Auto Restoration Technology Program

Purpose Statement

The department of technology commits itself to developing whole persons through experiential problem solving and the systematic study of technology.

The department achieves this purpose when its students:

- Demonstrate awareness of how technology changes and interacts with society.
- Possess a professional orientation for employment or advanced programs, or develop vocational interests in technology.
- Have acquired technical skills and craftsmanship through systematic study, experiences with technological artifacts, and the solving of technical problems.

Technology Major

McPherson College offers a unique degree program of authentic auto restoration technology emphasizing hands-on skills and historical research. This program results in a unique departmental blend of contemporary technology and traditional craftsmanship. The Bachelor of Science in Technology major has six different options from which to choose:

Historic Automotive Technology Option

The goal of the Historic Automotive Technology option is to develop graduates who are prepared for professional pursuits in the area of automotive history and/or graduate study.

Program objectives (Option I)

This program achieves its purposes when graduates:

- Demonstrate an understanding of the major technological systems of the automobile.
- Demonstrate an understanding of authentic antique automobile restoration materials, methods and techniques.
- Demonstrate proficiency in the use of the materials and tools necessary to complete authentic automobile restoration work.
- Demonstrate the attitudes, knowledge and skills necessary to pursue a successful career in antique automobile restoration.
- Possess knowledge of historical automotive research material sources, methods and techniques necessary to complete historically accurate automotive restorations.
- Demonstrate knowledge of the historical role of the automobile in modern society.
- Demonstrate knowledge of the role of the automobile in the history of transportation, technology and science.

Requirements

Auto Restoration Technology Core Courses

TE 100 Intro to Restoration (2 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Rebuilding (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 162 Technical Woodworking (OR)
TE 262 Machining Technology (3 hours)
TE 202 Research & Documentation (2 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 360 Electrical and Electronic Systems (4 hours)
TE 385 Restoration Assembly Processes (4 hours)

History Core Courses

G-HI130 Introd. Mthds. For Hist. Analysis (3 hours)
HI 205 History of the Automobile (3 hours)
G-HI/TE 333 Technology & Society (3 hours)
HI 410 Colloquium in Historiography (3 hours)
***HI 475** Senior Thesis (2 hours)

History Electives

At least 6 credit hours drawn from the following list:
AR/HI 245 The History of Automotive Design (3 hours)

G-HI 150 American History since 1877 (3 hours)
G-HI 220 Modern Europe (3 hours)
G-HI 236 Topics in Social History (3 hours)
G-HI 237 Topics in Political History (3 hours)
HI 313 Medieval Europe (3 hours)
HI 315 Early Modern Europe (3 hours)

Automotive Restoration Management Option

The goal of the Automotive Restoration Management option is to develop graduates who are prepared for professional pursuits and/or graduate study.

Program Objectives (Option II)

This program achieves its purposes when its graduates:

- Demonstrate an understanding of the major technological systems of the automobile.
- Demonstrate an understanding of authentic antique automobile restoration materials, methods and techniques.
- Demonstrate proficiency in the use of the materials and tools necessary to complete authentic automobile restoration work.
- Demonstrate the attitudes, knowledge and skills necessary to pursue a successful business career in antique automobile restoration.
- Capitalize on Automotive Restoration Technology program connections with automotive business to place students in productive internships.
- Demonstrate knowledge, understanding, and application of the principles, concepts, and tools in each key content area of their major.
- Perform research, analysis, and critical thinking necessary to integrate key content from various business disciplines and other dimensions of society.
- Perform effectively in groups.
- Persuasively communicate business-related ideas in a variety of media and settings.

Requirements

Automotive Restoration Technology Core

HI 205 History of the Automobile (3 hours)
TE 100 Intro to Restoration (2 hours)
TE 162 Technical Woodworking (OR)
TE 262 Machining Technology (3 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Rebuilding (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 202 Research & Documentation (2 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 385 Restoration Assembly Processes (4 hours)
37 hours

Business Management Courses

G-BA 101 Introduction to Business (3 hours)
EC 202 Survey of Economics (3 hours)
AC 205 Financial Accounting (3 hours)
AC 206 Managerial Accounting (3 hours)
BA 224 Principles of Management (3 hours)
BA 325 Financial Management I (3 hours)
BA 235 Small Business Management (3 hours)
BA 315 Business Law (3 hours)
BA 321 Marketing (3 hours)
***BA 339** Human Resources Management (3 hours)
BA 375 Junior Seminar (1 hour)
***BA 475** Business Strategy and Policy (3 hours)
34 hours

71 hours in major

Automotive Communication Option

The goal of the Automotive Communications Major 0ption is to develop graduates who have the skills and technical knowledge to communicate effectively in a variety of media to an audience focused on automotive issues.

