

# Undergraduate Courses and Syllabi in UAE Universities

*Dr. Ali Abou-Elnour (AUST) & Dr. Lutfi Albasha (AUS)*

# Under Graduate Courses and Syllabi in UAE Universities

<b>Comparison 1 General</b>								
	<b>AUST</b>	<b>AUS</b>	<b>AUD</b>	<b>US</b>	<b>UAEU</b>	<b>KU</b>	<b>PI</b>	<b>BP</b>
<b>Total Credit Hours</b>	<b>142</b>	<b>140</b>	<b>129</b>	<b>141</b>	<b>168</b>	<b>192</b>	<b>138</b>	<b>163</b>
<b>University Requirements</b>	<b>24</b>	<b>33</b>	<b>33</b>	<b>30</b>	<b>39</b>	<b>12</b>	<b>21</b>	<b>12</b>
<b>Basic Sciences</b>	<b>26</b>	<b>31</b>	<b>23</b>	<b>29</b>	<b>21</b>	<b>26</b>	<b>29</b>	<b>27</b>
<b>Faculty &amp; Departmental Requirements</b>	<b>42</b>	<b>45</b>	<b>40</b>	<b>51</b>	<b>57</b>	<b>94</b>	<b>53</b>	<b>57</b>
<b>Specialization courses</b>	<b>27</b>	<b>14</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>34</b>	<b>15</b>	<b>42</b>
<b>Projects</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>5</b>	
<b>Elective Courses</b>	<b>12</b>	<b>13</b>	<b>15</b>	<b>12</b>	<b>15</b>	<b>18</b>	<b>12</b>	
<b>Training</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>3</b>	<b>25</b>
<b>AUST</b>	<b>Ajman University of Science and Technology</b>							
<b>AUS</b>	<b>American University of Sharjah</b>							
<b>AUD</b>	<b>American University of Dubai</b>							
<b>US</b>	<b>University of Sharjah</b>							
<b>UAEU</b>	<b>United Arab Emirate University</b>							
<b>KU</b>	<b>Khalifa University</b>							
<b>PI</b>	<b>Petroleum Institute</b>							
<b>BP</b>	<b>Bits Pilani</b>							

# Under Graduate Courses and Syllabi in UAE Universities

## Comparison 2 – Compulsory Specialization Courses

	AUST	AUS	AUD	US	UAEU	KU	PI	BP
	27	14	15	15	15	34	15	
1	Circuit Analysis I	Electric Circuits I	Linear Circuit Analysis I	Circuit Analysis I	Electric Circuits I	Fundamentals of Electric Circuits	Electric circuits 1	
2	Circuit Analysis II	Electric Circuits II	Linear Circuit Analysis II	Circuit Analysis II	Electric Circuits II	Fundamental of Electronics	Electric circuits 2	
3	Electronic Devices & Circuits I	Electronics I	Microelectronic Devices & Circuits	Fundamentals of Digital Electronics	Electronics I	Semiconductor Devices	Electronic Devices and Circuits	
4	Electronic Devices & Circuits II	Electronics II	Analog Electronics	Electronic Circuits	Electronics II	Electric Circuits	Fundamentals of Power Electronics	
5	Design with Integrated Circuits				Electronics III	Analog Electronics 1		
6	Power Electronics					Analog Electronics 2		
7	VLSI Design					Microwave Circuits and Devices		
8						Microelectronic Circuits and Systems		
9						VLSI		

# Under Graduate Courses and Syllabi in UAE Universities

## Comparison 3 Common Compulsory Engineering Courses

AUST	AUS	AUD	SU	UAEU	KU	PI	BP
Logic Design	Digital Systems	Digital & Computer Sys Design	Digital Logic Design	Digital Logic Design	Digital Logic Principals	Logic & Digital Design	Digital Electronics & Computer Organization
Microprocessors	Microprocessors		Microprocessors & Assembly	Microprocessors	Microprocessing Systems	Microprocessors	Microprocessor Programming & Interfacing
Signals and Systems	Signals & Systems	Intro to Signal Processing	Signal & Systems	Signals & Systems	Signal & Systems	Signal & Systems	Circuits and Signals
Principles of Communication	Communication	Communication Systems	Telecommunication Systems	Communication Theory	Communication Theory		Communication Systems
Control Systems	Control Systems	Systems & Control	Feedback Control Systems	Control Systems	Control Engineering	Feedback Control Systems	Modern Control System
Electromagnetic Fields & Wave Propagation	Electromagnetic	Applied Electromagnetic	Field Analysis	Electromagnetic	Applied Electromagnetic (0.5)		Electromagnetic Fields & Waves
Instrumentation & Measurements	Instrumentation & Measurements (Lab)		Instrumentation & Measurements	Measurements & Instrumentation	Advanced Measurements (0.5)	Instrumentation & Measurements	Electronic Measurements & Instrumentation
Electrical Machines & Power Systems	Power System Analysis	Energy Engineering	Electromechanical Systems	Electric Machines	Electrical Systems 0.5	Power Sys. Analysis	Power Systems
Programming I	Programming I	Computational Modeling	Intro. To Computer Sciences	Comp. Algorithms & Programming	Software Development	C++ Programming	Computer Programming I

# Under Graduate Courses and Syllabi in UAE Universities

## Comparison 4 – Compulsory Engineering Courses

AUST	AUS	AUD	SU	UAEU	KU	PI	BP
Programming II					Software Engineering		Computer Programming II
Digital System Design					Digital System Design		
	Digital Signal Processing	Fundamentals of Digital Signal Processing			Digital Signal Processing		Digital Signal Processing
					Switching & Data Network		Telecommunication Switching Systems & Networks
					Digital Communication		
				Communication Systems	Communication Systems		
					Real Time Digital Signal Processing	Industrial Automation	
	Electrical Energy Conversion		Thermal Sciences	Power Systems	Computer Arch	Fund. Of Elec. Machines	Electromechanical Energy Conversion
	Eng. Mechanics			Engineering Materials	Audio & Image Processing	Electric Machines	Medical Instrumentation

# Under Graduate Courses and Syllabi in UAE Universities

## Comparison 5 Elective Courses--Electronics

AUST	AUS	AUD	US	UAEU	KU	PI	BP
12	13	15	12	15	8	12	
Solid-State Electronics	Power Electronics		Power Electronics	Power Electronics			Power Electronics
Computer Aided Circuit Design	VLSI Design		Analog Integrated Circuits	Computer Aided Circuit Design			Analog Electronics
Digital Integrate Circuits							Electronic Devices & Integrated Circuits
Communication Electronics			Communication Electronics				
Optoelectronics			Optoelectronics	Very Large Scale Integrated Circuits (VLSI)			Analog & Digital VLSI Design
Nano devices & Technology	Microelectronic Devices						Microelectronic Circuits
Microwave Electronics		Microwave Electronics					
Selected Topics in Electronics	Special Topics in Electrical Engineering	Special Topics in Electrical Engineering	Special Topics in Electronics	Special Topics in Communication and Electronics			