

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Sultan Qaboos University



جامعة السلطان قابوس

COLLEGE OF SCIENCE

كلية العلوم

P.O. Box: 36

ص.ب: ٣٦

Postal Code: 123, Al-Khodh

الرمز البريدي: ١٢٣ - الخوض

Sultanate of Oman

سلطنة عُمان

Tel.: +968 - 24141475 - Fax: +968 - 24413415



هاتف: +٩٦٨ ٢٤١٤١٤٧٥ - فاكس: +٩٦٨ ٢٤٤١٣٤١٥

### IMPORTANT NOTE:

From Fall 2016, the following courses will ONLY be offered once a year as shown below:

Course Code	Course Title	Semester
Chem3420	Petroleum Chemistry	Spring
Chem4470	Industrial Organic Chemistry	Fall
Chem4471	Industrial Inorganic Chemistry	Spring
Chem4473	Applied Physical Chemistry	Spring
Chem5570	Polymer Chemistry	Spring

Head of Department of Chemistry

  
22/11/15  


Dr. Haider Al-Lawati



## Degree and Study Plan

College: Science  
 Department: Chemistry  
 Cohort: 2010-15  
 Degree: Bachelor of Science  
 Major: Applied Chemistry

<u>Summary of Credits:</u>	
<b>University Requirements (UR)</b>	<b>6</b>
Foundation Program	NC <sup>+</sup>
Arabic	3
Contemporary Omani Society	1
Oman & Islamic Civilization or Islamic Culture	2
<b>University Electives (UE)</b>	<b>6</b>
See List A	
<b>College Requirements (CR)</b>	<b>3</b>
See list B	
<b>College Electives (CE)</b>	<b>16</b>
See list C	
<b>Departmental Requirements (DR)</b>	<b>40</b>
See list D	
<b>Departmental Electives (DE)</b>	<b>9</b>
See list E	
<b>Major Requirements (AR)</b>	<b>21</b>
See list F	
<b>Major Electives (AE)</b>	<b>21</b>
See list G	
<b>Specialization Requirements (SR)</b>	
See list H	
<b>Specialization Electives (SE)</b>	
See list I	
<b>Minor Requirements (IR)</b>	<b>++</b>
See list J	
<b>Minor Electives (IE)</b>	<b>++</b>
See list K	
<b>TOTAL</b>	<b>122</b>

<sup>+</sup> Not credited.

<sup>\*\*</sup>Minor is optional: Minimum total credits to earn a Minor are 18. Courses counting towards an Approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (Lists C, D, E, F) may count towards a Minor.

For reference contact Dr. John Husband Ext. 2235

HoD: Dr. Haider Al Lawati

Date: 3/12/14

Dean's Office: Prof. Salma Al Kindy

Date: 9/12/14

Admission and Registration:

Date:

**Department of Chemistry – Applied Chemistry Study Plan for Cohorts 2010-2015**

Categories	CR
University Requirements (UR)	6
University Electives (UE)	6
College Requirement (CR)	3
College Electives (CE)	16
Departmental Requirements (DR)	40
Departmental Electives (DE)	9
Major Requirements (AR)	21
Major Electives (AE)	21
<b>TOTAL</b>	<b>122</b>

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
<b>Semester 1 Fall</b>	CHEM2101	General Chemistry I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)	CE
	LANC2058	Communication in Science	3	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604	CR
	MATH2107	Calculus I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FMT0105 or FPMT0109)	CE
	PHYS2101	General Physics I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)	CE
	SOCY1001	Omani Contemporary Society	1		UR
	<b>Total</b>			<b>16</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
<b>Semester 2 Spring</b>	ARAB1001	Arabic	3		UR
	CHEM2102	General Chemistry II	4	CHEM2101 or CHEM1071	DR
	CHEM3322	Organic Chemistry I	4	LANC2058 and CHEM2101	DR
	MATH2108	Calculus II	3	MATH2107	DR
	HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2		UR
	<b>Total</b>			<b>16</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
<b>Semester 3 Fall</b>	CHEM3311	Inorganic Chemistry I	3	LANC2058 and CHEM2102 and MATH2107	DR
	CHEM3326	Applied Spectroscopy	3	LANC2058 and (CHEM3322 or CHEM332 or CHEM2091)	DR
	CHEM3341	Analytical Chemistry I	3	LANC2058 and CHEM2102 and (FPMT0105 or FPMT0109)	DR
		University Elective	2		UE
		College Elective	4		CE
	<b>Total</b>			<b>15</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 4 Spring	CHEM3333	Physical Chemistry I	3	LANC2058 and CHEM2101 and PHYS2101 and MATH2107 and CHEM3335*	DR
	CHEM3335	Physical Chemistry Laboratory I	2	LANC2058 and CHEM3333*	DR
	CHEM3420	Petroleum Chemistry and Industrial Organic Processes	3	LANC2058 and CHEM3322	AR
	CHEM4422	Organic Chemistry II	3	CHEM3322	DR
		University Elective	2		UE
		Department Elective	3		AE
	<b>Total</b>			<b>16</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 5 Fall	CHEM4411	Inorganic Chemistry II	3	CHEM3311 and CHEM4415*	DR
	CHEM4415	Inorganic Chemistry Laboratory	3	CHEM4411*	DR
	CHEM4441	Analytical Chemistry II	3	CHEM 3341	DR
	CHEM4470	Industrial Organic Chemistry	3	CHEM3420	AR
	PNGE5103	Engineering Economy	3	MATH2107	AR
	<b>Total</b>			<b>15</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 6 Spring	CHEM4471	Industrial Inorganic Chemistry	3	CHEM4411 and CHEM4415	AR
	CHEM4473	Applied Physical Chemistry	3	CHEM3333 and CHEM3335 and MATH2108	AR
		Departmental Elective	3		DE
		Major Electives	6		AE
	<b>Total</b>			<b>15</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 6 Summer	CHEM5001	Industrial Placement	0	At least three of: CHEM4470 CHEM4471 CHEM4472 CHEM4473 CHEM5570	AR
	<b>Total</b>			<b>0</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 7 Fall	CHEM4442	Instrumental Analysis	3	CHEM4441	DR
	CHPE4192	Chemical Engineering Practical	3	CHEM4473	AR
		Departmental Elective	3		DE
		Major Electives	6		AE
	<b>Total</b>			<b>15</b>	

