



## Degree and Study plan

College: Science  
 Department: Mathematics and Statistics  
 Cohorts: 2010-2015  
 Degree: Bachelor of Science  
 Major: Statistics  
 Minor: Health Statistics  
 Specialization:

### Summary of Credits:

<b>University Requirements (UR)</b>		<b>6</b>
Foundation Program	NC <sup>+</sup>	
Arabic	3	
Modern Oman 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>16</b>
See list D		
<b>Departmental Electives (DE)</b>		<b>6</b>
See list E		
<b>Major Requirements (AR)</b>		<b>39</b>
See list F		
<b>Major Electives (AE)</b>		<b>12</b>
See list G		
<b>Specialization Requirements (SR)</b>		
See list H		
<b>Specialization Electives (SE)</b>		
See list I		
<b>Minor Requirements (IR) <sup>++</sup></b>		
See list J		<b>20</b>
<b>Minor Electives (IE)</b>		
See list K		
<b>TOTAL</b>		<b>124</b>

<sup>+</sup> Not credited.

<sup>++</sup>Minor is mandatory: minimum total credits to earn a Minor are 18.

For reference contact: Dr. Charles Saki Bakheit      Ext. 1416

HOD:            Dr. Khidir Abdelbasit                      Date  
 Dean's Office: Prof. Salma Al-Kindy            Date  
 Admission and Registration                      Date

**Department of Mathematics and Statistics**

**Degree Plan for Statistics Major with a Minor in Health Statistics Study Plan for Cohort 2010/2015**

Categories	CR
University Requirements (UR)	6
University Electives (UE)	6
College Requirement (CR)	3
College Electives (CE)	16
Departmental Requirements (DR)	16
Departmental Electives (DE)	6
Major Requirements (AR)	39
Major Electives (AE)	12
Minor requirements (IR)	20
<b>TOTAL</b>	<b>124</b>

**Department of Mathematics and Statistics**

**Degree Plan for Statistics Major with a Minor in Health Statistics Study Plan for Cohort 2010/2015**

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
<b>Semester 1 &amp; 2</b>		<b>Foundation Program</b>	<b>0</b>		UR
	<b>Total</b>		<b>0</b>		

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
<b>Semester 3 Fall</b>	COMP 2101	Introduction to Computer Science	4	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPCS0101 or FPCS0102	CE
	LANC2058	Communication in Science	3	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604	CR
	MATH2107	Calculus I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109	CE
	SOCI3320	Modern Oman Society	1		UR
	STAT1001	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109	CE
<b>Total</b>			<b>16</b>		

<b>Semester 4 Spring</b>	ARAB1001	Arabic	3		UR
	BIOL2101	General Biology I	4	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604	CE
	MATH2350	Foundation of Mathematics	3	MATH 2107	DR
	MATH2108	Calculus II	3	MATH2107	DR
	STAT2102	Introduction to Probability	3	STAT 1001, MATH 2108*	DR

	<b>Total</b>	<b>16</b>
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<b>Semester 5 Fall</b>	BIOL2105	Human Physiology	<b>4</b>	BIOL2101	<b>IR</b>
	ENGR2216	Fortran Programming for Engineers	<b>3</b>		<b>AR</b>
	MATH2202	Linear Algebra I	<b>3</b>	FPMT0105/0109&FPEL0601 /0602/0603	<b>DR</b>
	STAT3334	Introduction to Inference	<b>3</b>	STAT2102 & LANC2058	<b>AR</b>
	STAT3335	Introduction to Sampling	<b>3</b>	STAT1001 & LANC2058	<b>AR</b>
	<b>Total</b>			<b>16</b>	

<b>Semester 6 Spring</b>	HIST1010 or ISLAM1001	Oman & Islamic Civilization or Islamic culture	<b>2</b>		<b>UR</b>
	MATH3110	Calculus III	<b>4</b>	MATH2108 & LANC2058	<b>DR</b>
	STAT3336	Computational Techniques in Statistics	<b>3</b>	STAT2102, ENGR2216 & LANC2058	<b>AR</b>
	STAT3338	Statistical Methods	<b>3</b>	STAT3334 & LANC2058	<b>AR</b>
		University Elective	<b>2</b>		<b>UE</b>
	<b>Total</b>			<b>14</b>	