Program Objectives (Option III)

This program achieves its purposes when its graduates:

- Demonstrate knowledge of methods and techniques necessary to complete and document historically accurate automotive restorations.
- Demonstrate knowledge of the historical role of the automobile in modern society and of historical automotive research material sources.
- Demonstrate oral and written communication skills necessary to pursue a successful career in automotive communication, publishing or other media.
- Design attractive, effective documents, graphics, and publications targeted at specific audiences.
- Understand the media of communication, including mass media and computer technologies.
- Make ethical choices in their professional lives.

Requirements

Automotive Restoration Technology Core Courses

HI 205 History of the Automobile (3 hours)
TE 100 Intro to Restoration (2 hours)
TE 162 Technical Woodworking (OR)
TE 262 Machining Technology (3 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Rebuilding (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 202 Research & Documentation (2 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 385 Restoration Assembly Processes (4 hours)
37 hours

Communication Core Courses

Students must complete the listed courses from the core communication curriculum and the listed courses from the multimedia communication emphasis.

Communications Core

G-CM 120 Intro to Human Communication (3 hours)
CM 135 Journalism (3 hours)
G-CM 140 Public Speaking (3 hours)
CM 210 Multimedia Storytelling I (3 hours)
G-CM 221 Intercultural Communication (3 hours)
CM 305 Editing (OR)
CM 310 Public Relations (3 hours)
CM 315 Journalism Practica (3 hours)
CM 375 Junior Seminar (1 hour)
CM 388 Career Conn. in Communication (OR)
TE 388 Career Conn. In Technology (3 hours)
CM 475 Seminar in Communication (2 hours)
***EN 313** Expository Writing (OR)
EN 420 Creative Writing (3 hours)
30 hours

67 hours in major

Automotive Restoration Design Technology Option

The Automotive Restoration Design Technology option is for the student who wishes to pursue a career in automotive art. This option will develop majors who possess the technical knowledge and artistic abilities necessary to execute a variety of art skills sensitively and intelligently, analyze and critique art, and relate the creative process to life in personally meaningful ways.

This degree option within the technology and art departments is oriented to meet the needs of students who (1) wish to develop and refine their aesthetic

values (2) plan for careers as automotive artists (3) plan to further their art education in graduate school.

Program Objectives (Option IV)

This program achieves its purposes when its graduates:

- Demonstrate an understanding of the major technological systems of the automobile.
- Demonstrate an understanding of authentic antique automobile restoration materials, methods and techniques.
- Demonstrate proficiency in the use of the materials and tools necessary to complete authentic automobile restoration work.
- Possess knowledge of historical automotive research material sources, methods and techniques necessary to complete and document historically accurate automotive restorations.
- Demonstrate knowledge of the historical role of the automobile in modern society.
- Demonstrate knowledge of the role of the automobile in the history of transportation, technology and science.
- Demonstrate the attitudes, knowledge and skills necessary to pursue a successful career in automotive art using a variety of media.
- Demonstrate performance in a variety of art media.
- Demonstrate analysis and critique in verbal and written form.
- Demonstrate an understanding of design principles and elements.
- Demonstrate awareness of Western and non- Western cultural contributions to art.
- Demonstrate meaningful connections of art to life through the development of keen perceptual abilities.

Requirements

Automotive Restoration Technology Core Courses

HI 205 History of the Automobile (3 hours)
TE 100 Intro to Restoration (2 hours)
TE 110 Technical Drawing/CAD (3 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Rebuilding (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 162 Technical Woodworking (OR)
TE 262 Machining Technology (3 hours)
TE 202 Research & Documentation (2 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 385 Restoration Assembly Processes (4 hours)
37 hour

Art Core Courses

G-AR 101 Drawing I (2 hours)
G-AR 102 Painting I (2 hours)
AR 103 Elementary Design (3 hours)
AR 202 Painting II (2 hours)
AR 203 Photography I (2 hours)
AR 230 Graphic Design I (3 hours)
AR/HI 245 The History of Automotive Design (3 hours)
G-AR 311 Art History II (4 hours)
AR 348 Intermedia (3 hours)
AR 475A Senior Concentration (4 hours)
38 hours

69 hours in major

Automotive Restoration Design Major Internship/Field experience (recommended):

TE 295/495 Field Experience (work experience in automotive Art/Design) (OR) (1 – 4 hours)
TE 388 Career Connections (Internship in automotive Art/Design) (1 – 12 hours)
1-12 hours total

Automotive Restoration Technology Option

The Automotive Restoration Technology option is for the student who intends to pursue the authentic restoration of vintage and classic vehicles and develop values of craftsmanship, with attention to detail and an emphasis on authenticity. Graduates will be able to reference a wide variety of processes, methods and will have research capabilities. Graduates will be able to understand the automobile as a technological system and understand its

development and role in the world.

Program Objectives (Option V)

This program achieves its purposes when its graduates:

- Demonstrate an understanding of the major technological systems of the automobile.
- Demonstrate an understanding of authentic antique automobile restoration materials, methods and techniques.
- Possess knowledge of historical automotive research material sources, methods and techniques necessary to complete and document historically accurate automotive restorations.
- Demonstrate proficiency in the use of the materials and tools necessary to complete authentic automobile restoration work.
- Demonstrate the attitudes, knowledge and skills necessary to pursue a successful business career in antique automobile restoration.
- Demonstrate knowledge of the historical role of the automobile in modern society.
- Demonstrate knowledge of related and supporting scientific fields.

Requirements

Automotive Restoration Technology Core Courses

HI 205 History of the Automobile (3 hours)
TE 100 Intro to Restoration (2 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Restoration (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 162 Technical Woodworking (3 hours)
TE 202 Research & Documentation (2 hours)
TE 262 Machining Technology (3 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 301 Materials and Processes (3 hours)
TE 360 Electrical & Electronic Systems (4 hours)
TE 375 Junior Seminar (1 hour)
TE 385 Restoration Assembly Processes (4 hours)
TE 475 Senior Project (4 hours)

6 credit hours from the following upper-level courses:

TE 341 Advanced Engine Rebuilding (3 hours)
TE 452 Advanced Sheet Metal Restoration (3 hours)
TE 480 Advanced Automotive Paint Restoration (3 hours)
TE 481 Applied Trim and Upholstery (3 hours)

3 credit hours from the following courses:

TE 252 Vintage Panel Restoration (3 hours)
TE 242 Re-Babbitting (spring – on demand) (3 hours)
TE 353 Finishing Touches (3 hours)
TE 380 Applied Diagnostics (3 hours)
TE 388 Internship (3 hours)

60 hours in major

Recommended Supporting Courses:

AR/HI 245 The History of Automotive Design (3 hours)
G-BA 101 Intro to Business (3 hours)
G-CH 101 Principles of General Chemistry (4 hours)
G-PH 215 General Physics (4 hours)
TE 110 Engineering Drawing/CAD (3 hours)

Motorcycle Restoration Technology Option

Motorcycle Restoration Technology is the option for the student who intends to pursue the authentic restoration of vintage and classic motorcycles and to help develop values of craftsmanship, with attention to detail and an emphasis on authenticity. Graduates will not only possess a wide range of knowledge of the processes necessary to complete the restoration but have the research skills to ensure an accurate and authentic restoration. Graduates will

understand the technical systems of the motorcycle as well as its role in society and the world of transportation.

Program Objectives (Option VI)

This program achieves its purposes when its graduates:

- Demonstrate an understanding of the major technical systems of the motorcycle.
- Demonstrate an understanding of authentic antique and vintage motorcycle restoration materials, methods and techniques.
- Possess knowledge of historical motorcycle research material sources, methods and techniques necessary to complete and document historically accurate motorcycle restorations.
- Demonstrate proficiency in the use of the materials and tools necessary to complete authentic motorcycle restoration work.
- Demonstrate the attitudes, knowledge and skills necessary to pursue a successful business career in antique and vintage motorcycle restoration.
- Demonstrate knowledge of the historical role of the motorcycle in modern society.

Requirements

TE 206 Motorcycle History and American Society (3 hours)
TE 100 Intro to Restoration (2 hours)
TE 141 Engine Rebuilding (4 hours)
TE 145 Drive Train Restoration (4 hours)
TE 152 Sheet Metal Restoration (4 hours)
TE 262 Machining Technology (3 hours)
TE 271 Chassis Restoration (3 hours)
TE 275 Automotive Paint Restoration (4 hours)
TE 281 Automotive Trim (4 hours)
TE 360 Electrical & Electronic Systems (4 hours)
TE 385 Restoration Assembly Processes (4 hours)
TE 341 Motorcycle Engines (3 hours)
TE 371 Motorcycle Chassis & Drive Train (3 hours)
TE 384 Motorcycle Assembly Processes (3 hours)
TE 375 Junior Seminar (Restoration) (1 hours)
TE 475 Senior Project (4 hour)

Choice of one advanced course: 3 hours

TE 452 Advanced Sheet Metal Restoration – with Motorcycle Option
TE 480 Advanced Paint – with Motorcycle Option
TE 481 Applied Trim & Upholstery – with Motorcycle Option

Choice of one of the following courses: 3 hours

TE 353 Finishing Touches (3)
TE 301 Materials and Processes (3)
TE 380 Applied Diagnostics (3)
TE 388 Internship

61 hours in major