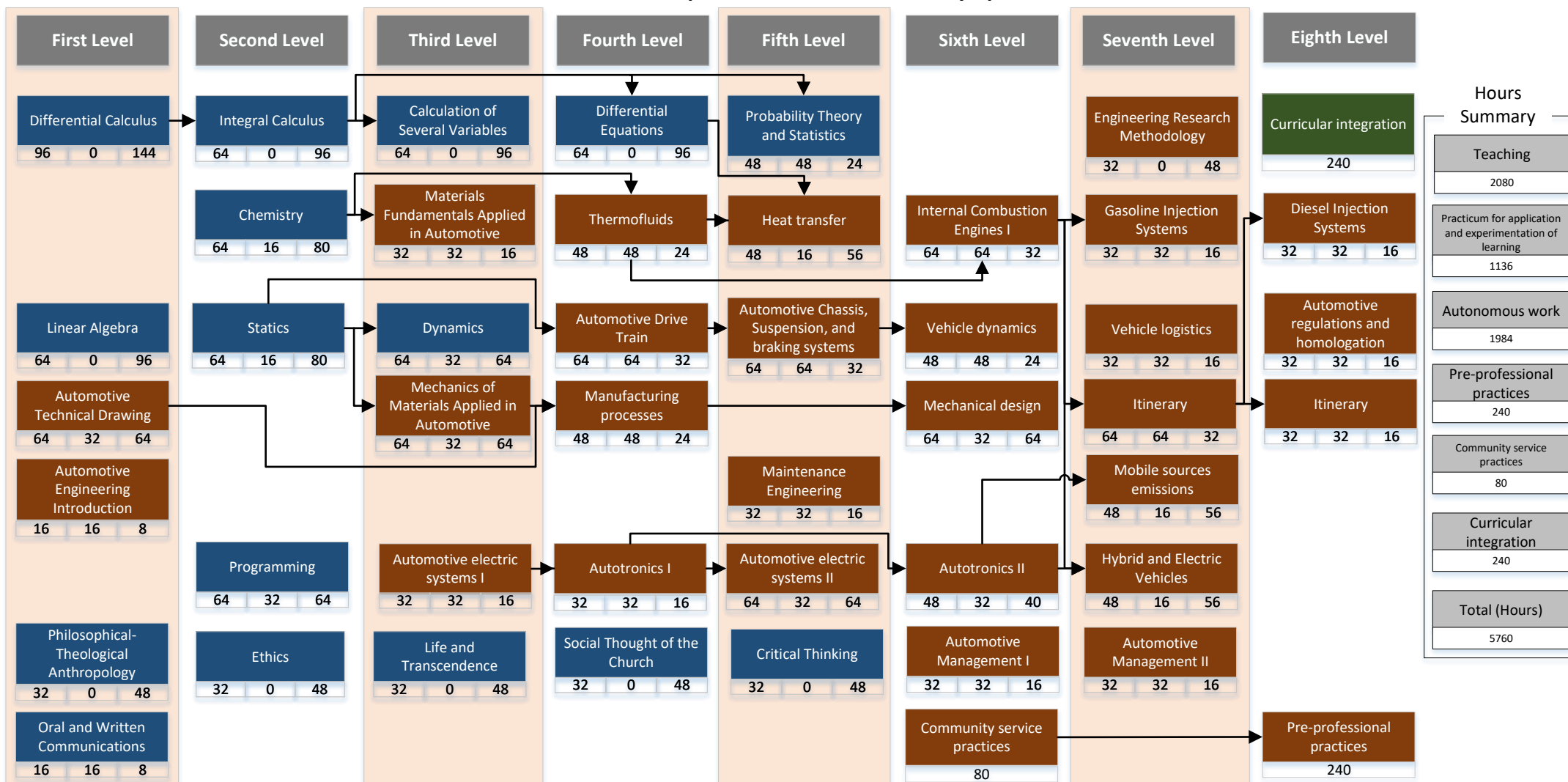


## Program: Automotive Engineering Technology

Mode: On Campus

Campus: Cuenca, Quito and Guayaquil



→ Prerequisite course

  Basic Course

  Professional Course

  Curriculum Integration

### ITINERARY 1: HEAVY MACHINERY MAINTENANCE

Nivel 7	Internal Combustion Engines II
Nivel 8	Heavy equipment

### ITINERARY 2: AUTOMOTIVE DESIGN

Nivel 7	Dynamic simulation in multibody systems. Finite element analysis
Nivel 8	Fatigue and material failure

