



Automotive Technology

Southern Illinois University Carbondale

Bachelor of Science Degree

Program of Study



www.siucautomotive.com

Automotive Technology Off-Campus students must follow the specific Off-Campus Contract provided by their Program Advisor.

**BACHELOR OF SCIENCE
AUTOMOTIVE TECHNOLOGY
COLLEGE OF APPLIED SCIENCES AND ARTS
SOUTHERN ILLINOIS UNIVERSITY CARBONDALE**

The Bachelor of Science (B.S.) Degree in Automotive Technology at Southern Illinois University Carbondale (SIUC) meets the goals of students interested in careers in the automotive, truck, power generation, and related ground transportation industry. The degree provides theoretical and practical hands-on application of knowledge through a combination of automotive technical courses and automotive business/management courses, along with computing and communication courses. The flexibility of the curriculum accommodates the needs of both incoming freshman and transfer students. Students have the option of focusing on multiple areas of emphasis, earning a minor, and possibly earning dual degrees. Students can adjust their focus in areas such as: automotive technical, automotive business operations, automotive management, automotive technical education, marketing, and management.

Career Opportunities:

SIUC's automotive technical and management education is intended to develop future leaders in the industry. Automotive and truck manufacturers, component manufacturers and suppliers, government agencies, insurance organizations, educational institutions, training and curriculum organizations, and service providers are actively seeking four-year automotive technology graduates.

The number of job titles and excellent starting salaries reflects the nature of a diverse and expanding field. Job titles include field service engineer, technical assistance specialist, serviceability engineer, district parts/service manager, customer support manager, automotive instructor, account manager, fleet manager, service advisor, dealership service manager, technical training specialist, district sales manager, field executive, technical writer, diagnostic tool and procedure developer, dealer development manager, warranty auditor, and product manager. These positions require a four-year degree with skills in communications, management and consumer relations as well as technical knowledge. From automotive and heavy truck manufacturers to equipment suppliers, software developers, and aftermarket corporations, this type of training is in extremely high demand from all sectors of the industry.

Freshman or Transfer Student:

Students can enter the program as freshmen and complete four years of automotive/business education at SIUC. The program also welcomes students transferring from a community college or other majors.

Students with an Associate in Applied Science (A.A.S.) Degree in Automotive Technology from a regionally accredited college can typically complete the additional requirements for the B.S. Degree in two additional years. These students may qualify for the Capstone Option, as discussed in Chapter 3 of the SIUC Undergraduate Catalog, which enables the student to graduate after completing 60 credit hours of approved courses. Individuals with an Associate in Arts (A.A.) Degree or Associate in Science (A.S.) Degree may be admitted, but would be required to follow a slightly different program of study. Students with a partial degree completed are also welcomed to transfer to the Automotive Technology Program with previous course work being evaluated on a course-by-course basis.

Internship Programs:

Automotive Technology majors can participate in paid internship experiences and may be able to earn credit toward graduation. Opportunities occur during all semesters (including the summer term), with some programs available for two sequential terms. Internship sites are situated in various locations throughout the United States. Internship opportunities have been available with Chrysler Group LLC, Cummins, Inc., Toyota Motor Sales, U.S.A., Inc., Eaton Corporation, General Motors Company, Robert Bosch Corporation, Ford Motor Company, Sherwin-Williams Automotive Finishes, Motors Insurance Corporation, General Services Administration (GSA) of the Federal Government, and other various automotive and related businesses.

Minors and/or Dual Majors:

Students enrolled in the Automotive Technology Program have the flexibility of focusing their curriculum to assist in minoring in areas such as management, marketing, or business administration with little to no additional coursework.

Dual majors are also available with one specifically designed with Workforce Education and Development (WED) for students interested in automotive technology teaching positions in grades 6-12. Teachers prepared through this program instruct in comprehensive high schools or area career centers.

Master Degree Options:

Students enrolled in the Automotive Technology Program have the flexibility of focusing the curriculum to assist in preparing for graduate level degrees in areas such as a Master of Science in Education (M.S.Ed.) or a Master of Business Administration (M.B.A.).

Admission and Enrollment Management:

Those interested in applying to the Automotive Technology program are encouraged to begin the application process approximately one year in advance. Acceptance into the program will be based upon additional admissions criteria, however, there is no separate application needed. In order to be included in the Automotive Technology applicant pool, all applicants must satisfy standard University baccalaureate entrance requirements as well as request Automotive Technology as their primary intended major. Acceptance into the Automotive Technology program will be based upon additional admissions criteria. Student selection from the applicant pool will occur on predetermined dates. Contact the Automotive Technology program for the latest criteria and dates.

