School of Industrial Design

Featured Program: Automotive Restoration
Vintage vehicle restoration is unique in that it requires parts to be repaired or reproduced because many cannot be purchased or refurbished from a factory. For this reason, our new Automotive Restoration program will train for hands-on skills and machining technology, while also covering the critical component of history and research processes for repairing parts or creating historically accurate components for authenticity. Car collectors place a high value on historical preservation because original parts have more historical significance and also increase the value of a car. Our students will receive training on how to evaluate a component and determine if it must be fabricated or if it can be repaired.

The School of Industrial Design has the facilities and a long tradition of excellence in production, analysis, and research, which will be leveraged to support this new program. In addition to these existing facilities, Automotive Restoration students will have a unique opportunity to closely examine and work on many aesthetically remarkable examples housed at Academy of Art University’s Automobile Museum where a significant number of cars have already been fully restored to the highest standard.

“Creative students are better problem-solvers. That is the trait that the world of culture and commerce begs for.”

We hope you’ll join us on this new journey,

Dr. Elisa Stephens
President, Academy of Art University
“The School of Industrial Design has the facilities and a long tradition of excellence in production, analysis, and research.”

Dr. Elisa Stephens, President

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School of Industrial Design

AUTOMOTIVE RESTORATION

The vintage Automotive Restoration program prepares students for a career in a preservation field by focusing on techniques in woodwork and machine work, sheet metal work, upholstery work, systems knowledge, and process of disassembly and assembly, coupled with historical studies and research skills needed to restore vintage vehicles. Automotive Design students at Academy of Art University benefit from the extremely specialized program, as emphasis is placed on learning from classic cars that have been fully restored to the highest standard at the Academy’s Automobile Museum.

Students of the Automotive Restoration program will be able to identify all major automotive components and systems, as well as their functions. They will conduct focused research to acquire relevant information for the restoration of vintage automobiles, and they will produce detailed documentation on conditions of the vehicle and components and their restoration procedures through training on disassembly.

Students will gain hands-on skills in making accurate technical drawings; duplicating automotive woodwork; repairing, replicating, and sculpting auto body panels to factory specifications; painting auto body panels using industry standard equipment; and reassembling restored components back to a superb and visually correct functioning automobile, ready for shows.

Students will exit the program and enter the industry prepared and ready to work with all of these skills, and most importantly, students will have unique collaborative experience in working within a team that performed restoration of a vintage automobile.
Tom Matano, Executive Director of the School of Industrial Design at Academy of Art University, is an honorary judge at the 2015 Hillsborough Concourse. Mr. Matano is an industry veteran who held design positions at Mazda, General Motors, and BMW for nearly three decades prior to joining the Academy. Mr. Matano has almost 30 years of experience in the automotive industry, holding design positions at General Motors in Detroit, Michigan, GM Holden’s Ltd. in Melbourne, Australia, and BMW in Munich, Germany. In 1983, he joined Mazda’s North American studio as a Chief Designer. From there, he went on to become Executive Vice President of Western Operations for Mazda R&D North America, Inc., and Executive Designer & Director of Mazda North American Operations.

From 1999 to 2002, Matano returned to Mazda at its headquarters in Japan as an Executive Designer in the Global Advance Studio, overseeing efforts for Japan, Europe, and North America; and eventually he was named General Manager of Mazda Design in charge of all Chief Designers. His accomplishments at Mazda include the 1993 RX-7 and Miata, in addition to many other projects produced by the design teams he built and managed. Since 2002, Matano has been committed to becoming an educator, using his diverse knowledge and experience to enhance the Industrial Design program at Academy of Art University in San Francisco, CA, now ranked No. 4 in the Red Dot World Ranking of Industrial Design schools.