### ITINERARY 3: NAVAL EQUIPMENT MAINTENANCE

Nivel 7	Corrosion and material protection
Nivel 8	Installations and maintenance of naval equipment

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- 1 Course name  
 2 Hours for teaching  
 3 Hours for Practicum for application and experimentation of learning  
 4 Hours for autonomous work

**CURRICULUM**  
**Program: Automotive Engineering Technology**

Unit	Level	CODE	Course Name	Prerequisites	Hours for teaching	Hours for Practicum for application and experimentation of learning	Hours for autonomous work	Pre professional practices	Community service practices	Curricular integration	Total Hours
Basic Course	1	G-RF-IAT-101	Philosophical-Theological Anthropology	Not applicable	32	0	48				80
Basic Course	1	G-HU-IAT-101	Oral and Written Communications	Not applicable	16	16	8				40
Basic Course	1	C-CE-IAT-101	Linear Algebra	Not applicable	64	0	96				160
Basic Course	1	C-CE-IAT-102	Differential Calculus	Not applicable	96	0	144				240
Professional Course	1		Automotive Engineering Introduction	Not applicable	16	16	8				40
Professional Course	1		Automotive Technical Drawing	Not applicable	64	32	64				160
<b>Subtotal:</b>					<b>288</b>	<b>64</b>	<b>368</b>				<b>720</b>
Basic Course	2	G-RF-IAT-102	Ethics	No prerequisites	32	0	48				80
Basic Course	2	C-CE-IAT-103	Integral Calculus	C-CE-IAT-102- Differential Calculus	64	0	96				160
Basic Course	2	C-CE-IAT-104	Statics	No prerequisites	64	16	80				160
Basic Course	2	C-CV-IAT-101	Chemistry	No prerequisites	64	16	80				160
Basic Course	2	C-CT-IAT-102	Programming	No prerequisites	64	32	64				160
<b>Subtotal:</b>					<b>288</b>	<b>64</b>	<b>368</b>				<b>720</b>
Basic Course	3	G-RF-IAT-103	Life and Transcendence	No prerequisites	32	0	48				80
Basic Course	3	C-CE-IAT-107	Dynamics	C-CE-IAT-104- Statics	64	32	64				160
Basic Course	3	C-CE-IAT-106	Calculation of Several Variables	C-CE-IAT-103- Integral Calculus	64	0	96				160
Professional Course	3		Automotive electric systems I	No prerequisites	32	32	16				80
Professional Course	3		Materials Fundamentals Applied in Automotive	C-CV-IAT-101- Chemistry	32	32	16				80
Professional Course	3		Mechanics of Materials Applied in Automotive	C-CE-IAT-104- Statics	64	32	64				160
<b>Subtotal:</b>					<b>288</b>	<b>128</b>	<b>304</b>				<b>720</b>
Basic Course	4	G-RF-IAT-104	Social Thought of the Church	No prerequisites	32	0	48				80
Basic Course	4	C-CE-IAT-108	Differential Equations	C-CE-IAT-103 - Integral Calculus	64	0	96				160
Professional Course	4	E-CT-IAT-101	Manufacturing processes	C-CT-IAT-101- Engineering Drawing C-CT-IAT-103 - Mechanics of Materials I	48	48	24				120
Professional Course	4		Thermofluids	C-CV-IAT-101- Chemistry	48	48	24				120
Professional Course	4	E-CT-IAT-102	Automotive Drive Train	C-CE-IAT-104 - Statics	64	64	32				160
Professional Course	4		Autotronics I	Automotive electric systems I	32	32	16				80
<b>Subtotal:</b>					<b>288</b>	<b>192</b>	<b>240</b>				<b>720</b>
Basic Course	5	G-HU-IAT-102	Critical Thinking	No prerequisites	32	0	48				80
Professional Course	5	C-CT-IAT-104	Heat transfer	C-CE-IAT-105 - Thermodynamics C-CE-IAT-108 - Differential Equations	48	16	56				120
Professional Course	5		Probability Theory and Statistics	C-CE-IAT-103- Integral Calculus	48	48	24				120
Professional Course	5		Automotive electric systems II	Autotronics I	64	32	64				160
Professional Course	5	E-CT-IAT-103	Automotive Chassis, Suspension, and braking systems	E-CT-IAT-102- Automotive Drive Train	64	64	32				160
Professional Course	5	E-CT-IAT-104	Maintenance Engineering	No prerequisites	32	32	16				80
<b>Subtotal:</b>					<b>288</b>	<b>192</b>	<b>240</b>				<b>720</b>
Professional Course	6	E-CT-IAT-105	Internal Combustion Engines I	Thermofluids	64	64	32				160
Professional Course	6		Automotive Management I	No prerequisites	32	32	16				80
Professional Course	6	E-CT-IAT-112	Vehicle dynamics	E-CT-IAT-103 - Automotive Chassis, Suspension, and braking systems	48	48	24				120
Professional Course	6		Autotronics II	Autotronics I	48	32	40				120
Professional Course	6	E-CT-IAT-106	Mechanical design	E-CT-IAT-101 - Manufacturing processes	64	32	64				160
Professional Course	6	E-CT-IAT-115	Community service practices	No prerequisites					80		80
<b>Subtotal:</b>					<b>256</b>	<b>208</b>	<b>176</b>				<b>720</b>
Professional Course	7		Engineering Research Methodology	No prerequisites	32	0	48				80
Professional Course	7		Automotive Management II	No prerequisites	32	32	16				80
Professional Course	7	E-CT-IAT-110	Hybrid and Electric Vehicles	E-CT-IAT-108 - Autotronics E-CT-IAT-105 - Internal Combustion Engines I	48	16	56				120
Professional Course	7	E-CT-IAT-109	Gasoline Injection Systems	E-CT-IAT-105 - Internal Combustion Engines I	32	32	16				80
Professional Course	7	E-CT-IAT-117	Internal Combustion Engines II (Itinerary)	E-CT-IAT-105 - Internal Combustion Engines I	64	64	32				160
Professional Course	7	E-CT-IAT-114	Mobile sources emissions	E-CT-IAT-109 - Gasoline Injection Systems	48	16	56				120
Professional Course	7	E-CT-IAT-113	Vehicle logistics	No prerequisites	32	32	16				80
<b>Subtotal:</b>					<b>288</b>	<b>192</b>	<b>240</b>				<b>720</b>