The admission process can begin on-line at www.admissions.siu.edu. Applicants must request Automotive Technology as their primary intended major to be included in the Automotive Technology applicant pool.

Capstone Option for Transfer Students:

The Capstone Option is for the student who has earned or will soon earn an Associate in Applied Science (A.A.S.) degree or equivalent certification. The Capstone Option makes it possible for students to earn a Bachelor degree in 60 additional hours and allows them to complete an abbreviated University Core Curriculum requirement (30 hours vs. 41 hours). In order to qualify for admission to the Capstone Option, the student must:

- ✓ Make application for admission to Capstone by no later than the end of the first semester in the Bachelor's degree program.
- ✓ Graduate with an A.A.S. degree or equivalent in Automotive Technology. Have a GPA of 2.25 or better for all college work as calculated by SIUC grading regulations.
- ✓ Not have earned more than 12 hours of major coursework toward the Bachelor's degree program prior to approval for Capstone.
- ✓ Be able to complete the SIUC Automotive Technology degree within 60 semester hours of approved courses.

All transfer students intending to pursue the Capstone Option into the Automotive Technology program are strongly encouraged to contact the Automotive Technology Academic Advisor early in their associate degree program to help facilitate acceptance into the Capstone Option. Further requirements, procedures and additional information about the Capstone Option are discussed in Chapter 3 of the SIUC Undergraduate Catalog.

<http://registrar.siu.edu/catalog/undergraduatecatalog.html>

Certification:

The Automotive Technology program at SIUC is Master Certified by the National Institute for Automotive Service Excellence.

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Undergraduate Admissions

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 www.admissions.siu.edu

Financial Aid

Phone: 618-453-4334
 www.siu.edu/~fao

Automotive Technology B.S. Degree Requirements and Student Responsibilities:

1. *Hour Requirements:* Each student must have earned a minimum of 125 semester hours of credit. Of the 125 hours, at least 60 must be earned at a senior-level institution.
2. *Residence Requirements:* Each student must complete the residence requirement by taking the last year, which is defined as 30 semester hours, or by having three years of credit, which is defined as 90 semester hours at SIUC. Only credit for those courses for which the student has registered and for which a satisfactory grade has been recorded at SIUC may be applied toward the residence requirement hours.
3. *Average Requirements.* Each student must have a *C* average for all work taken at SIUC and a *C* average for all major work taken at the University.
4. *Course Requirements.* Each student must meet the University requirements and the requirements of the academic unit, the major, and the minor, if required.
5. *Tool Requirements:* The Automotive Technology should expect to spend about \$1000 to \$1500 for a required automotive toolkit consisting of metric tools and a digital multimeter. The required tool list is available on the Automotive Technology website: www.siucautomotive.com.
6. *Student Responsibility:* Students are responsible for meeting and complying with all University requirements, policies and deadlines, including those for applying for graduation. Further information regarding requirements, policies and deadlines can be found on the University website and in the SIUC Undergraduate Catalog. <http://registrar.siu.edu/catalog/undergraduatecatalog.html>
7. *Student Responsibility:* Students are to actively seek the assistance of the Automotive Technology Academic Advisor each semester to ensure progress towards graduation and compliance with these and other regulations.

Curriculum Requirements:

The Bachelor of Science Degree in Automotive Technology is composed of four instructional categories and consists of a minimum of 125 semester hours.

Category I	University Core Curriculum Requirements	41 Semester Hours	Page 5 & 6
Category II	Lower Level Automotive Technology Courses	39 Semester Hours	Page 7
Category III	Upper Level Automotive Technology Courses	15 Semester Hours	Page 7
Category IV	Business/Management Courses	18 Semester Hours	Page 8
Category V	Support Courses	12 Semester Hours	Page 9
TOTAL		125 Semester Hours	

CATEGORY I – University Core Curriculum:

41 Semester Hours (Non-Capstone requirements):

- Consult the SIUC Undergraduate Catalog for Core Curriculum substitutes.