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 8 Spring	CHEM5570	Polymer Chemistry	3	CHEM4422	AR
		University Elective	2		UE
		Major Electives	9		AE
	<b>Total</b>			<b>14</b>	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015**

Degree Plan : 122 credits			
Course code	Cr	Course Title	Pre-req./Co-req.*
<b>University Requirements: 6 Credits</b>			
ARAB1001	3	Arabic	
HIST1010 or ISLM1010	2	Oman & Islamic Civilization or Islamic Culture	
SOCY1001	1	Omani Contemporary Society	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015  
LIST A: UNIVERSITY ELECTIVES (6 Credits)**

See SQU Deanship of Admission and Registration website for the list of University Electives

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015  
LIST B: COLLEGE REQUIREMENTS (3 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
LANC 2058	Communication in Science	3	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
<b>Total</b>		<b>3</b>	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015  
LIST C: COLLEGE ELECTIVES (16 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
BIOL2101	General Biology I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
CHEM2101 <sup>†</sup>	General Chemistry I <sup>†</sup>	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
COMP2101	Introduction to Computer Science	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPCS0101 or FPCS0102)
ERSC2101	Introduction to Geology I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
MATH2107 <sup>†</sup>	Calculus I <sup>†</sup>	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
PHYS2101 <sup>†</sup>	General Physics I <sup>†</sup>	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
STAT1001	Introduction to Statistics	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
<b>Total</b>		<b>16</b>	

<sup>†</sup>CHEM2101, PHYS2101, and MATH2107 are key pre-requisite courses for Applied Chemistry Majors.

Credits taken in excess of 16 can be counted as Major Electives (List G)

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015**  
**LIST D: DEPARTMENTAL REQUIREMENTS (40 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
CHEM2102	General Chemistry II	4	CHEM2101 or CHEM1071
CHEM3311	Inorganic Chemistry I	3	LANC2058 and CHEM2102 and MATH2107
CHEM3322	Organic Chemistry I	4	LANC2058 and CHEM2101
CHEM3326	Applied Spectroscopy	3	LANC2058 and (CHEM3322 or CHEM3327 or CHEM2091)
CHEM3333	Physical Chemistry I	3	LANC2058 and CHEM2101 and PHYS2101 and MATH2107 and CHEM3335*
CHEM3335	Physical Chemistry Laboratory I	2	LANC2058 and CHEM3333*
CHEM3341	Analytical Chemistry I	3	LANC2058 and CHEM2102 and (FPMT0105 or FPMT0109)
CHEM4411	Inorganic Chemistry II	3	CHEM3311 and CHEM4415*
CHEM4415	Inorganic Chemistry Laboratory	3	CHEM3326 and CHEM4411*
CHEM4422	Organic Chemistry II	3	CHEM3322
CHEM4441	Analytical Chemistry II	3	CHEM3341
CHEM4442	Instrumental Analysis	3	CHEM4441
MATH2108	Calculus II	3	MATH2107
<b>Total</b>		<b>40</b>	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015**  
**LIST E: DEPARTMENTAL ELECTIVES (9 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
CHEM2350	Chemical Safety: Protecting ourselves and the environment	3	LANC2058 and (CHEM2101 or CHEM1071 or CHEM2110)
CHEM3337	Fundamentals of the Corrosion of Metals	3	LANC2058 and (CHEM2101 or CHEM1071)
CHEM3350	Environmental Chemistry	3	LANC2058 and CHEM2102
CHEM3391	Computers in Chemistry	3	LANC2058 and CHEM2102 and CHEM3322 and (COMP1200 or FPCS0101)
CHEM3400	Introduction to Chemical Process Industries	3	LANC2058 and CHEM2101 and CHEM3333*
CHEM4412	Inorganic Materials	3	CHEM3311
CHEM4413	Organometallic Chemistry	3	CHEM4411
CHEM4414	Fundamentals of X-ray Crystallography	3	CHEM3311
CHEM4423	Organic Synthetic Methods	3	CHEM4421 or CHEM4422
CHEM4424	Introduction to Natural Products	3	CHEM4421 or CHEM4422
CHEM4428	Heterocyclic Chemistry	3	CHEM4422
CHEM4429	Fundamentals of Medicinal Chemistry and Drug Design	3	CHEM3327 or CHEM4422 or CHEM4470 or CHEM4421
CHEM4437	Electrochemistry	3	CHEM3333
CHEM4445	Forensic Chemistry	3	CHEM3341
CHEM4472	Fine Chemicals	3	CHEM4422
CHEM4474	Polymer Materials and Applications	3	CHEM3321 or CHEM3322
CHEM4476	Catalysis	3	CHEM4411
CHEM4477	Essential of Biological Chemistry	3	CHEM4422
CHEM5522	Organic Chemistry III	3	CHEM4421 or CHEM4422
CHEM5537	Surfactants: Principles & Applications in the Petroleum Industry	3	CHEM3333 or CHPE3102
CHEM5539	Chemical Sensors	3	CHEM3333 and CHEM4441
CHEM5545	Analytical Methods in Proteomics	3	CHEM4441
CHEM5574	Materials Characterization and Processing	3	CHEM4471
CHEM5578	Chemical Quality Control and Assurance	3	CHEM4441
<b>Total</b>		<b>9</b>	