<b>Semester 7 Fall</b>	STAT4432	Regression Analysis	<b>3</b>	STAT3334, MATH2202	<b>AR</b>
	STAT4436	Survey Design	<b>3</b>	STAT3335	<b>IR</b>
	STAT4433	Design and Analysis of Experiments	<b>3</b>	STAT 3338	<b>AR</b>
		Major Elective	<b>3</b>		<b>AE</b>
		University Elective	<b>2</b>		<b>UE</b>
	<b>Total</b>			<b>14</b>	

<b>Semester 8 Spring</b>	STAT4434	Non-parametric Statistics	<b>3</b>	STAT3334	<b>AR</b>
	STAT4500 (Sum.)	Internship	<b>3</b>	BIOL2105, STAT3338	<b>IR</b>
		Departmental Elective	<b>3</b>		<b>DE</b>
		Major Elective	<b>3</b>		<b>AE</b>
		University Elective	<b>2</b>		<b>UE</b>
	<b>Total</b>			<b>14</b>	

<b>Semester 9 Fall</b>	EPIS5541	Principles of Epidemiology	<b>3</b>	BIOL2105	<b>IR</b>
	STAT5521	Categorical Data Analysis	<b>3</b>	STAT3338	<b>AR</b>
	STAT5537	Multivariate Techniques	<b>3</b>	STAT3334, MATH2202,	<b>AR</b>
	STAT5556	Project in Statistics	<b>3</b>	STAT 4432, STAT 4433	<b>AR</b>
		Major Elective	<b>3</b>		<b>AE</b>
	<b>Total</b>			<b>15</b>	

<b>Semester 10 Spring</b>	EPIS5542	Special Epidemiology	<b>2</b>	EPIS5541	<b>IR</b>
	EPIS5543	Health Management	<b>2</b>	EPIS5541	<b>IR</b>
	STAT5522	Demographic and Health Care Stats.	<b>3</b>	STAT3334	<b>IR</b>
	STAT5536	Time Series Analysis	<b>3</b>	STAT3334	<b>AR</b>
	STAT5557	Project in Statistics	<b>3</b>	STAT 4432, STAT 4433	<b>AR</b>
		Major Elective	<b>3</b>		<b>AE</b>
<b>Total</b>			<b>16</b>		

**Department of Mathematics and Statistics**

**Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015**

**University Requirements (UR) (12 Credits)**

<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Pre-Requisite / Co-req. *</b>
ARAB1001	Arabic	<b>3</b>	
HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	<b>2</b>	
SOCI3320	Modern Oman Society	<b>1</b>	
	University Electives	<b>6</b>	
<b>Total</b>		<b>12</b>	

**Department of Mathematics and Statistics**

**Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015**

**LIST A: UNIVERSITY ELECTIVES (UE) (6 Credits)**

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

**LIST B: COLLEGE REQUIREMENTS (CR) (3 Credits)**

<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-Requisite / Co-req. *</b>
LANC2058	Communication in Science	<b>3</b>	Foundation English
<b>Total</b>		<b>3</b>	

**Department of Mathematics and Statistics**

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**LIST C: COLLEGE ELECTIVES (CE) (16 Credits)**

<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-Requisite / Co-Req. *</b>
BIOL2101 <sup>+++</sup>	General Biology I	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604
CHEM2101	General Chemistry I	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
COMP2101 <sup>++</sup>	Introduction to Computer Science	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604 and (FPCS0101/FPCS0102)
ERSC2101	Introduction to Geology I	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604
MATH2107 <sup>+</sup>	Calculus I	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)

STAT1001 <sup>+</sup>	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL601 or FPEL602 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
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<sup>+</sup>MATH2107 and STAT1001 are important pre-requisite courses for Mathematics & Statistics departmental requirements.

<sup>++</sup>COMP2101 is a required course for Mathematics and Statistics degrees. <sup>+++</sup>BIOL2101 is a required course for the Minor in Health Statistics. Credits in excess of 16 can be counted as Major Electives (List G).

### Department of Mathematics and Statistics

#### Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015

#### LIST D: DEPARTMENTAL REQUIREMENTS (16 Credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
MATH2108	Calculus II	3	MATH2107
MATH2202	Linear Algebra I	3	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
MATH2350	Foundations of Mathematics	3	MATH2107
MATH3110	Calculus III	4	MATH2108 & LANC2058
STAT2102	Introduction to Probability	3	STAT1001 MATH2108*
<b>Total</b>		<b>16</b>	

### Department of Mathematics and Statistics

#### Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015

#### LIST E: DEPARTMENTAL ELECTIVES (DE) (6 Credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
STAT3331	Operations Research I	3	LANC2058 & MATH2108 & STAT1001
STAT3337	Introduction to Actuarial Science I	3	STAT2102 & LANC2058
STAT4533	Quality Assurance and Reliability	3	STAT 2102

Credits in excess of 6 can be counted as Major Electives (List G).