FOUNDATION SKILLS

ENGLISH COMP (6 Semester Hours)

ENGL 101 (Min. grade C)
ENGL 102 (Min. grade C)

SPEECH (3 Semester Hours)

SPCM 101

MATHEMATICS (3 Semester Hours)

ANY MATHEMATICS PREFIX COURSE EXCEPT 107, 114 and 120
MATH 113 suggested
MATH 139 if minor in Business Administration or MGMT

DISCIPLINARY STUDIES

SCIENCE (6 Semester Hours)

Select One Course From Each Group

GROUP I:

PHYS 101

GROUP II:

PLB 115, 117
Zool 115

HUMANITIES (6 Semester Hours)

AD 207a, b, c
CLAS 230, 270, 271
EA 102
ENGL 121, 204
FR 101a, b
GER 101a, b
HIST 101a, b
LING 200
PHIL 102, 103a, b, 104, 105

SOCIAL SCIENCE (6 Semester Hours)

Select Only One History Course

ANTH 104
ECON 113, 240, 241
GEOG 100, 103
HIST 110, 112
POLS 114
PSYC 102
SOC 108

FINE ARTS (3 Semester Hours)

AD 100a, 100b, 101
CP 101
ENGL 119, 206a, b, c
HIST 201
MUS 103
THEA 101

HUMAN HEALTH (2 Semester Hours)

BIOL 202
HED 101
HND 101
KIN 101
PHSL 201
REHB 205

INTEGRATIVE STUDIES

MULTICULTURAL: DIVERSITY IN THE U.S. (3 Semester Hours)

AD 227, 267
AFR 215, 227
ANTH 202, 204
CCJ 203
ENGL 205
FR 200
HIST 202, 210
KIN 210
LING 201
MCMA 204
MUS 203
PHIL 210, 211
POLS 215
PSYC 223, 233
SOC 215, 223
SPCM 201
WMST 200, 201, 223

INTERDISCIPLINARY (3 Semester Hours)

AD 307i, 317i
AFR 332i
AGRI 300i
ARC 314i
CLAS 315i
ECON 302i
ENGL 307i
ENGR 301i, 303i, 304i
FL 301i
GEOG 300i, 303i, 310i
GEOL 327i, 328i, 329i, 330i
JRNL 306i, 314i
LAC 300i
LING 320i
MATH 300i
MUS 303i
PHIL 303i, 307i, 308i, 309i
PLB 301i, 303i
POLS 314i, 332i, 352i, 372i
RT 362i
SOC 304i, 306i
SPCM 301i
WMST 301i, 307i, 320i
ZOO 312i

CATEGORY I – University Core Curriculum:

30 Semester Hours (Capstone Option requirements only):

The Capstone Option at SIUC is designed for the student who has earned an A.A.S. degree. The purpose of the Capstone Option is to provide an opportunity for students to add to the marketable occupational skills and competencies, which they have already acquired. A student that graduates with an associate degree in Automotive Technology, has a GPA of 2.25 or better for all college work, and meets all the requirements set forth in the SIUC Undergraduate Catalog, may be approved for Capstone.

- Consult the SIUC Transfer Course Equivalency Guides for Core Curriculum substitutes.
<http://enrollmentapps.siu.edu/articulation/>
- Core Courses successfully completed at an accredited college may fulfill the SIUC Core requirements.

CORE CURRICULUM REQUIREMENTS: (Capstone Option: 30 semester hours)

English - 3 hours	Science - 6 hours	Humanities - 3 hours
Math - 3 hours	Social Science - 6 hours	Multicultural - 3 hours
Speech - 3 hours		Fine Arts - 3 hours

FOUNDATION SKILLS

ENGLISH COMP (3 Semester Hours)

ENGL 101 (Min. grade C)

SPEECH (3 Semester Hours)

SPCM 101

MATHEMATICS (3 Semester Hours)

ANY MATHEMATICS PREFIX COURSE EXCEPT 107, 114 and 120

MATH 113 suggested

MATH 139 if minor in Business Administration or MGMT

DISCIPLINARY STUDIES

SCIENCE (6 Semester Hours)

Select One Course From Each Group

GROUP I:

PHYS 101

GROUP II:

PLB 115, 117

Zool 115

HUMANITIES (3 Semester Hours)

AD 207a, b, c

CLAS 230, 270, 271

EA 102

ENGL 121, 204

FR 101a, b

GER 101a, b

HIST 101a, b

LING 200

PHIL 102, 103a, b, 104, 105

SOCIAL SCIENCE (6 Semester Hours)

Select Only One History Course

ANTH 104

ECON 113, 240, 241

GEOG 100, 103

HIST 110, 112

POLS 114

PSYC 102

SOC 108

FINE ARTS (3 Semester Hours)

AD 100a, 100b, 101

CP 101

ENGL 119, 206a, b, c

HIST 201

MUS 103

THEA 101

INTEGRATIVE STUDIES

MULTICULTURAL: DIVERSITY IN THE U.S. (3 Semester Hours)

AD 227, 267

AFR 215, 227

ANTH 202, 204

CCJ 203

ENGL 205

FR 200

HIST 202, 210

KIN 210

LING 201

MCMA 204

MUS 203

PHIL 210, 211

POLS 215

PSYC 223, 233

SOC 215, 223

SPCM 201

WMST 200, 201, 223

CATEGORY II – Lower Level Automotive Technology Courses:

(Automotive toolkit required in all automotive technical courses)

39 Semester Hours of 100 and 200 level technical courses (or approved equivalents):

NOTE: This 39 hour requirement may be fulfilled by completing an Associate of Applied Science Degree in Automotive Technology from an approved two-year college.