**CURRICULUM**  
**Program: Automotive Engineering Technology**

Unit	Level	CODE	Course Name	Prerequisites	Hours for teaching	Hours for Practicum for application and experimentation of learning	Hours for autonomous work	Pre professional practices	Community service practices	Curricular integration	Total Hours
Curriculum Integration	8	E-CT-IAT-123	Curricular integration	No prerequisites						240	240
Professional Course	8	E-CT-IAT-116	Pre-professional practices	E-CT-IAT-115- Community service practices				240			240
Professional Course	8		Diesel Injection Systems	Internal Combustion Engines II (Itinerary)	32	32	16				80
Professional Course	8		Heavy equipment (Itinerary)	Internal Combustion Engines II (Itinerary)	32	32	16				80
Professional Course	8	AUT 47	Automotive regulations and homologation	No prerequisites	32	32	16				80
<b>Subtotal:</b>					<b>96</b>	<b>96</b>	<b>48</b>	<b>240</b>		<b>240</b>	<b>720</b>
					<b>Hours for teaching</b>	<b>Hours for Practicum for application and experimentation of learning</b>	<b>Hours for autonomous work</b>	<b>Pre professional practices</b>	<b>Community service practices</b>	<b>Curricular integration</b>	<b>Total Hours</b>
			<b>Hours Summary</b>		<b>2080</b>	<b>1136</b>	<b>1984</b>	<b>240</b>	<b>80</b>	<b>240</b>	<b>5760</b>

**ITINERARY 1: HEAVY MACHINERY MAINTENANCE**

Unit	Level	Course Name	Total Hours
Profesional	7	Internal Combustion Engines II	160
Profesional	8	Heavy equipment	80

**ITINERARY 2: AUTOMOTIVE DESIGN**

Unit	Level	Course Name	Total Hours
Profesional	7	Dynamic simulation in multibody systems. Finite element analysis	160
Profesional	8	Fatigue and material failure	80

**ITINERARY 3: NAVAL EQUIPMENT MAINTENANCE**

Unit	Level	Course Name	Total Hours
Profesional	7	Corrosion and material protection	160
Profesional	8	Installations and maintenance of naval equipment	80