### Department of Mathematics and Statistics

#### Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015

#### LIST F: Major Requirements (AR) (39 Credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
ENGR2216	FORTRAN Programming for Engineers	3	
STAT3334	Introduction to Inference	3	STAT2102 & LANC2058
STAT3335	Introduction to Sampling	3	STAT2102 & LANC2058
STAT3336	Computational Techniques	3	STAT2102, ENGR2216 & LANC2058
STAT3338	Statistical Methods	3	STAT3334 & LANC2058
STAT4432	Regression Analysis	3	MATH2202, STAT3334
STAT4433	Design and Analysis of Experiments I	3	STAT3338
STAT4434	Non-parametric Statistics	3	STAT3334
STAT5521	Categorical Data Analysis	3	STAT3338
STAT5536	Time Series Analysis	3	STAT3334
STAT5537	Multivariate Techniques	3	MATH2202, MATH3110, STAT3334

STAT5555	Project in Statistics	3	STAT 4432, STAT 4433
STAT5556	Project in Statistics	3	STAT 4432, STAT 4433
<b>Total</b>		<b>39</b>	

**Department of Mathematics and Statistics**  
**Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015**  
**LIST H: Minor Requirements (IR) (20 Credits)**

Code	Title	Credits	Pre-Requisite / Co-req. *
BIOL2105	Human Physiology	4	BIOL2101
STAT4436	Survey design	3	STAT3335
STAT4500	Internship	3	BIOL2105, STAT3338
EPIS5541	Principles of Epidemiology	3	BIOL2105
EPIS5542	Special Epidemiology	2	EPIS5541
EPIS5543	Health Management	2	EPIS5541
STAT5522	Demographic and Health Care Statistics	3	STAT3334
<b>Total</b>		<b>20</b>	

**Department of Mathematics and Statistics**  
**Degree Plan for Statistics Major with a Minor in Health Statistics for Cohorts 2010-2015**  
**LIST G: MAJOR ELECTIVES (AE) (12 Credits)**

Course Code	Course Title	Credits	Pre-Requisite / Co-Requisite*
BIOL2102	General Biology II	4	BIOL2101
BIOL2600	Biodiversity	3	BIOL2101
BIOL3002	Natural Conservation in Oman	3	BIOL2101 and LANC2058
BIOL3005	Ecology	3	BIOL2102 and LANC2058
BIOL3009	Introduction to Environmental Science	3	BIOL2102 and LANC2058
BIOL3011	Plant Physiology	3	BIOL2102 and LANC2058
BIOL3023	Animal Physiology	4	BIOL2102 and LANC2058
BIOL3025	Invertebrates	3	BIOL2102 and LANC2058
BIOL3202	Molecular Biology	3	BIOL2101 and LANC2058
BIOL3410	Angiosperm Biology	3	BIOL2102 and LANC2058
BIOL3441	Introductory Microbiology	3	BIOL2101 and LANC2058
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, BIOL3441
BIOL4054	Marine Biology	3	BIOL3005
BIOL4402	Current Topics in Biology	1	BIOL2101
BIOL4432	Introduction to Genetics	3	BIOL2101
BIOL4500	Cell Biology	3	BIOL2101 or MEDI2108
BIOL4501	Principles of Toxicology	3	BIOL2101
BIOL4600	Biofuels	3	BIOL4030
BIOL4640	Environmental Pollution	3	BIOL4009
BIOL5010	Ecotoxicology	3	BIOL3009
BIOL5021	Desert Biology	3	BIOL3005
BIOL5031	Enzyme Biochemistry	3	BIOL4034