Course No.	Hours	Course Name	Prerequisite
AUT 100	3 hr.	Automotive Laboratory Practices	Co-requisite: AUT 150
AUT 120	3 hr.	Automotive Electrical Principles	Co-requisite: AUT 170
AUT 150	6 hr.	Internal Combustion Engine Principles	Co-requisite: AUT 100
AUT 170	6 hr.	Automotive Powertrain Electronics	Co-requisite: AUT 120
AUT 180	3 hr.	Manual Drivetrains	
AUT 215	3 hr.	Automotive Braking Systems	
AUT 216	3 hr.	Automotive Suspension and Steering Systems	
AUT 240	6 hr.	Engine Management I	AUT 150 & 170
AUT 250	3 hr.	Engine Management II	AUT 240
AUT 280	3 hr.	Automotive Air Conditioning Systems	AUT 170
TOTAL	39 hr.	Lower level automotive technical courses	

CATEGORY III – Upper Level Automotive Technology Courses:

(Automotive toolkit required in all automotive technical courses)

15 Semester hours of 300 and/or 400 level technical courses to be selected from the following (or approved equivalents):

Course No.	Hours	Course Name	Prerequisite
AUT 330	3 hr.	Vehicle Stability and NVH	Special approval needed from advisor
AUT 340	6 hr.	Drivability and Emission Diagnostics	Special approval needed from advisor
AUT 355	6 hr.	Lighting, Convenience, and Safety Systems	Special approval needed from advisor
AUT 360	6 hr.	Automatic Transmissions and Transaxles	Special approval needed from advisor
AUT 390	3 hr.	Network Systems and Vehicle Electronics	Special approval needed from advisor
AUT 440	3 hr.	Diesel Engine Performance and Emissions	Special approval needed from advisor
AUT 480	3 hr.	Alternative Fueled Vehicles	Special approval needed from advisor
AUT 490	6 hr.	Comprehensive Vehicle Diagnostics	AUT 235, 340, 360, or consent and special approval needed from advisor

CATEGORY IV – Business/Management Courses:

18 Semester hours to be selected from the following (or approved equivalents):

Group 1 – Select one course from the following: (Written Communications Group)

Course No.	Hours	Course Name	Prerequisite
ENGL 291	3 hr.	Intermediate Technical Writing	ENGL 101 and 102
TRM 316	3 hr.	Applications of Technical Information (Same as ISAT 366)	ENGL 101
WED 302	3 hr.	Communications in Business (Same as MGMT 202)	ENGL 101 and 102

Group 2 – Select one course from the following: (Computer Skills Group)

Course No.	Hours	Course Name	Prerequisite
AUT 235	3 hr.	Computing for Automotive Applications	
CS 200(b)	3 hr.	Introduction to Business Computing	

Group 3 – Select one course from the following: (Management Group)

Course No.	Hours	Course Name	Prerequisite
AUT 325	3 hr.	Automotive Fixed Operations Management	ENGL 101, Advisor approval
MGMT 304	3 hr.	Introduction to Management	Junior standing, advisor approval
MGMT 350	3 hr.	Small Business Management	Junior standing, advisor approval
TRM 364	3 hr.	Work Center Management	

Group 4 – Select two courses from the following: (Financial, Data Analysis, Marketing Group)

Course No.	Hours	Course Name	Prerequisite
AUT 345	3 hr.	Automotive Data Management and Analysis	AUT 235 or CS 200b, special approval needed from advisor
AUT 435	3 hr.	Automotive Financial Management and Operations	Special approval needed from advisor
ACCT 210	3 hr.	Accounting Principles and Control	
MGMT 208	3 hr.	Business Data Analysis (Same as ACCT 208)	MATH 139
MKTG 304	3 hr.	Marketing Management	Junior standing, advisor approval
MKTG 350	3 hr.	Small Business Marketing	Junior standing, advisor approval
TRM 383	3 hr.	Data Interpretation (Same as ISAT 365)	Core MATH