Credits taken in excess of 9 can be counted as Major Electives (List G)

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015**  
**LIST F: MAJOR REQUIREMENTS (21 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
CHEM3420	Petroleum Chemistry and Industrial Organic Processes	3	LANC2058 and CHEM3322
CHEM4470	Industrial Organic Chemistry	3	CHEM3420
CHEM4471	Industrial Inorganic Chemistry	3	CHEM4411 and CHEM4415
CHEM4473	Applied Physical Chemistry	3	CHEM3333 and CHEM3335 and MATH2108
CHEM5001	Industrial Placement	0	At least three of: CHEM4470 CHEM4471 CHEM4472 CHEM4473 CHEM5570
CHEM5570	Polymer Chemistry	3	CHEM4422
CHPE4192	Chemical Engineering Practical	3	CHEM4473
PNGE5103	Engineering Economy	3	MATH2107
<b>Total</b>		<b>21</b>	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015**  
**LIST G: MAJOR ELECTIVES (21 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
BIOL2101	General Biology I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
BIOL2102	General Biology II	4	BIOL2101
BIOL2105	Human Physiology	4	BIOL2101
BIOL2600	Biodiversity	3	BIOL2101
BIOL3005	Ecology	3	LANC2058 and BIOL2102
BIOL3009	Introduction to Environmental Science	3	LANC2058 and BIOL2102
BIOL3011	Plant Physiology	3	LANC2058 and BIOL2102
BIOL3023	Animal Physiology	4	LANC2058 and BIOL2102
BIOL3025	Invertebrates	3	LANC2058 and BIOL2102
BIOL3202	Molecular Biology	3	LANC2058 and BIOL2101
BIOL3410	Angiosperm Biology	3	LANC2058 and BIOL2102
BIOL3441	Introductory Microbiology	3	LANC2058 and BIOL2101
BIOL4000	Generic Skills for Biologists	3	BIOL2101
BIOL4009	Waste Management	3	BIOL3009
BIOL4021	Vertebrate Zoology	3	BIOL2102
BIOL4023	Entomology	3	BIOL2102
BIOL4030	Bacteriology	3	BIOL3441
BIOL4034	Biochemistry	3	BIOL2101 and (CHEM3322 or CHEM3327)
BIOL4041	Animal Histology	3	BIOL2102 or BIOL2105
BIOL4042	Parasitology	3	BIOL2102
BIOL4046	Fundamentals Of Biotechnology	3	BIOL3202 and BIOL3441
BIOL4054	Marine Biology	3	BIOL3005
BIOL4100	Biological Data Handling	3	BIOL2102
BIOL4432	Introduction to Genetics	3	BIOL2101
BIOL4500	Cell Biology	3	BIOL2101 or MEDI2108
BIOL4501	Principles of Toxicology	3	BIOL2101
BIOL4600	Biofuels	3	BIOL3441
BIOL4640	Environmental Pollution	3	BIOL4009
BIOL5010	Ecotoxicology	3	BIOL3009
BIOL5021	Desert Biology	3	BIOL3005
BIOL5031	Enzyme Biochemistry	3	BIOL4034
BIOL5034	Plant Metabolites	3	BIOL4034
BIOL5042	Embryology	3	BIOL2102
BIOL5045	Economy Botany	3	BIOL2102
BIOL5052	Freshwater Biology	3	BIOL3005
BIOL5054	Biological Conservation	3	BIOL3005
BIOL5120	Microbial Biotechnology	3	BIOL3441 and BIOL4046
BIOL5132	Tissue Culture	3	BIOL4500
BIOL5133	Plant Biotechnology	3	BIOL4046
BIOL5144	Applied Mycology	3	BIOL3441
BIOL5244	Cytogenetics	3	BIOL4432
BIOL5400	Bio-Informatics	3	BIOL3201
BIOL5401	Environmental microbiology techniques	3	BIOL3009 and BIOL3201
BIOL5402	Immunology	3	BIOL3341 and BIOL4500