Lloyd Buck is an award-winning classic car restoration expert with more than 40 years of industry experience. He launched his auto restoration career while in high school as a painter at an auto body shop that specialized in the repair and restoration of Datsun Z cars. In 1985, he joined Auto Europa, and a year later, he began maintaining and restoring vehicles for the Keller Collection at the Pyramids, one of the most significant auto collections in the world. After operating his own restoration business, he became the Keller Collection’s manager until 2012, when he joined Academy of Art University as a mechanic for its celebrated Automobile Museum collection.
### Automotive Restoration

**AA Degree Unit Requirements**
- **Core**: 24 units
- **Major**: 18 units
- **Liberal Arts**: 18 units
- **Total**: 60 units

#### CORE | 24 UNITS
- AUT 120          Vintage Vehicle Woodworking Restoration
- AUT 140          Machining Technology & Visual Documentation
- AUT 159          Vintage Vehicle Disassembly Processes
- AUT 160          Vintage Vehicle Electrical Systems
- AUT 170          Automotive Sheet Metal Restoration
- AUT 177          Vintage Vehicle Body Restoration
- AUT 207          Vintage Vehicle Paint Restoration
- AUT 280         Vintage Vehicle Restoration Assembly

#### MAJOR BY ADVISEMENT | 18 UNITS
- AUT 230         Vintage Vehicle Upholstery Restoration
- AUT 250         Vintage Vehicle Component Restoration
- AUT 290         Vintage Vehicle Detailing
- IND 123          Computer Drafting
+2 Major courses

#### LIBERAL ARTS | 18 UNITS

1. **Written Communications: Composition Course**
   - SELECT ONE:
     - LA 107 Writing for the Multilingual Artist
     - LA 108 Composition for the Artist

2. **Written Communications: Critical Thinking Course**
   - SELECT ONE:
     - LA 202 English Composition: Creative Persuasion & Argument
     - LA 280 Perspective Journalism

3. **Automotive Design History Course**
   - LA 129 History of Automotive Design

4. **Quantitative Mechanics Course**
   - LA 146 Anatomy of Automobiles

5. **Employment Communications & Practices Course**
   - LA 291 Designing Careers

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### Semester Breakdown

**First Year - 30.0 Units**
- IND 123 Computer Drafting
- AUT 120 Vintage Vehicle Woodworking Restoration
- AUT 170 Automotive Sheet Metal Restoration
- LA 146 Anatomy of Automobiles
- LA 129 History of Automotive Design

**Requirement:** Automotive Design History

- AUT 140 Machining Technology & Visual Documentation
- AUT 159 Vintage Vehicle Disassembly Processes
- AUT 177 Vintage Vehicle Body Restoration

**Recommended Summer Courses**
- LA 108 Composition for the Artist

**Requirement:** Written Communications: Composition

- LA 239 Materials and Processes

**Second Year - 30.0 Units**
- AUT 160 Vintage Vehicle Electrical Systems
- AUT 207 Vintage Vehicle Paint Restoration
- AUT 230 Vintage Vehicle Upholstery Restoration
- LA 291 Designing Careers

**Requirement:** Employment Communications & Practices

- AUT 250 Vintage Vehicle Component Restoration
- AUT 290 Vintage Vehicle Detailing
- AUT 280 Vintage Vehicle Restoration Assembly

**FINAL REVIEW**

- AUT --- Major by Advisement

**Recommended Summer Courses**
- LA 202 English Composition: Creative Persuasion & Argument
  - or LA 280 Perspective Journalism

**Requirement:** Written Communications: Critical Thinking

- AUT --- Major by Advisement

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*Requirements subject to change*
AA Automotive Restoration Course Descriptions

**AUT 120 Vintage Vehicle Woodworking Restoration**
In this course, students learn concepts and practices of basic woodworking and safety. Topics include planning, fabrication, laser cutting, and finishing. Assignments include making basic wooden frames with various joint types, and replication of vintage vehicle interior wooden parts.

Prerequisites: IND 123 (IND 123 may be concurrent) & on campus English as a second language students must pass EAP level 4.