BIOL5034	Plant Metabolites	3	BIOL4034
BIOL5040	Genetic Engineering	3	BIOL3202
BIOL5042	Embryology	3	BIOL2102
BIOL5045	Economy Botany	3	BIOL2102
BIOL5052	Freshwater Biology	3	BIOL3005
BIOL5054	Biological Conservation	3	BIOL3005
BIOL5101	Biology Project I	3	Instructor, BIOL4000*
BIOL5102	Biology Project II	3	BIOL5101
BIOL5110	Special Topics in Biology	3	Instructor
BIOL5120	Microbial Biotechnology	3	BIOL3441, 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, BIOL3201
BIOL5402	Immunology	3	BIOL3441, BIOL4500
BIOL5411	Fermentation Technology	3	BIOL4030
BIOL5501	Protein Production and Characterization	3	BIOL4034, BIOL4046
BIOL5600	Techniques in Molecular Diversity	3	BIOL3202
BIOL5610	Environmental Impact Assessment	3	BIOL3009
CHEM2101	General Chemistry I <sup>†</sup>	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
CHEM2102	General Chemistry II	4	CHEM2101 or CHEM1071
CHEM2350	Chemical Safety: Protecting ourselves and the environment	3	LANC2058 and (CHEM2101 or CHEM1071 or CHEM2110)
CHEM3310	Descriptive Inorganic Chemistry	3	LANC2058 and CHEM2101 and (MATH1106 or FPMT0105 FPMT0109)
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)
CHEM3327	Organic Chemistry for Health Science	4	LANC2058 and CHEM2101
CHEM3333	Physical Chemistry I	3	LANC2058 and CHEM2101 and PHYS2101 and MATH2107 and CHEM3335* and MATH2108*
CHEM3337	Fundamentals of the Corrosion of Metals	3	LANC2058 and (CHEM2101 or CHEM1071)
CHEM3341	Analytical Chemistry I	3	LANC2058 and CHEM2102 and (MATH2107 or FPMT0105 or FPMT0109)
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*
CHEM3420	Petroleum Chemistry and Industrial Organic Processes	3	LANC2058 and CHEM3322
CHEM4412	Inorganic Materials	3	CHEM3311
CHEM4413	Organometallic Chemistry	3	CHEM4411
CHEM4414	Fundamentals of X-ray Crystallography	3	CHEM3311
CHEM4422	Organic Chemistry II	3	CHEM3322
CHEM442	Organic Synthetic Methods	3	CHEM4421 or CHEM4422



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CHEM4424	Introduction to Natural Products	3	CHEM4421 or CHEM4422
CHEM4425	Organic Chemistry Laboratory	3	CHEM3326 and 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
CHEM4441	Analytical Chemistry II	3	CHEM3341
CHEM4442	Instrumental Analysis	3	CHEM4441
CHEM4445	Forensic Chemistry	3	CHEM3341
CHEM4472	Fine Chemicals	3	CHEM4422
CHEM4474	Polymer Materials and Applications	3	CHEM3322
CHEM4476	Catalysis	3	CHEM4411
CHEM4477	Essentials of Biological Chemistry	3	CHEM4422
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
CHEM5578	Chemical Quality Control and Assurance	3	CHEM4441
CHEM5591	Chemistry Seminar I	1	
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 and Social Issues for Computing Profession	1	COMP3401 and LANC2058
COMP3200	Object Oriented Programming	3	COMP2102 and LANC2058
COMP3203	Introduction to Data Structures and Algorithms	3	COMP3200 and LANC2058
COMP3204	Advanced Java Programming	3	COMP2206 and LANC2058
COMP3302	Introduction to Multimedia	3	COMP3200 and LANC2058
COMP3401	Introduction to Software Engineering	4	COMP3200 and LANC2058
COMP3501	Computer Organization & Assembly Language	3	COMP2102 and ECCE3206 and LANC2058
COMP3601	Bioinformatics Algorithms	3	BIOL2101 and COMP2101
COMP3700	Introduction to Web Computing	3	COMP3200 and LANC2058
COMP3702	Principles of Web Applications	3	COMP3700 and LANC2058
COMP420	Introduction to Database Systems	3	COMP3203

