NEW NANO ENGINEERING CIRRICULUM

(INTERNATIONAL PROGRAM)

MAJOR: BIOENGINEERING

FIRST SEMESTER		FIFTH SEMESTER	
2190101 Computer Programming	3	2189341 Materials Characterization	3
2190151 Computer Programming Laboratory	1	2182312* Signal processing and instrumentation	3
2301107 Calculus I	3	2141355* Introduction to Bioengineering	3
2140111 Exploring Engineering World	3	2185373 Reaction Engineering	3
2304153 Physics for Engineers	3	2310380* Biochemistry for Bioengineers	3
2304193 Physics Laboratory for Engineers	1	2310381* Biochemistry Laboratory for Bioengineers	s 1
5501112 Communicative English I	3	xxxxxxx General Education	3
	17		19
		SIXTH SEMESTER	
SECOND SEMESTER		2184303 Engineering Management	3
2141100* Introduction to Nanotechnology	3	2141302* Nanofabrication Technology	3
2183101 Engineering Graphics	3	2185333 Transport Phenomena	3
2302105 Chemistry for Engineers	3	2141357* Cells Biology and Human Body	3
2302103 General Chemistry Laboratory	1	2189356* Material for Biomedical Applications	3
2301108 Calculus II	3	xxxxxxx General Education	3
2304154 Physics and Electronics for Engineers	3		18
2304194 Physics and Electronics Laboratory fo	r	SUMER SEMESTER	
Engineers	1	2140301 Industrial Training	2
5501123 Communicative English II	3		2
	20		
THIRD SEMESTER		SEVENTH SEMESTER	
2182201 Mathematics for Nano – Engineering	3	2141498 Nano - Engineering Pre-Project	1
2182210 Electrical Circuit	3	xxxxxxx Approved Electives	3
2183211 Engineering Mechanics	4	xxxxxxx Approved Electives	3
2189202* Fundamental of Materials Science and	d	xxxxxxx Approved Electives	3
Engineering	3	xxxxxxx Approved Electives	3
2303111 Basic Organic Chemistry	3	xxxxxxx Free Elective	3
2302203 Organic Chemistry Laboratory	1		16
5501214 Communication and Presentation Skil	ls 3		
	20	EIGTHTH SEMESTER	
FOURTH SEMESTER		2141490 Nano Seminar	1
2141290* Statistic and Research Methodology		2141499 Nano Engineering Project	3
for Nano Engineers	3	xxxxxxx Approved Electives	3
2182213 Electrical Circuit Laboratory	1	xxxxxxx Approved Electives	3
2303111 Biology for Engineers	3	xxxxxxx Free Elective	3
2303112 Biology Laboratory for Engineers	1	xxxxxxx General Education	3
2185222 Physical Chemistry for			16
Nano – Engineering	3		
2302207* Basic Inorganic Chemistry	2		
5501225 Technical Writing	3		
xxxxxxx General Education	3	TOTAL CREDITS FOR GRADUATION 147	
	19		

NEW NANO ENGINEERING CIRRICULUM

(INTERNATIONAL PROGRAM)

MAJOR: ADVANCED MATERIAL ENGINEERING

FIRST SEMESTER			FIFTH SEMESTER	
2190101 Computer Programming	3	2189341	Materials Characterization	3
2190151 Computer Programming Laboratory	1	2182312*	Signal processing and instrumentation	3
2301107 Calculus I	3	2141305*	Nanostructures and Crystalline Defects	3
2140111 Exploring Engineering World	3	2185302*	Thermodynamics in Materials Engineering	3
2304153 Physics for Engineers	3	2185379*	Polymer Engineering	3
2304193 Physics Laboratory for Engineers	1	xxxxxx	General Education	3
5501112 Communicative English I	3			18
	17		au = 1 a= 1 = a= 2	
SECOND SEMESTER		210/202	SIXTH SEMESTER Engineering Management	2
	2		Engineering Management	3
2141100* Introduction to Nanotechnology	3		Nanofabrication Technology	3
2183101 Engineering Graphics 2302105 Chemistry for Engineers	3		Transport Phenomena Phase Transformations and Kinetics	3
2302103 General Chemistry Laboratory	1		Physical Metallurgy	3
2301108 Calculus II	3		General Education	3
2304154 Physics and Electronics for Engineers	3	******	deficial Education	18
2304194 Physics and Electronics Laboratory for	J			10
Engineers	1		SUMER SEMESTER	
5501123 Communicative English II	3	2140301	Industrial Training	2
	20			2
			SEVENTH SEMESTER	
THIRD SEMESTER		2141498	Nano - Engineering Pre-Project	1
2182201 Mathematics for Nano – Engineering	3	2189411	Mechanical Behavior of Materials	3
2182210 Electrical Circuit	3	xxxxxx	Approved Electives	3
2183211 Engineering Mechanics	4	xxxxxx	Approved Electives	3
2189202* Fundamental of Materials Science and		xxxxxx	Approved Electives	3
Engineering	3	XXXXXXX	Free Elective	3
2303111 Basic Organic Chemistry	3	xxxxxx	General Education	3
2302203 Organic Chemistry Laboratory	1			19
5501214 Communication and Presentation Skills	3		FICTUTU CEMECTED	
	20	21/11/100	EIGTHTH SEMESTER Nano Seminar	1
FOURTH SEMESTER				1
2141290* Statistic and Research Methodology			Nano Engineering Project Materials Design and Selection	3
for Nano Engineers	3		Materials Design and Selection General Education	3
2182213 Electrical Circuit Laboratory	1		General Education	3
2303111 Biology for Engineers	3	XXXXXXX	Free Elective	3
2303112 Biology Laboratory for Engineers	1	******	Tree Liective	16
2185222 Physical Chemistry for Nano – Engineering	3			10
5501225 Technical Writing	3			
xxxxxxx General Education	3		TOTAL CREDITS FOR GRADUATION 147	•
	17			