BIOL5411	Fermentation Technology	3	BIOL4030
BIOL5501	Protein Production and Characterization	3	BIOL4034 and BIOL4046
BIOL5600	Techniques in Molecular Diversity	3	BIOL3202
BIOL5610	Environmental Impact Assessment	3	BIOL3009
CHEM2350	Chemical Safety: Protecting ourselves and the environment	3	LANC2058 and (CHEM2101 or CHEM107 or CHEM2110)
CHEM3337	Fundamentals of the Corrosion of Metals	3	LANC2058 and CHEM2102
CHEM3350	Environmental Chemistry	3	LANC2058 and CHEM2102
CHEM3400	Introduction to Chemical Process Industries	3	LANC2058 and CHEM2101 and CHEM3333*
CHEM3391	Computers in Chemistry	3	LANC2058 and CHEM2102 and CHEM3322 and (COMP1200 or FPCS0101)
CHEM4412	Inorganic Materials	3	CHEM3311
CHEM4413	Organometallic Chemistry	3	CHEM4411
CHEM4414	Fundamentals of X-ray Crystallography	3	CHEM3311
CHEM4423	Organic Synthetic Methods	3	CHEM4421 or CHEM4422
CHEM4424	Introduction to Natural Products	3	CHEM4421 or CHEM4422
CHEM4428	Heterocyclic Chemistry	3	CHEM4422
CHEM4429	Fundamentals of Medicinal Chemistry and Drug Design	3	CHEM3327 or CHEM4422 or CHEM4470 or CHEM4421
CHEM4433	Physical Chemistry II	3	MATH2108 and CHEM3333 and CHEM4435*
CHEM4437	Electrochemistry	3	CHEM3333 or CHEM3330
CHEM4445	Forensic Chemistry	3	CHEM3341
CHEM4472	Fine Chemicals	3	CHEM4422
CHEM4474	Polymer Materials and Applications	3	CHEM3321 or CHEM3322
CHEM4476	Catalysis	3	CHEM4411
CHEM5522	Organic Chemistry III	3	CHEM4422 or CHEM4421
CHEM5537	Surfactants: Principles & Applications in the Petroleum Industry	3	CHEM3333 or CHPE3102
CHEM5539	Chemical Sensors	3	CHEM3333 and CHEM4441
CHEM5545	Analytical Methods in Proteomics	3	CHEM4441
CHEM5574	Materials Characterization and Processing	3	CHEM4471
CHEM5578	Chemical Quality Control and Assurance	3	CHEM4441
CHEM5591	Chemistry Seminar I	1	
COMP2101	Introduction to Computer Science	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPCS0101 or FPCS0102)
COMP2102	Problem Solving and Programming	3	COMP2101
COMP2105	Introduction to Problem Solving with Visual Basic	3	COMP2101
COMP2206	Introduction to Java	3	COMP3200
COMP3100	Ethical & Social Issues for Computing Professions	1	LANC2058 and COMP3401
COMP3200	Object Oriented Programming	3	LANC2058 and COMP2102
COMP3203	Introduction to Data Structures & Algorithms	3	LANC2058 and COMP3200
COMP3204	Advanced Java Programming	3	LANC2058 and COMP2206
COMP3302	Introduction to Multimedia	3	LANC2058 and COMP3200
COMP3401	Introduction to Software Engineering	4	LANC2058 and COMP3200
COMP3501	Computer Organization and Assembly Language	3	LANC2058 and COMP2102 and ECCE3206
COMP3601	Bioinformatics Algorithms	3	COMP2101 and BIOL2101
COMP3700	Introduction to Web Computing	3	LANC2058 and COMP3200
COMP3702	Principles of Web Applications	3	LANC2058 and COMP3700

COMP4201	Introduction to Database Systems	3	COMP3203
COMP4202	Database Development	3	COMP4201
COMP4204	Advanced Data Structures & Algorithms	3	COMP3203 and MATH3340
COMP4206	Mobile Applications Development	3	COMP2206 and COMP3700
COMP4212	Introduction to Information Retrieval	3	COMP3202
COMP4300	Computer Graphics I	3	COMP3202 and MATH2202
COMP4401	Analysis, Design, and Architecture of Software Systems	3	COMP3401
COMP4402	Software Testing	3	COMP3401
COMP4404	Software Project Management	3	COMP3401
COMP4471	Computational Methods I	3	COMP2101 and MATH2108 and MATH2202
COMP4501	Fundamentals of Operating Systems	3	COMP3203 and COMP3501
COMP4502	Networks & Communication	3	COMP3501
COMP4601	Introduction to Intelligent Systems	3	COMP3203
COMP4702	Advanced Web Applications Development	3	COMP3702
COMP4703	Web Data Mining and Social Networking	3	COMP3700 and (STAT2102 or STAT2103)
COMP5101	Comparative Programming Languages	3	COMP3203 and COMP3501
COMP5204	Computer Science Special Topics I	3	Instructor Consent
COMP5302	Digital Image Processing	3	COMP3202 or COMP3203
COMP5506	Wireless Networks and Mobile Computing	3	COMP4501 and COMP4502
COMP5507	Cryptography and Network Security	3	COMP3203 and COMP4502
COMP5508	Interconnection Networks for Multiprocessor and Multicore Systems	3	COMP4502 or COMP5501
COMP5521	Finite Automata and Formal Languages	3	MATH3340
COMP5522	Compiler Construction	3	COMP3501 and COMP5521
COMP5601	Machine Learning	3	COMP3202 and MATH2202 and STAT2103
COMP5701	Web Services	3	COMP3702
ERSC2011	Palaeontology I	3	ERSC2101
ERSC2101	Introduction to Geology I	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
ERSC2102	Introduction to Geology II	4	ERSC2101
ERSC2112	Historical Geology	3	ERSC2101
ERSC3000	Environmental Geology	3	LANC2058 and ERSC2101 and CHEM2101
ERSC3002	Environmental Site Assessment and Remediation	3	LANC2058 and ERSC2102 and ERSC3000
ERSC3010	Mineralogy	3	LANC2058 and ERSC2102
ERSC3021	Structural Geology	3	LANC2058 and ERSC2102
ERSC3041	Stratigraphy	3	LANC2058 and ERSC2102
ERSC3061	Introduction to Remote Sensing	3	LANC2058 and ERSC2102
ERSC3071	GIS and Geo-Spatial Applications	3	LANC2058 and ERSC2102
ERSC3210	Palaeontology II	3	LANC2058 and ERSC2011
ERSC3901	Sedimentary Petrology	3	LANC2058 and ERSC3010
ERSC4031	Geochemistry	3	ERSC2102 and CHEM2101
ERSC4032	Environmental Geochemistry	3	ERSC2101 and CHEM2101
ERSC4051	Hydrogeology	3	ERSC2102
ERSC4071	Economic Geology	3	ERSC3051
ERSC4311	Sedimentary Environments and Facies	3	ERSC3901
ERSC4321	Structural Geology II	3	ERSC3021
ERSC5011	Basin Analysis	3	ERSC3021 and ERSC4311
ERSC5051	Petroleum Geology	3	ERSC3041
ERSC5061	Exploration Geophysics	3	GEOP3041

