

# Automotive Restoration Technology Program

## Program Purpose Statement & Goals

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

The department achieves this purpose when its students:

- Demonstrate awareness of how automotive and industrial technology changes and interacts with society.
- Are prepared for a professional orientation for employment or advanced programs within the automotive field.
- Acquire technical skills and craftsmanship through systematic study, experiences with technological artifacts, and the solving of technical problems.

## Program Core Outcomes

Within the core classes of the Automotive Restoration Program, the department 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 historically authentic automobile restoration work.

## Technology Major

McPherson College offers a unique degree program of authentic automotive 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 Automotive Restoration Technology major has five different emphases from which to choose.

## Automotive Restoration Technology: History Emphasis

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

### Emphasis Outcomes

This program achieves its purposes when graduates:

- Demonstrate 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 society.
- Demonstrate knowledge of the role of the automobile in the history of transportation, technology and science.

## Requirements

### *Automotive Restoration Technology Core Courses*

- TE 100** Intro to Restoration (2 hours)
  - TE 141** Engine Rebuilding (4 hours)
  - TE 145** Drivetrain Restoration (3 hours)
  - TE 152** Sheet Metal Restoration (4 hours)
  - TE 162** Fundamentals of Woodworking (4 hours) (OR)
  - TE 262** Machining Technology (3 hours)
  - TE 200** AR Career Exploration (2 hours)
  - TE 202** Research & Documentation (2 hours)
  - TE 271** Chassis Restoration (4 hours)
  - TE 275** Automotive Paint Restoration (4 hours)
  - TE 281** Automotive Trim (4 hours)
  - TE 385** Restoration Assembly Processes (4 hours)
- 36 hours of core courses (or 37)

### *History Core Courses*

- G-HI 130** Introductory Methods for Historical Analysis (3 hours)
- G-HI 205** Social 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 (3 hours)

15 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 301** Advanced Topics in History (3 hours)

6 hours minimum

57 hours in major (or 58)

## **Automotive Restoration Technology: Management Emphasis**

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

### **Emphasis Outcomes**

This emphasis achieves its purposes when its graduates:

- Demonstrate knowledge, understanding, and application of the principles, concepts, and tools taught within the Management emphasis.
- Perform research, analysis, and critical thinking necessary to integrate key content from various business disciplines.
- Perform effectively in groups.
- Persuasively communicate business-related ideas of a variety of media and settings.

### **Requirements**

#### *Automotive Restoration Technology Core Courses*

**G-HI 205** Social History of the Automobile (3 hours)

**TE 100** Intro to Restoration (2 hours)

**TE 162** Fundamentals of Woodworking (4 hours) (OR)

**TE 262** Machining Technology (3 hours)

**TE 141** Engine Rebuilding (4 hours)

**TE 145** Drivetrain Restoration (3 hours)

**TE 152** Sheet Metal Restoration (4 hours)

**TE 200** AR Career Exploration (2 hours)

**TE 202** Research & Documentation (2 hours)

**TE 271** Chassis Restoration (4 hours)

**TE 275** Automotive Paint Restoration (4 hours)

**TE 281** Automotive Trim (4 hours)

**TE 385** Restoration Assembly Processes (4 hours)

39 hours (or 40 hours)

#### *Business Management Courses*

**G-BA 130** Principles of Business Management (3 hours)

**EC 202** Survey of Economics (3 hours)

**AC 202** Survey of Accounting (3 hours)

**BA 221** Marketing (3 hours)

**BA 235** Small Business Management (3 hours)

**BA 315** Business Law (3 hours)

**BA 325** Financial Management I (3 hours)

**BA 339** Human Resources Management (3 hours)

**\*BA 475** Business Strategy and Policy (3 hours)

27 hours

66 hours in major (or 67 hours)

## Automotive Restoration Technology: Communication Emphasis

The goal of the Automotive Restoration Technology: Communication emphasis 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.

### Emphasis Outcomes

This emphasis 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 society and historical automotive research material sources.
- Demonstrate visual, oral and written communication skills necessary to pursue a career in automotive communication, publishing or other media.
- Understand the media of communication, including mass media and computer technologies.

### Requirements

#### *Automotive Restoration Technology Core Courses*

**G-HI 205** Social History of the Automobile (3 hours)  
**TE 100** Intro to Restoration (2 hours)  
**TE 162** Fundamentals of Woodworking (4 hours) (OR)  
**TE 262** Machining Technology (3 hours)  
**TE 141** Engine Rebuilding (4 hours)  
**TE 145** Drivetrain Restoration (3 hours)  
**TE 152** Sheet Metal Restoration (4 hours)  
**TE 200** AR Career Exploration (2 hours)  
**TE 202** Research & Documentation (2 hours)  
**TE 271** Chassis Restoration (4 hours)  
**TE 275** Automotive Paint Restoration (4 hours)  
**TE 281** Automotive Trim (4 hours)  
**TE 385** Restoration Assembly Processes (4 hours)  
39 hours (or 40 hours)

