student Support Services for Adult and Distance Learners at (615) 963---7001 or [adultstudentsupport@tnstate.edu](mailto:adultstudentsupport@tnstate.edu).

Department Chair: Dr. Ivan Mosley, Email: [imosley@tnstate.edu](mailto:imosley@tnstate.edu)

Mapping Coordinator: Dr. Ivan Mosley, Email: [imosley@tnstate.edu](mailto:imosley@tnstate.edu)

Department Web Address: <http://www.tnstate.edu/ait/industrial.aspx>

Fall Schedule		Milestones
Semester 1	Hrs.	Semester 1
UNIV 1000*	1	Minimum Grade of "C" Required
MATH 1710	3	Pre---requisite Course: Must be taken before MATH 1720; Minimum Grade of "C" Required
ENGL 1010	3	Pre---requisite Course: Must be taken before ENGL 1020, HIST 2010, HIST 2020, HIST 2060, HIST 2070 and HIST 2700; Minimum Grade of "C" Required
AITT 1001	3	Minimum Grade of "C" Required
HPER/ROTC/BAND**	1	Minimum Grade of "C" Required
HUMANITIES***	3	Minimum Grade of "C" Required
<b>Total Hours</b>	<b>14</b>	

\*An Orientation course taken at another University does **NOT** meet this requirement. Students with less than 6 credit hours must take UNIV 1000 at TSU.

\*\*Students may choose a one hour course in ROTC---AERO 1010 or 2020, Marching Band--- MUSC 2010 University Marching Band (1), MUSC 2011 University Marching Band---zero credit (1), admission by audition and permission of the Director of Bands, or any Health, Physical Education, & Recreation ---HPER 1010, 1011, 1013 1032.

\*\*\*Students must take a 3 credit hour course from the following list of approved general education Humanities courses: AREN 2310, ART 1010, THTR 1020, MUSC 1010, PHIL 1030, HIST 1000, or RELS 2010.

Spring Schedule		Milestones
Semester 2	Hrs.	Semester 2
MATH 1720	3	Pre---requisite Course: Must be taken before MATH 1910, PHYS 2010, AITT 2000/2001, AITT 3200, AITT 3480; Minimum Grade of "C" Required
ENGL 1020	3	Pre---requisite Course: Must be taken before HIST 2010, HIST 2020, HIST 2060, HIST 2070 and HIST 2700; Minimum Grade of "C" Required Minimum Grade of "C" Required
CHEM 1110/1111*	4	Minimum Grade of "C" Required
HPER/ROTC/BAND**	1	Minimum Grade of "C" Required
HUMANITIES***	3	Minimum Grade of "C" Required
ECON 2010		Pre---requisite Course: Must be taken before MGMT 3010; Minimum Grade of "C" Required
<b>Total Hours</b>	<b>17</b>	

\*Students must have taken either High School Chemistry earning at least 75% or CHEM 1000/1001 and two years of High School Algebra before enrolling in CHEM 1110/1111.

\*\*Students may choose one hour course in ROTC---AERO 1010 or 2020, Marching Band--- MUSC 2010 University Marching Band (1), University Marching Band---zero credit (0), admission by audition and permission of the Director of Bands; or any Health, Physical Education, & Recreation --HPER 1010, 1011, 1013 1032. Students must remember not to duplicate course option from a previous semester.

\*\*\*Students must take 3 credit hour course from the following list of approved general education Humanities courses: AREN 2310, ART 1010, THTR 1020, MUSC 1010, PHIL 1030, HIST 1000, or RELS 2010. Students must remember not to duplicate course option from a previous semester.

Fall Schedule		Milestones
Semester 3	Hrs.	Semester 3
MATH 1910	4	Minimum Grade of "C" Required
PHYS 2010/2011	4	Pre---requisite Course: Must be taken before PHYS 2020/2021; Minimum Grade of "C" Required
AITT 2000/2001	4	Pre---requisite Course: Must be taken before AITT 2200/2201, 3350/3351, AITT 3200; Minimum Grade of "C" Required
ENGL 2110*	3	Minimum Grade of "C" Required
<b>Total Hours</b>	<b>15</b>	

\*The department recommends the courses cited above; however, courses within the range of ENGL 2012 --- ENGL 2322 will meet this requirement.