**AUT 140 Machining Technology & Visual Documentation**
This course introduces students to precision measurement, visual documentation, and the operation of machine tools such as metal lathes and milling machines. Students use these skills to reproduce a component for a car. Topics include characteristics and uses of common industrial metals used in the machining process, and machine tool maintenance.

Prerequisites: IND 123 & on campus English as a second language students must pass EAP level 4. (IND 123 may be concurrent).

**AUT 159 Vintage Vehicle Disassembly Processes**
This course introduces the students to practical historical research, disassembly, visual inspection, written and photographic documentation, and planning related to restoring vintage automobiles. Students research relevant information required to outline a restoration plan and document vehicle conditions, supported by the photographic record, as the vehicle gets disassembled.

Prerequisites: AUT 170 (AUT 170 may be concurrent)

**AUT 160 Vintage Vehicle Electrical Systems**
This course covers the basic characteristics and operations of electrical systems used in classic automobiles. Topics will include Ohm’s law, electrical circuits, battery power, electrical circuit components restoration and preservation. Students diagnose electrical systems, outline the appropriate repair procedure, repair and replace electrical components.

Prerequisites: AUT 177

**AUT 160 Vintage Vehicle Paint Restoration**
This course focuses on the basic practices of vintage vehicle paint restoration. Topics include panel preparation, paint systems, operation and maintenance of the equipment, paint application, documentation, and evaluation of auto body painted surface faults. Outlining procedures for correcting painted surface faults is covered. Achieving a perfect paint job is emphasized.

Prerequisites: AUT 177

**AUT 170 Automotive Sheet Metal Restoration**
This course introduces students to the basic concepts, techniques, and practices used to cut, bend, form, and weld auto body panels. Students form sheet metal, create new sheet metal components, and assemble components using rivets and thread fasteners.

Prerequisites: LA 146

**AUT 177 Vintage Vehicle Body Restoration**
This course covers basic practices of metal body repairs and panel finishing. Students learn how to evaluate conditions of body components and outline appropriate repair procedures. Students strip existing finishes and repair body components.

Prerequisites: AUT 170 (AUT 170 may be concurrent)

**AUT 207 Vintage Vehicle Bright Work Restoration**
This course introduces students to the practices of restoring and polishing hard trim moldings and components. Students evaluate conditions, plan appropriate procedures, and perform restorations for hard trim moldings and components. Generating specifications for outsourcing will be covered.

Prerequisites: LA 146

**AUT 230 Vintage Vehicle Upholstery Restoration**
This course introduces students to vintage automotive interior repair and upholstery restoration. Students learn to disassemble and assemble seats, interior components, and instrument panels. Topics include operation and maintenance of sewing machines, stitching patterns, pattern making, beading, padding, material specifications, and sewing.

Prerequisites: AUT 159
**AUT 250 Vintage Vehicle Component Restoration**

This course focuses on disassembly, repairing, rebuilding, refinishing and assembly of vintage automotive components. Students diagram and create technical drawings, diagnose conditions of components, disassemble, rebuild or repair, and reassemble automotive components. Preparation for outsourcing the restoration of components is also covered.

*Prerequisites: AUT 159, AUT 160, AUT 177, & AUT 207*

**AUT 280 Vintage Vehicle Restoration Assembly**

This course focuses on assembling and testing components. Students propose a component to restore on an assigned car, analyze the work needed, perform the necessary historical research, and diagram the work to be done and the process to follow. Emphasis is placed on the quality of the restoration and assembly.

*Prerequisites: AUT 140, AUT 159, AUT 160, & AUT 207*

**AUT 290 Vintage Vehicle Detailing**

This course focuses on detailing of automobiles as one of the final stages of the automotive restoration process. Topics include detailing products and equipment, techniques and procedures for final conditioning of interior and exterior components and surfaces, for presentation and car shows. Emphasis is placed on achieving visually correct and perfect finishes.

*Prerequisites: LA 129 & AUT 207*

**AUT 299 Apprenticeship**

Apprenticeship is only open to qualified second-year students, offering an opportunity to work in a field related to Automotive Restoration.