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COMP420 2	Database Development	3	COMP4201
COMP420 4	Advanced Data Structures and Algorithms	3	COMP3203 and MATH3340
COMP420 6	Mobile Applications Development	3	COMP2206 and COMP3700
COMP421 2	Introduction to Information Retrieval		COMP3202
COMP430 0	Computer Graphics I	3	COMP3202 and MATH2202
COMP440 1	Analysis, Design, and Architecture of Software Systems	3	COMP3401
COMP440 2	Software Testing	3	COMP3401
COMP440 4	Software Project Management	3	COMP3401
COMP447 1	Computational Methods I	3	COMP2101 and MATH2108 and MATH2202
COMP450 1	Fundamentals of Operating Systems	3	COMP3203 and COMP3501
COMP450 2	Networks & Communication	3	COMP3501
COMP460 1	Introduction to Intelligent Systems	3	COMP3203
COMP470 2	Advanced Web Applications Development	3	COMP3702
COMP470 3	Web Data Mining and Social Networking	3	COMP3700 and (STAT2102 or STAT2103)
COMP510 1	Comparative Programming Languages	3	COMP3203 and COMP3501
COMP520 4	Computer Science Special Topics I	3	Instructor Consent
COMP530 2	Digital Image Processing	3	COMP3202 or COMP3203
COMP550 6	Wireless Networks and Mobile Computing	3	COMP4501 and COMP 4502
COMP550 7	Cryptography and Network Security	3	COMP3203 and COMP4502
COMP550 8	Interconnection Networks for Multiprocessor and Multicore Systems	3	COMP4502 or COMP5501
COMP552 1	Finite Automata & Formal Languages	3	MATH3340
COMP552 2	Compiler Construction	3	COMP3501 and COMP5521
COMP560 1	Machine Learning	3	COMP3203 and MATH2202 and STAT2103
COMP570 1	Web Services	3	COMP3702
ERSC2011	Palaeontology I	3	ERSC2101
ERSC2101	Introduction to Geology I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604
ERSC2102	Introduction to Geology II	4	ERSC2101
ERSC2112	Historical Geology	3	ERSC2101
ERSC3000	Environmental Geology	3	ERSC2101 and CHEM2101 and LANC2058
ERSC3002	Environmental Site Assessment and Remediation	3	ERSC2102 and ERSC 3000 and LANC2058
ERSC3010	Mineralogy	3	ERSC2102 and LANC2058
ERSC3021	Structural Geology	3	ERSC2102 and LANC2058
ERSC3041	Stratigraphy	3	ERSC2102 and LANC2058
ERSC3061	Introduction to Remote Sensing	3	ERSC2102 and LANC2058
ERSC3071	GIS and Geo-Spatial Applications	3	ERSC2102
ERSC3210	Palaeontology II	3	ERSC2011
ERSC3901	Sedimentary Petrology	3	ERSC3010 and LANC2058

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		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	ERSC2101 and LANC2058
GEOP3041	General Geophysics	3	ERSC2101 and PHYS2101 and MATH2107 and LANC2058
GEOP3042	Principles of Geophysical Well Logging	3	GEOP3041 and LANC2058
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
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 Modeling	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
MATH4455	Abstract Algebra II	3	MATH4453
MATH4473	Linear Programming	3	MATH2202 or MATH3171
MATH4474	Introduction to Partial Differential Equations	3	MATH3302
MATH4481	Introduction to Optimization	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 and MATH4452*
MATH5551	Fluid Dynamics	3	MATH4474
MATH5553	Differential Geometry I	3	MATH3110 and MATH3303
MATH5555	Introduction to Number Theory	3	MATH2350 or MATH3340

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PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and (FPMT0105 or FPMT0109)
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 PHYS2801)
PHYS3905	Essentials of Meteorology	3	LANC2058 and PHYS2102 and (PHYS2801 or PHYS2901)
PHYS3907	Observational Techniques in Astronomy	3	LANC2058 and PHYS3901
PHYS4100	Optics & Lasers	3	PHYS3103 and PHYS3012
PHYS4101	Quantum Physics I	3	PHYS3104 and PHYS3101
PHYS4108	Thermal & Statistical Physics	4	PHYS3104
PHYS4601	Ionizing Radiation Detection	3	PHYS3601
PHYS4602	Nuclear Applications	3	PHYS3601
PHYS4901	Stellar Evolution & Nucleosynthesis	3	PHYS3901
PHYS5003	Condensed Matter Physics	3	PHYS4101 and PHYS4018
PHYS5106	Nuclear Physics	3	PHYS4101
PHYS5601	Introduction to Nuclear Power	3	PHYS3601
PHYS5901	Image Processing & Data Analysis	3	PHYS3100 and PHYS3907
STAT3331	Operations Research I	3	MATH1001 & LANC2058
STAT3337	Introduction to Actuarial Science I	3	STAT2102 & LANC2058
STAT4533	Quality Assurance and Reliability	3	STAT2102

For reference contact:

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Ext. 1416

Approved by Dean of Science:

Date: 01-Dec-14

Office of Admissions & Registration:

Confirmed: