



Faculty of Body Works



Curriculum with Course Syllabus

Department: CAR OFFICE & INTERIOR DESIGN

Semester 1-4 | Core Courses + ATA 2040 Electives + SIWES + Capstone with Course Codes (COI 101-COI 405)

COI 101 – Workshop Safety & Interior Tools

Credit Hours	2 (1T/1P)
Course Description	Safety protocols, PPE, and safe use of sewing machines, cutters, staplers.
Syllabus / Topics	• Workshop safety • PPE • Upholstery tool care • Workshop layout
Practical Activities / Lab Work	• PPE drills • Sewing machine setup • Cutting exercises
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Demonstrate safe handling of upholstery tools.
Accreditation Mapping	NBTE NID Safety
AI/Future Module ↙	VR Interior Safety Simulation

COI 102 – Basics of Automotive Interiors

Credit Hours	3 (2T/1P)
Course Description	Intro to dashboards, seats, trims, and functional zones.
Syllabus / Topics	• Dashboard layout • Seat design • Trim panels
Practical Activities / Lab Work	• Interior disassembly/reassembly
Assessment Methods	CA 20% Practical 40% Exam 40%



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Learning Outcomes	Identify interior components and layouts.
Accreditation Mapping	NBTE NID ASE
AI/Future Module ↘	3D Interior Simulation Models

COI 103 – Ergonomics & Human Factors

Credit Hours	2 (1T/1P)
Course Description	Study of human dimensions, comfort, and ergonomics.
Syllabus / Topics	• Anthropometrics • Comfort zones • Ergonomic dashboard design
Practical Activities / Lab Work	• Ergonomic seat evaluation
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Evaluate comfort and ergonomics in interiors.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	AI Comfort Analysis Tool

COI 104 – Upholstery Materials & Eco-Materials

Credit Hours	3 (1T/2P)
Course Description	Fabrics, leather, foam, and eco-friendly alternatives.
Syllabus / Topics	• Material types • Testing methods • Eco-materials
Practical Activities / Lab Work	• Material testing • Sample stitching • Eco trials
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Identify and apply interior materials.
Accreditation Mapping	NBTE NID ASE
AI/Future Module ↘	AI Material Selector

COI E1 – Intro to Digital Interior Design (ATA 2040 Elective)

Credit Hours	2 (0T/2P)
Course Description	Basics of CAD tools for interiors.
Syllabus / Topics	• CAD intro • 2D/3D layout • Visualization
Practical Activities / Lab Work	• Create sample CAD interior mockups
Assessment Methods	CA 20% Project 80%
Learning Outcomes	Use CAD tools for basic interior design.
Accreditation Mapping	NBTE Elective IMI-UK
AI/Future Module ↘	CAD/VR Visualization

COI 201 – Upholstery Techniques I

Credit Hours	3 (1T/2P)
Course Description	Sewing, padding, and fitting techniques.



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Syllabus / Topics	• Stitching methods • Foam cutting • Seat fitting
Practical Activities / Lab Work	• Create seat cover • Fit dashboard trim
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Perform upholstery repairs and fittings.
Accreditation Mapping	NBTE NID ASE
AI/Future Module ↘	AI Sewing Pattern Generator

COI 202 – Automotive Aesthetics & Styling

Credit Hours	2 (1T/1P)
Course Description	Color theory, textures, lighting, and styling.
Syllabus / Topics	• Color psychology • Dashboard styling • Ambient lighting
Practical Activities / Lab Work	• Style dashboard trim • Apply ambient lighting
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Apply styling principles to interiors.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	AI Aesthetic Render Tool





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COI 203 – Smart Interiors & Embedded Electronics

Credit Hours	3 (1T/2P)
Course Description	Integration of infotainment, ambient lighting, IoT sensors.
Syllabus / Topics	• Infotainment • IoT integration • Smart seating
Practical Activities / Lab Work	• Install infotainment • IoT seat sensors
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Install smart systems in interiors.
Accreditation Mapping	NBTE NID ASE
AI/Future Module ↘	AR Interior Smart Hub

COI 204 – Advanced Materials

Credit Hours	2 (1T/1P)
Course Description	Memory foams, smart fabrics, composites.
Syllabus / Topics	• Smart foams • New fabrics • Composites
Practical Activities / Lab Work	• Upholstery with smart fabrics
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Use advanced materials in interiors.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	Smart Material Analyzer

COI E2 – VR Interior Mockups (ATA 2040 Elective)

Credit Hours	2 (0T/2P)
Course Description	Build VR-based car interior mockups.
Syllabus / Topics	• VR software intro • 3D modeling basics
Practical Activities / Lab Work	• Create VR car interior mockup
Assessment Methods	Project 100%
Learning Outcomes	Design car interiors in VR.
Accreditation Mapping	NBTE Elective IMI-UK
AI/Future Module ↘	VR Interior Builder

COI 301 – SIWES Internship

Credit Hours	6 (0T/6P)
Course Description	Six-month supervised attachment at upholstery workshops, design studios, or OEMs.
Syllabus / Topics	• Weekly logbook • Supervisor reviews
Practical Activities / Lab Work	• On-the-job training
Assessment Methods	Supervisor Report 50% Logbook 30% Oral 20%
Learning Outcomes	Apply skills in real industry settings.
Accreditation Mapping	NBTE SIWES ASE Work-Based



COI 401 – Capstone Project

Credit Hours	6 (0T/6P)
Course Description	Independent project on smart dashboards, eco-upholstery, or AR interiors.
Syllabus / Topics	• Proposal • Fabrication • Defense
Practical Activities / Lab Work	• Develop prototype • Present project
Assessment Methods	Project 50% Report 30% Defense 20%
Learning Outcomes	Execute and defend innovation project.
Accreditation Mapping	NBTE NID ASE
AI/Future Module ↘	AR Dashboard Creator

COI 402 – Luxury Automotive Interiors

Credit Hours	3 (1T/2P)
Course Description	Premium leather, stitching, luxury finishes.
Syllabus / Topics	• Luxury materials • Premium stitching • Luxury trim
Practical Activities / Lab Work	• Create premium upholstery
Assessment Methods	CA 20% Practical 40% Exam 40%
Learning Outcomes	Produce luxury automotive interiors.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	AI Luxury Configurator

COI 403 – Sustainable Interior Design

Credit Hours	2 (1T/1P)
Course Description	Green design using recycled and eco-materials.
Syllabus / Topics	• Eco fabrics • Green composites • Recycled materials
Practical Activities / Lab Work	• Upholstery with sustainable materials
Assessment Methods	CA 20% Project 40% Exam 40%
Learning Outcomes	Apply sustainable interior practices.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	AI Sustainability Checker

COI 404 – Entrepreneurship in Upholstery & Interiors

Credit Hours	2 (1T/1P)
Course Description	Business planning, customer management, finance.
Syllabus / Topics	• Business setup • Marketing • Finance
Practical Activities / Lab Work	• Draft business plan



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Assessment Methods	CA 20% Business Plan 40% Exam 40%
Learning Outcomes	Develop upholstery business plan.
Accreditation Mapping	NBTE NID IMI-UK
AI/Future Module ↘	AI Business Plan Assistant

COI 405 – Elective – Smart Dashboards & AR

Credit Hours	2 (0T/2P)
Course Description	AR dashboards and smart cockpit systems.
Syllabus / Topics	• AR basics • Cockpit design • Simulation
Practical Activities / Lab Work	• Develop AR dashboard prototype
Assessment Methods	Project 100%
Learning Outcomes	Design AR-enabled dashboards.
Accreditation Mapping	NBTE Elective IMI-UK
AI/Future Module ↘	AR Dashboard Simulation