ERSC5071	Image Processing and GIS	3	ERSC3061
ERSC5900	Advanced Diagenesis and Sedimentary Geochemistry	3	ERSC3901
GEOP3000	Earthquakes and Society	3	LANC2058 and ERSC2101
GEOP3041	General Geophysics	3	LANC2058 and ERSC2101 and MATH2107 and PHYS2101
GEOP3042	Principles of Geophysical Well Logging	3	LANC2058 and GEOP3041
GEOP4001	Applied Geophysics I	3	GEOP3041 and PHYS3100
GEOP4002	Applied Geophysics II	3	GEOP3041 and PHYS3012
GEOP4003	Gravity and Magnetic Exploration Methods	3	GEOP3041
GEOP4010	Fundamentals of Signal Processing	3	GEOP4001 and PHYS3100 and (MATH3171 or MATH3302)
GEOP4011	Geophysical Data Processing	3	GEOP4001 and MATH3171
GEOP5021	Engineering and Environmental Geophysics	3	GEOP3041
GEOP5060	Interpretation of Seismic Reflection Data	3	ERSC3041 and GEOP3041
MATH2202	Linear Algebra I	3	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
MATH2350	Foundations of Mathematics	3	MATH2107
MATH3110	Calculus III	4	LANC2058 and MATH2108
MATH3302	Ordinary Differential Equations	3	LANC2058 and MATH2108
MATH3303	Linear Algebra II	3	LANC2058 and MATH2202
MATH3360	Discrete Mathematics	3	LANC2058 and MATH2350
MATH3573	Graph theory	3	LANC2058 and MATH3360
MATH3730	Computer Algebra system I	2	LANC2058 and MATH2202 and MATH3110
MATH3744	Introduction to Mathematical Modelling	3	LANC2058 and MATH3110 and MATH3302
MATH4141	Numerical Analysis	3	MATH2108 and MATH2202
MATH4450	Real Analysis I	3	MATH2108 and MATH2350
MATH4452	Introduction to Complex Variables	3	MATH3110 or MATH3171
MATH4453	Abstract Algebra I	3	MATH2202 and MATH2350
MATH4473	Linear Programming	3	MATH2202 or MATH3171
MATH4474	Introduction to Partial Differential Equations	3	MATH3302
MATH4481	Introduction to Optimisation	3	MATH2108 and (MATH2202 or MATH3171)
MATH4552	Logic and Set Theory	3	MATH2350 or MATH3340
MATH5451	Real Analysis II	3	MATH4450
MATH5470	Integral Transforms	3	MATH4474
MATH5551	Fluid Dynamics	3	MATH4474
MATH5553	Differential Geometry I	3	MATH3110 and MATH3303
MATH5558	Introduction to Number Theory	3	MATH3340 and MATH3350 and MATH3357
PHYS2102	General Physics II	4	PHYS2101
PHYS2901	Introductory Astronomy	3	
PHYS3001	Dynamics	3	LANC2058 and PHYS2101 and PHYS3101
PHYS3012	Electromagnetism	3	LANC2058 and PHYS2102 and MATH3171
PHYS3101	Theoretical Methods of Physics I	3	LANC2058 and MATH3171
PHYS3103	Physics III	3	LANC2058 and PHYS2102 and MATH2107
PHYS3104	Modern Physics	3	LANC2058 and PHYS3103
PHYS3601	Radiation Physics	3	LANC2058 and PHYS3104
PHYS3602	Fundamentals of Radiation Protection	3	LANC2058 and PHYS3601
PHYS3603	Operational Radiation Protection	3	LANC2058 and PHYS3602
PHYS3901	Mysteries of the Universe	3	LANC2058 and (PHYS2801 or PHYS2901)

PHYS3903	Introduction to Space Science	3	LANC2058 and (PHYS2801 or PHYS2901)
PHYS3905	Essentials of Meteorology	3	LANC2058 and PHYS2101 and (PHYS2801 or PHYS2901)
PHYS3907	Observational Techniques in Astronomy	3	LANC2058 and PHYS3901
PHYS4018	Thermal & Statistical Physics	4	PHYS3104
PHYS4100	Optics and Lasers	3	PHYS3012 and PHYS3103
PHYS4101	Quantum Physics I	3	PHYS3101 and PHYS3104)
PHYS4601	Ionizing Radiation Detection	3	PHYS3601
PHYS4602	Nuclear Applications	3	PHYS3601
PHYS4901	Stellar Evolution & Nucleosynthesis	3	PHYS3901
PHYS4902	Galactic Structure and Cosmology	3	PHYS3901
PHYS5003	Condensed Matter Physics	3	PHYS4018 and PHYS4101
PHYS5106	Nuclear Physics	3	PHYS4101
PHYS5601	Introduction to Nuclear Power	3	PHYS3601
PHYS5901	Image Processing & Data Analysis	3	PHYS3100 and PHYS3907
STAT1001	Introduction to Statistics	4	FPEL 0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
STAT2102	Introduction to Probability	3	STAT1001
STAT3331	Operations Research I	3	LANC2058 and STAT1001 and MATH2108
STAT3334	Introduction to Inference	3	LANC2058 and STAT2102
STAT3335	Introduction to Sampling		LANC2058 and STAT2102
STAT3336	Computational Techniques in Statistics	3	LANC2058 and STAT2102 and ENGR2216
STAT3337	Introduction to Actuarial Science I	3	LANC2058 and STAT2102
STAT3338	Statistical Methods	3	LANC2058 and STAT3334
STAT4432	Regression Analysis	3	STAT3334
STAT4433	Design of Experiments I	3	STAT3338
STAT4434	Non Parametric Statistics	3	STAT3334
STAT4436	Survey Design	3	STAT3335
STAT4533	Quality Assurance and Reliability	3	STAT2102
STAT4534	Simulation	3	STAT3336
STAT5521	Categorical Data analysis	3	STAT3338
STAT5522	Demographic and Health Care Statistics	3	STAT3334
STAT5536	Time Series Analysis	3	STAT3334
STAT5537	Multivariate Techniques	3	STAT3334 and MATH2202 and MATH3110
<b>Total</b>		<b>21</b>	

**Department of Chemistry – Applied Chemistry Degree Plan for Cohorts 2010-2015  
LIST OF APPROVED MINORS WHICH CAN BE TAKEN BY  
APPLIED CHEMISTRY MAJORS**

	<b>Minor</b>	<b>College</b>
1	Astronomy	Science
2	Biology	Science
3	Business	Economics and Political Science
4	Computer Science	Science
5	Earth Science	Science
6	Mathematics	Science
7	Nuclear Science	Science
8	Physics	Science
9	Soil and Water Sciences	Agriculture and Marine Science
10	Statistics	Science

Minor is optional: The minimum total credits to earn a Minor are 18. Courses counting towards an Approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (Lists C, D, E, F) may count towards a Minor

**1. MINOR IN ASTRONOMY  
DEPARTMENT OF PHYSICS**

**J1**                      **Minor in Astronomy Required Courses (0 Credits)**

**K1**                      **Minor in Astronomy Elective Courses (18 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
PHYS2901	Introductory Astronomy	3	
PHYS3901	Mysteries of the Universe	3	LANC2058 and (PHYS2801 or PHYS2901)
PHYS3903	Introduction to Space Science	3	LANC2058 and (PHYS2801 or PHYS2901)
PHYS3905	Essentials of Meteorology	3	LANC2058 and (PHYS2801 or PHYS2901)
PHYS3907	Observational Techniques in Astronomy	3	LANC2058 and PHYS3901
PHYS4901	Stellar Evolution & Nucleosynthesis	3	PHYS3901
PHYS4902	Galactic Structure and Cosmology	3	PHYS3901
PHYS5901	Image Processing & Data Analysis	3	PHYS3100 and PHYS3907
<b>Total</b>		<b>18</b>	

**2. MINOR IN BIOLOGY  
DEPARTMENT OF BIOLOGY**

**J2 Minor in Biology Required Courses (8 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
BIOL2101	General Biology I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
BIOL2102	General Biology II	4	BIOL2101
<b>Sub Total</b>		<b>8</b>	

**K2 Minor in Biology Elective Courses (Minimum 10 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
BIOL3005	Ecology	3	LANC2058 and BIOL2102
BIOL3009	Introduction to Environmental Science	3	LANC2058 and BIOL2102
BIOL3011	Plant Physiology	3	LANC2058 and BIOL2102
BIOL3023	Animal Physiology	4	LANC2058 and BIOL2102
BIOL3025	Invertebrates	3	LANC2058 and BIOL2102
BIOL3202	Molecular Biology	3	LANC2058 and BIOL2101
BIOL3410	Angiosperm Biology	3	LANC2058 and BIOL2102
BIOL3441	Introductory Microbiology	3	LANC2058 and BIOL2101
BIOL4030	Bacteriology	3	BIOL3441
BIOL4034	Biochemistry	3	BIOL2101 and (CHEM3322 or CHEM3327)
BIOL4046	Fundamentals of Biotechnology	3	BIOL3441
BIOL4432	Introduction to Genetics	3	BIOL2101
BIOL4500	Cell Biology	3	BIOL2101 or MEDI2108
BIOL5021	Desert Biology	3	BIOL3005
BIOL5042	Embryology	3	BIOL2102
BIOL5052	Freshwater Biology	3	BIOL3005
BIOL5402	Immunology	3	BIOL3341 and BIOL4500
<b>Sub Total (Minimum)</b>		<b>10</b>	

**3. MINOR IN BUSINESS  
COLLEGE OF ECONOMICS AND POLITICAL SCIENCE**

**J3 Minor in Business Required Courses (0 credits)**

**K3 Minor in Business Elective Courses (18 credits)**

Code	Title	Cr	Pre-req./Co-req.*
ACCT1112	Introductory to Finance Accounting	3	None
ECON1211	Microeconomics	3	None
ECON2221	Macroeconomics	3	None
MNGT1515	Principles of Management	3	None
MRKT3611	Principles of Marketing	3	ECON1211 and ECON2221
POMG2710	Operation Management	3	STAT1811 or STAT1001
POMG 3711	Principles of Management Science	3	STAT1811 or STAT1001
<b>Total</b>		<b>18</b>	

**4. MINOR IN COMPUTER SCIENCE  
DEPARTMENT OF COMPUTER SCIENCE**

**J4 Minor in Computer Science Required Courses (10 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
COMP2101	Introduction to Computer Science	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPCS0101 or FPCS0102)
COMP2102	Problem Solving and Programming	3	COMP2101
COMP3200	Object Oriented Programming	3	LANC2058 and COMP2102
<b>Sub Total</b>		<b>10</b>	