*Prerequisites: Obtain Department Director’s Approval.*

**IND 123 Computer Drafting**

In this course, students learn drafting and mechanical drawing techniques for representing three-dimensional items. The curriculum is oriented toward product and mechanical drawing, while providing drafting principles and dimensioning conventions.

*Prerequisites: On campus English as a second language students must pass EAP level 1.*

**LA 108 Composition for the Artist**

This introductory writing course gives students the foundational writing skills needed to succeed in their coursework and the professional world. Essay assignments are designed to help students express their own artistic identity, process, and vision through proficient, professional writing. Emphasis is placed on grammar, style, revision and research basics.

*Prerequisites: Native English Speaker or one of the following - score of 80 or higher on TOEFL, 7.0 or higher on IELTS, 332 or higher on AAU language placement exam*

**LA 129 History of Automotive Design**

This course introduces students to the evolution of automotive and coachwork design in historical and cultural context. Students study the connections between technological advancement and changes in safety requirements, and their influences in automotive design. Emphasis is placed on the eras associated with the advancement of assembly line and the glory years of the 1930’s and 40’s.

*Prerequisites: On campus English as a second language students must pass EAP level 4.*

**LA 146 Anatomy of Automobiles**

This course introduces students to the evolution of automotive and coachwork design in historical and cultural context. Students study the connections between technological advancement and changes in safety requirements, and their influences in automotive design. Emphasis is placed on the eras associated with the advancement of assembly line and the glory years of the 1930’s and 40’s.

*Prerequisites: On campus English as a second language students must pass EAP level 4.*

**LA 202 English Composition: Creative Persuasion & Argument**

This course offers an examination of the art of persuasion in creative non-fiction and contemporary arguments. Students learn to support their points of view through research and argumentation and to express their opinions in written, thesis-based expository essays.

*Prerequisites: LA 107 or LA 108 (Students with start terms of Spring 2013 and beyond must achieve a C- or higher in LA 107 or LA 108)*
LA 239 Materials & Processes
This course covers the various product manufacturing processes and parameters involved in designing parts primarily out of plastics and metals. The major types of plastics and metal categories and their respective characteristics, actual design problems addressing proper detailing for the process, and product parts examination are all discussed.

Prerequisites: On campus English as a second language students must pass EAP level 4.

LA 280 Perspective Journalism
In this course, students learn the elements of writing and reporting for print and online media. Students will develop reporting skills, including information gathering and interviewing. Legal, moral and ethical rights and responsibilities on reporting will be covered.

Prerequisites: LA 107 or LA 108 (Students with start terms of Spring 2013 and beyond must achieve a C- or higher in LA 107 or LA 108)

LA 291 Designing Careers
This course focuses on communication skills for collaboration, self-promotion, and professional interactions. Topics will include industry research, entrepreneurial and employee-based career opportunities, and legal issues associated with the workplace. Students will write a persuasive project proposal and also collaborate across disciplines in group projects. Audience and purpose will be emphasized.

Prerequisites: LA 107 or LA 108 (Students with start terms of Spring 2013 and beyond must achieve a C- or higher in LA 107 or LA 108)
Visit academyart.edu to learn more about total costs, median student loan debt, potential occupations and other information.

Academy of Art University admits students of any race, color, age, religion, and national or ethnic origin to all rights, privileges, programs, and activities generally accorded or made available to students at the school. The Academy does not discriminate on the basis of race, color, age, sex, religion, physical handicap, sexual orientation, or national or ethnic origin in administration of its educational policies, scholarship and loan programs, and other school-administered programs.
Visit www.academyart.edu to learn more about total costs, median student loan debt, potential occupations and other information. Accredited Member WSCUC, NASAD, CIDA (BFA-IAD, MFA-IAD), NAAB (B.ARCH, M.ARCH), CTC (California Teacher Credential).
*Acting degree program is currently not offering online courses.

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