Group 5 – Select one course from the following: (Legal, Regulatory, Consumer Behavior Group)

Course No.	Hours	Course Name	Prerequisite
AUT 485	3 hr.	Automotive Warranty Administration and Customer Relations	Special approval needed from advisor
FIN 270	3 hr.	Legal & Social Environment of Business	Sophomore standing
FIN 280	3 hr.	Business Law I	
MKTG 305	3 hr.	Consumer Behavior	Junior standing, advisor approval
PSYC 323	3 hr.	Organizational Psychology	PSYC 102

CATEGORY V – Support Courses
(Discipline related and approved by Department)

12 hours to be selected from the following (or approved equivalents):

- Category III – Upper Level Automotive Technology Courses not previously taken.

Course	Hrs	Course Name	Course	Hrs	Course Name
AUT 330	3 hr	Vehicle Stability and NVH	AUT 390	3 hr	Network Systems Vehicle Electronics
AUT 340	6 hr	Drivability and Emission Diagnostics	AUT 440	3 hr	Diesel Engine Performance Emissions
AUT 355	6 hr	Lighting, Convenience, Safety Systems	AUT 480	3 hr	Alternative Fueled Vehicles
AUT 360	6 hr	Automatic Transmissions Transaxles	AUT 490	6 hr	Comprehensive Vehicle Diagnostics

- Category IV – Group 3, 4, or 5 ONLY – Business/Management Courses not previously taken.

Course	Hrs	Course Name	Course	Hrs	Course Name
AUT 325	3 hr	Auto. Fixed Operations Management	MKTG 304	3 hr	Marketing Management
MGMT 304	3 hr	Introduction to Management	MKTG 350	3 hr	Small Business Marketing
MGMT 350	3 hr	Small Business Management	TRM 383	3 hr	Data Interpretation (ISAT 365)
TRM 364	3 hr	Work Center Management	AUT 485	3 hr	Auto. War. Admin. and Customer Rel.
AUT 345	3 hr	Auto. Data Management and Analysis	FIN 270	3 hr	Legal & Social Environment of Bus.
AUT 435	3 hr	Auto. Financial Management and Oper.	FIN 280	3 hr	Business Law I
ACCT 210	3 hr	Accounting Principles and Control	MKTG 305	3 hr	Consumer Behavior
MGMT 208	3 hr	Business Data Analysis (ACCT 208)	PSYC 323	3 hr	Organizational Psychology

- Automotive Technology variable credit hour courses.

Course	Hours	Course Name	Prerequisite
AUT 320	variable	Automotive Internship	Special approval needed from advisor
AUT 420	variable	Automotive Service Operations Internship	Senior standing, special approval needed from advisor
AUT 430	variable	Automotive Investigations	Special approval needed from advisor, faculty sponsor
AUT 475	variable	Special Projects in Automotive Technology	Special approval needed from advisor, faculty sponsor

- Courses related to the major as approved by the Department.

For example: classes from Accounting, Computer Science, Economics, Finance, Information Systems Technology, Management, Marketing, Psychology, Technical Resource Management, Workforce Education Development, or a foreign language.

Course	Course Name	Prerequisite
ACCT 220	Accounting I	Sophomore standing
ACCT 230	Accounting II	ACCT 220
CS 202	Introduction to Computer Science	MATH 111
Econ 240	Intermediate Microeconomics	
Econ 241	Intermediate Macroeconomics	
Econ 310	Labor Problems	ECON 240 or consent
Econ 315	Money and Banking	ECON 241 or consent
FIN 200	Personal Finance	
MGMT 318	Production - Operations Management	MGMT 208, junior standing, advisor approval
MGMT 341	Organizational Behavior	MGMT 208, MGMT 304, junior standing, adv. approval
MKTG 329	Marketing Channels	MKTG 304 min. C, junior standing, advisor approval
MKTG 336	International Business	MKTG 304 min. C, junior standing, advisor approval
MKTG 401	Retail Management	MKTG 304 min. C, junior standing, advisor approval
TRM 361	Fiscal Aspects of Technical Management	
TRM 362	Legal Aspects of Technical Management	TRM 316 or ISAT 366
TRM 464	Managing for Quality	TRM 364 and 383
WED 460	Occupational Analysis and Curriculum Development	WED Major or consent, advisor approval
WED 462	Instructional Methods and Materials	WED Major or consent, advisor approval
WED 463	Assessment of Learner Performance	WED Major or consent, advisor approval