**K4 Minor in Computer Science Elective Courses (Minimum 8 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
COMP2105	Introduction to Problem Solving with Visual Basic	3	COMP2101
COMP2206	Introduction to Java	3	COMP3200
COMP3203	Introduction to Data Structures & Algorithms	3	LANC2058 and COMP3200
COMP3204	Advanced Java Programming	3	LANC2058 and COMP2206
COMP3302	Introduction to Multimedia	3	LANC2058 and COMP3200
COMP3401	Introduction to Software Engineering	4	LANC2058 and COMP3200
COMP3501	Computer Organization and Assembly Language	3	LANC2058 and COMP2102 and ECCE3206
COMP3601	Bioinformatics Algorithms	3	LANC2058 and COMP2101 and BIOL2101
COMP3700	Introduction to Web Computing	3	LANC2058 and COMP3200
COMP3702	Principles of Web Applications	3	LANC2058 and COMP3701
COMP4201	Introduction to Database Systems	3	COMP3203 or COMP4517 or COMP3202
COMP4202	Database Development	3	COMP4201
COMP4206	Mobile Applications Development	3	COMP2206 and COMP3700
COMP4300	Computer Graphics I	3	COMP3202 and MATH2202
COMP4401	Analysis, Design, and Architecture of Software Systems	3	COMP3401
COMP4402	Software Testing	3	COMP3401
COMP4404	Software Project Management	3	COMP3401
COMP4501	Fundamentals of Operating Systems	3	COMP3202 and COMP3501
COMP4502	Networks & Communication	3	COMP3501
COMP4601	Introduction to Intelligent Systems	3	COMP3203 or COMP4517 or COMP3202
COMP4602	Advanced Web Applications Development	3	COMP3702
COMP4703	Web Data Mining and Social Networking	3	COMP3700 and (STAT2102 or STAT2103)
COMP5302	Digital Image Processing	3	COMP3202 or COMP3203
<b>Sub Total (Minimum)</b>		<b>8</b>	

**5. MINOR IN EARTH SCIENCES  
DEPARTMENT OF EARTH SCIENCES**

**J5 Minor in Earth Science Required Courses (8 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
ERSC2101	Introduction to Geology I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
ERSC2102	Introduction to Geology II	4	ERSC2101
<b>Sub Total</b>		<b>8</b>	

**K5 Minor in Earth Science Elective Courses (Minimum 10 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
ERSC2011	Palaeontology I	3	ERSC2101
ERSC3000	Environmental Geology	3	LANC2058 and ERSC2101 and CHEM2101
ERSC3002	Environmental Site Assessment and Remediation	3	LANC2058 and ERSC2102 and ERSC 3000
ERSC3010	Mineralogy	3	LANC2058 and ERSC2102
ERSC3021	Structural Geology	3	LANC2058 and ERSC2102
ERSC3041	Stratigraphy	3	LANC2058 and ERSC2102
ERSC3061	Introduction to Remote Sensing	3	LANC2058 and ERSC2102
ERSC3901	Sedimentary Petrology	3	LANC2058 and ERSC3010
ERSC4031	Geochemistry	3	ERSC2101 and CHEM2101
ERSC4032	Environmental Geochemistry	3	ERSC2101 and CHEM2101
ERSC4051	Hydrogeology	3	ERSC2102
ERSC4071	Economic Geology	3	ERSC3051
ERSC4311	Sedimentary Environments and Facies	3	ERSC3901
ERSC4321	Structural Geology II	3	ERSC3021
ERSC5011	Basin Analysis	3	ERSC3021 and ERSC4311
ERSC5051	Petroleum Geology	3	ERSC3041
ERSC5061	Exploration Geophysics	3	GEOP3041
GEOP3000	Earthquakes and Society	3	LANC2058 and ERSC2101
GEOP3041	General Geophysics	3	LANC2058 and ERSC2101 and MATH2107 and PHYS2101
<b>Sub Total (Minimum)</b>		<b>10</b>	



**6. MINOR IN MATHEMATICS**  
**DEPARTMENT OF MATHEMATICS AND STATISTICS**

**J6 Minor in Mathematics Required Courses (14 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
MATH2107	Calculus I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
MATH2108	Calculus II	3	(MATH2107 or FPMT0105 or FPMT0109)
MATH2202 <sup>†</sup>	Linear Algebra I <sup>†</sup>	3	MATH1106 or FPMT0105 or FPMT0109
MATH3110 <sup>†</sup>	Calculus III <sup>†</sup>	4	LANC2058 and MATH2108
<b>Sub Total</b>		<b>14</b>	
		<b>(10<sup>†</sup>)</b>	

<sup>†</sup> MATH 3171 Linear Algebra & Multivariate Calculus (3 credits; Pre-req.: MATH2108) can substitute both MATH2202 and MATH3110 above. However, students who have passed MATH 3171 cannot take MATH 2202 or MATH 3110, and vice versa.