Spring Schedule		Milestones
Semester 4	Hrs.	Semester 4
PHYS 2020/2021	4	Minimum Grade of "C" Required
HIST 2010*	3	Minimum Grade of "C" Required
COMM 2200	3	Minimum Grade of "C" Required
PSYC 2010	3	Minimum Grade of "C" Required
AITT 2200/2201	3	Pre---requisite Course: Must be taken before AITT 3310/3311, AITT 4040; Minimum Grade of "C" Required
<b>Total Hours</b>	<b>17</b>	

\*The Department recommends HIST 2010; however, HIST 2030, HIST 2060, HIST 2070 or HIST 2700 satisfy this requirement.

Fall Schedule		Milestones
<b>Semester 5</b>	<b>Hrs.</b>	<b>Semester 5</b>
HIST 2020	3	
AITT 3310/3311	4	Pre---requisite Course: Must be taken before AITT 3320/3321
AITT 3350/3351	4	Pre---requisite Course: Must be taken before AITT 4800 and AITT 4300
AITT 3200	3	
<b>Total Hours</b>	<b>14</b>	

\*The Department recommends HIST 2020; however, HIST 2030, HIST 2060, HIST 207 or HIST 2700 satisfy this requirement.  
Students must remember NOT to duplicate course option from previous semester.

Spring Schedule		Milestones
<b>Semester 6</b>	<b>Hrs.</b>	<b>Semester 6</b>
AITT 3320/3321	4	Pre---requisite Course: Must be taken before AITT4170
AITT 3480	3	
MGMT 3010	3	Pre---requisite Course: Must be taken before MGMT 4050, and MGMT 4070
ENGL 3105	3	
AITT 3400	3	
<b>Total Hours</b>	<b>16</b>	

Fall Schedule		Milestones
<b>Semester 7</b>	<b>Hrs.</b>	<b>Semester 7</b>
AITT 3110	3	
AITT 4040	3	
AITT 4300	3	
AITT 4500*	1	Pre---requisite Course: Must be taken before AITT 4510
AITT 4900*	1	
MGMT 4050	3	
<b>Total Hours</b>	<b>14</b>	

\*Must be a senior to enroll in these courses: AITT 4500, AITT 4510 and AITT 4900.

Spring Schedule		Milestones
<b>Semester 8</b>	<b>Hrs.</b>	<b>Semester 8</b>
		Take Senior Exit Exam and Apply for Graduation
AITT 4800	3	
AITT 4510*	1	
AITT 4170	3	
MGMT 4070	3	
3000---4000 TECH/NON---TECH ELECTIVE**	3	
<b>Total Hours</b>	<b>13</b>	

\*Must be a senior to enroll in AITT 4510.

–

\*\*Any Technical or Non - Technical course elective(s) may be chosen from the 3000---4000 (junior---senior level) course(s) being offered within the schedule of course listings from Tennessee State University; these courses may include: AITT 3010, AITT 3140, AITT 3250, AITT 3270 or AITT 3280. Upper level substitutions may be used from outside institutions (Minimum transfer grade of "C" required for substitutions).

Students with this degree are equipped to enter the employment sector that requires a degree of manual and technical skills (psychomotor) that today's highly competitive industrial technology sector demands. Technologists do not necessarily design but are equipped to manage and maintain those systems and subsystems and work in concert with Industrial engineers.

**Representative Job Titles Related to this Major:**

Systems Operation Technician, Industrial Engineer, Management/Technical Engineer, Industrial Production Manager, Cost Estimator, Sales Manager, Industrial Technologist, Logistics Engineer, Aeronautical Engineer, Controls and Hardware Design Engineer, Manufacturing Engineer, AutoCAD Designer, Quality Control Engineer

---

This map is not intended to be a contract, either expressed or implied, between the University and the students, but represents a flexible program of the current curriculum which may be altered from time to time to carry out the academic objectives of the University. TSU specifically reserves the right to change, delete or add to any MAP at any time within the student's period of study at the University.