#### *Communication Core*

**G-CM 120** Intro to Human Communication (3 hours)  
**CM 135** Media Writing (3 hours)  
**G-CM 140** Public Speaking (3 hours)  
**CM 210** Podcasting: Audio/Visual Production (3 hours)  
**\*G-CM 221** Intercultural Communication (3 hours)  
**CM 305** Editing, OR  
**CM 310** Public Relations and Social Media Campaigns (3 hours)  
**CM 315** Communication Practica (3 hours)  
**CM 375** Junior Seminar in Communication (1 hour)  
**CM 388** Career Conn. in Communication (OR)  
**TE 388** Career Conn. In Technology (3 hours)  
**\*CM 475A** Seminar in Communication Research (2 hours)  
**\*CM 475B** Senior Project in Communication (1 hour)  
**\*EN 313** Expository Writing (OR)  
**EN 420** Creative Writing (3 hours)  
31 hours

*70 hours in major (or 71)*

## Automotive Restoration Technology: Art and Design Emphasis

The Automotive Restoration Technology: Art and Design emphasis 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.

### Emphasis Outcomes

This emphasis achieves its purposes when its graduates:

- Demonstrate knowledge of history in automotive design.
- Demonstrate the knowledge and skills to produce automotive art.
- Demonstrate an understanding of design principles and elements.
- Demonstrate a completed body of work in a senior exhibition.

## Requirements

### *Automotive Restoration Technology Core Courses*

**G-HI 205** Social 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** Drivetrain Restoration (3 hours)  
**TE 152** Sheet Metal Restoration (4 hours)  
**TE 162** Fundamentals of Woodworking (4 hours) (OR)  
**TE 262** Machining Technology (3 hours)  
**TE 200** AR Career Exploration (2 hours)  
**TE 202** Research & Documentation (2 hours)  
**TE 271** Chassis Restoration (4 hours)  
**TE 275** Automotive Paint Restoration (4 hours)  
**TE 281** Automotive Trim (4 hours)  
**TE 385** Restoration Assembly Processes (4 hours)  
 42 hours (or 43 hours)

### *Art Core Courses*

**G-AR 101** Drawing I (2 hours)  
**G-AR 102** Painting I (3 hours)  
**AR 103** Elementary Design (3 hours)  
**AR 202** Painting II (2 hours)  
**AR 203** Photography I (2 hours)  
**G-AR 220** Graphic Design for Non-Art Majors (3 hours)  
**AR/HI 245** The History of Automotive Design (3 hours)  
**G-AR 311** Art History II (4 hours)  
**AR 312** Contemporary Themes in Art (3 hours)  
**AR 335** Design Software II (3 hours)  
**AR 475A/B** Senior Show: Studio Arts (3 hours-2 hours in fall, 1 hour in spring)  
 31 hours

*73 hours in major (or 74)*

### *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 - 10 hours)  
 1-12 hours total

## Automotive Restoration Technology Emphasis

The Automotive Restoration Technology emphasis 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 society.

## Emphasis Outcomes

This emphasis achieves its purposes when its graduates:

- 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 business career in antique automobile restoration.
- Demonstrate knowledge of the historical role of the automobile in society.
- Demonstrate knowledge of related and supporting scientific fields.

## Requirements

### *Automotive Restoration Technology Core Courses*

- G-HI 205** Social History of the Automobile (3 hours)
  - TE 100** Intro to Restoration (2 hours)
  - TE 141** Engine Rebuilding (4 hours)
  - TE 145** Drive Train Restoration (3 hours)
  - TE 152** Sheet Metal Restoration (4 hours)
  - TE 162** Fundamentals of Woodworking (4 hours)
  - TE 200** AR Career Exploration (2 hours)
  - TE 202** Research & Documentation (2 hours)
  - TE 262** Machining Technology (3 hours)
  - TE 271** Chassis Restoration (4 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 385** Restoration Assembly Processes (4 hours)
  - TE 475** Technology Senior Project (4 hours)
- 54 hours

### *6 credit hours from the following upper-level courses:*

- TE 341** Advanced Engine Rebuilding (3 hours)
- TE 406** Woodworking in Automotive Coachwork (3 hours)
- TE 414** Advanced Topics in Electrical and Electronic Systems (3 hours)
- TE 452** Advanced Sheet Metal Restoration (3 hours)
- TE 462** Advanced Manual Machining (3 hours)
- TE 480** Advanced Automotive Paint Restoration (3 hours)
- TE 481** Advanced Automotive Trim (3 hours)

### *3 credit hours from the following courses:*

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

*63 hours in major*

## Recommended Supporting Courses:

- AR/HI 245** The History of Automotive Design (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)

## Special Course Options:

- 295/495** Field Experience (1-4 hours)
- 297** Study Abroad (12-16 hours)
- 299/499** Independent Study (1-4 hours)
- 388** Career Connections (3-10 hours)
- 445** Readings and Research (1-4 hours)