**K6 Minor in Mathematics Elective Courses (Minimum 4 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
MATH2350 or MATH3340	Foundations of Mathematic or Discrete Mathematics for Computer Sciences	3 3	MATH2107 MATH2107 and COMP2101
MATH3302 or MATH4174	Ordinary Differential Equations or Differential Equations and Applications for Engineers	3 3	LANC2058 and MATH2108 LANC2058 and MATH2108
MATH3303	Linear Algebra II	3	LANC2058 and MATH2202
MATH3573	Graph theory	3	MATH2350 or MATH3360
MATH3744	Introduction to Mathematical Modelling	3	LANC2058 and MATH3110 and MATH3302
MATH4141	Numerical Analysis	3	MATH2108 and MATH2202
MATH4450	Real Analysis I	3	MATH2108 and (MATH2350 or MATH3340)
MATH4452	Introduction to Complex Variables	3	MATH3110 or MATH3171
MATH4453	Abstract Algebra I	3	MATH2202 and (MATH2350 or MATH3340)
MATH4473	Linear Programming	3	MATH2202 or MATH3171
MATH4474	Introduction to Partial Differential Equations	3	MATH3302
MATH4481	Introduction to Optimisation	3	MATH2108 and (MATH2202 or MATH3171)
MATH5551	Fluid Dynamics	3	MATH4474
MATH5558	Introduction to Number Theory	3	MATH3340 and MATH3350 and MATH3357
<b>Sub Total (Minimum)</b>		<b>4</b>	

**7. MINOR IN NUCLEAR SCIENCE  
DEPARTMENT OF PHYSICS**

**J7**                    **Minor in Nuclear Science Required Courses (18 Credits)**  
**K7**                    **Minor in Nuclear Science Elective Courses (0 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
PHYS3601	Radiation Physics	4	LANC2058 and PHYS3104
PHYS3602	Fundamentals of Radiation Protection	3	LANC2058 and PHYS3601
PHYS3603	Operational Radiation Protection	3	LANC2058 and PHYS3602
PHYS4601	Ionizing Radiation Detection	3	PHYS3601
PHYS4602	Nuclear Applications	3	PHYS3601
PHYS5601	Introduction to Nuclear Power	3	PHYS3601
<b>Total</b>		<b>18</b>	

**8. MINOR IN PHYSICS  
DEPARTMENT OF PHYSICS**

**J8**                    **Minor in Physics Required Courses (14 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
PHYS2102	General Physics II	4	PHYS2101
PHYS3103	Physics III	3	LANC2058 and PHYS2102 and MATH2107
PHYS3104	Modern Physics	3	LANC2058 and PHYS3103
<b>Sub Total</b>		<b>14</b>	

**K8**                    **Minor in Physics Elective Courses (Minimum 4 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
PHYS <sup>†</sup>	Any other courses in Physics		
<b>Sub Total (Minimum)</b>		<b>4</b>	

<sup>†</sup> Excluding Physics courses offered as University Electives

**9- MINOR IN SOIL AND WATER SCIENCES  
COLLEGE OF AGRICULTURE AND MARINE SCIENCES  
(DEPARTMENT OF SOIL, WATER AND AGRICULTURAL ENGINEERING)**

**J9 Minor in Soil and Water Sciences Required Courses (3 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
SWAE2201	Introduction to Soils and Water	3	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604
<b>Sub Total (Minimum)</b>		<b>3</b>	

**K9 Minor in Soil and Water Sciences Elective Courses (15 Credits)**

Code	Title	Cr	Pre-req./Co-req.*
SWAE3002	Desertification and Land Restoration	3	SWAE2201
SWAE3302	Environmental Soil Chemistry	3	SWAE2201 or CHEM2101
SWAE3304	Soil and Water Conservation	3	None
SWAE3311	Environmental Soil Physics	3	SWAE2201 and PHYS2101 and (MATH2106 or FPMT0105 or FPMT0109)
SWAE3411	Environmental Soil Microscopy	3	BIOL2101
SWAE4111	Hydrology for Soil-Water Landscape Interactions	3	SWAE2201 and SWAE3303 and SWAE3311
SWAE4401	Water and Nutrients in Soil-Plant Environment	3	SWAE2201 and CR <sup>†</sup>
SWAE4404	Soil Genesis and Classification	3	(SWAE2201 or ERSC2101) and CR <sup>†</sup>
SWAE 4412	Management of Salt-Affected Soil	3	SWAE2201 and CR <sup>†</sup>
<b>Sub Total</b>		<b>15</b>	

<sup>†</sup> CR - CAMS college requirement courses which are B10L2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS2101 or PHYS2107.

**10. MINOR IN STATISTICS  
DEPARTMENT OF MATHEMATICS AND STATISTICS**

**J10 Minor in Statistics Required Courses (10 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
STAT1001	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
STAT2102	Introduction to Probability	3	STAT1001
STAT3334	Introduction to Inference	3	LANC2058 and STAT2102
<b>Sub Total</b>		<b>10</b>	

**K10 Minor in Statistics Elective Courses (Minimum 8 Credits)**

<b>Code</b>	<b>Title</b>	<b>Cr</b>	<b>Pre-req./Co-req.*</b>
STAT3331	Operations Research I	3	LANC2058 and STAT1001 and MATH2108
STAT3335	Introduction to Sampling	3	LANC2058 and STAT2102
STAT3336	Computational Techniques in Statistics	3	LANC2058 and STAT2102 and ENG2216
STAT3338	Statistical Methods	3	LANC2058 and STAT3334
STAT4432	Regression Analysis	3	STAT3334 and MATH2202
STAT4433	Design of Experiments 1	3	STAT3338
STAT4434	Non Parametric Statistics	3	STAT3334
STAT4436	Survey Design	3	STAT4435 or STAT3335
STAT4533	Quality Assurance and Reliability	3	STAT2102
STAT5521	Categorical Data analysis	3	STAT3338
STAT5536	Time Series Analysis	3	STAT3334
STAT5537	Multivariate Techniques	3	STAT3334 and MATH2202 and MATH3110
<b>Sub Total (Minimum)</b>		<b>8</b>	

For reference contact:

Dr. John Husband

Ext. 2235

Approved by Dean of Science:

Date: 22-Dec-15

Office of Admissions & Registration:

Confirmed: