Facilities

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Laboratory/Workshop FacilitiesSince the establishment of FKM in May 2001, there are 29 laboratories and 12 studios and workshops have been developed as listed in Table 1 and Table 2. The laboratories, studios and workshops are essential to fulfill the requirement of practical oriented in university curriculum. Among the laboratories are; engineering design studio and analysis laboratory, material and structure tests laboratory, combustion laboratory, thermodynamic laboratory and computer aided design studios. Table 1: List of Laboratories in FKMNo.Labora (m2)LocationYear of Student Usage 1Statics Laboratory114KI1 2Experimental Techniques Laboratory114KI1 3Structure Mechanics & Materials Laboratory 1168FSB2 4Structure Mechanics & Materials Laboratory 2168FSB2&4 5Material Sciences & Technologies Laboratory107FSB1 6NDT & Composite Laboratory168FSB4 7Tribology Laboratory166FSB4 8Dynamics Laboratory135KT1 9Machine Mechanics Laboratory135KT2 10Control Engineering Laboratory 114FSB3 11Measurement & Instrumentation Laboratory135FSB4 12Chemistry Laboratory144KI1 13Hydraulic & Pneumatic Laboratory168FSB4 14Thermodynamics Laboratory168FSB2&3 15Fluids Mechanic Laboratory168FSB2&3 16Combustion Laboratory168FSB4 17Heat Transfer Laboratory168FB4 18Turbo Machinery Laboratory166FSB4 19Air Conditioning Laboratory166FSB4 20Automotive Basics Laboratory/Automotive Technology157FSB3 21Automotive Service & Maintenance Laboratory414FSB3 22Vehicle Noise & Vibration Laboratory157FSB4 23Automotive Design Laboratory156FSB4 24Autotronics Laboratory157FSB4 25Chassis Dynamometer Laboratory130FSB4 26Engine Performance Testing Laboratory35FSB4 27Chassis & Structure Laboratory156FSB3 28Prototype & Innovation Laboratory144FSB3 29Carpentry Laboratory144FSB3 Total Area (m2)4490

Note:

KI is referring to UTeM Industrial Campus, Ayer Keroh, Melaka

FSB is referring to Laboratories Complex, Phase B, Ayer Keroh, Melaka (FKM main laboratories).

Table 2: List of Studios and Workshops in FKM No. Studio/Workshop Name Area Year of Student Usage 1

Engineering Drafting Studio 1 180 KI 1 2

Engineering Drafting Studio 1 180 KI 1 3

Computer Aided Drawing Studio 1 168 FSB 1,2&3 4

Computer Aided Drawing Studio 2 168 FSB 1,2&3 5

Computer Aided Drawing Studio 3 150 FSB 1&2 6

Computer Aided Drawing Studio 4 144 FSB 1&2 7

Computer Engineering Studio 135 FSB 3 8

CAE-FEA Studio 140 FSB 4 9

FKM Computer Studio 128 FSB 1,2,3&4 10

Welding Workshop 128 FSB 1&2 11

Mechanical Workshop 128 FSB 1&2 12

Machine Workshop 128 FSB 1&2 13

Carpentry Workshop 132 FSB 1&2

Total Area (m2) 1573

Note:

KI is referring to UTeM Industrial Campus, Ayer Keroh, Melaka

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FKM has designed its curriculums that are integrated with computer knowledge by facilitating the laboratories with latest computer system and software. The development of computer hardware and software are given higher priority since engineering design, analysis and testing are the main focused activities in FKM. Current computer facilities available in FKM laboratories are shown in Table 3. Table 3: Computer Facilities in FKM No. No. of Computer Software 1

Fluids Mechanics 5

Data acquisition software 2

Thermodynamics 25

Data acquisition software, CFD Fluent 3

Hydraulic & Pneumatics 7

FluidSim software 4

Combustion 7

Data acquisition software 5

Heat Transfer 3

Data acquisition software 6

Control 12

Data acquisition software, MATLAB, Keyence software, Paragon LVProsim. 7

Dynamic 4

Data acquisition software 8

Mechanic of Structure & Material

1 & 2 8

Data acquisition software 9

Material Science & Technology 3

Data acquisition software 10

Instrumentation 5

Data acquisition software, FFT, Tektronix software and Labview. 11

Non Destructive Test 2

Data acquisition software 12

Computer Aided Drawing Studio

1, 2, 3 & 4 151

AutoCAD, Mechanical Desktop, SolidWorks, CATIA, MATLAB, DFMA, DFE, DFS and Alias Studio. 13

Basic Mechanical Workshop 2

Data acquisition software 14

Computer Aided Engineering Studio 35

MSC/NASTRAN PATRAN, MARC and ADAMS, CFX and CARMEL 15

Machine Workshop 20

Data acquisition software 16

FKM Computer Lab 60

Windows package 17

Prototype & Innovation 2

Rapid-prototyping software 18

Basic Automotive 2

Automotive Multimedia Learning (CDX) 19

Automotive Design 31

Automotive Styling Multimedia Learning, CES 20

Chassis & Structure 1

Data acquisition software 21

Engine Testing 1

Data acquisition software 22

Tribology 2

Data acquisition software 23

NDT & Composite 2

Data acquisition software