

**National Pingtung University**  
**Department of Applied Chemistry**  
**(2014 Courses offering - Chemistry degree)**

**Total credits: 133**

**1. General compulsory courses: 35 credits**

**2. Compulsory courses: 61 credits**

**3. Elective courses: 37 credits**

Course Code	Subject	Credits	Hours	Required/ Selected	Grade
<b>I. Compulsory Courses (61 Credits)</b>					
ACU1101	General Chemistry I	3	3	Required	1
ACU1103	Experiments in General Chemistry I	1	2	Required	1
ACU1105	Calculus	3	3	Required	1
ACU1106	Introduction to Applied Chemistry	1	1	Required	1
ACU1102	General Chemistry II	3	3	Required	1
ACU1107	Mathematics For Chemists	3	3	Required	1
ACU1104	Experiments in General Chemistry II	1	2	Required	1
ACU1110	Organic Chemistry(I)	3	3	Required	2
ACU1112	Experiments in Organic Chemistry(I)	1	2	Required	2
ACU1114	Analytical Chemistry(I)	3	3	Required	2
ACU1116	Experiments in Analytical Chemistry(I)	1	2	Required	2
ACU1118	Physical Chemistry(I)	3	3	Required	2
ACU1111	Organic Chemistry(II)	3	3	Required	2
ACU1113	Experiments in Organic Chemistry II	1	2	Required	2
ACU1115	Analytical Chemistry(II)	3	3	Required	2
ACU1119	Physical Chemistry(II)	3	3	Required	2
ACU1124	Inorganic Chemistry(I)	3	3	Required	3
ACU1128	Instrumental Analysis	3	3	Required	3

ACU1126	Material Chemistry I	3	3	Required	3
ACU1120	Experiments in Physical Chemistry	1	2	Required	3
ACU1130	Project Research	1	1	Required	3
ACU1125	Inorganic Chemistry(II)	3	3	Required	3
ACU1127	Material Chemistry II	3	3	Required	3
ACU1130	Project Research	1	1	Required	3
ACU1129	Instrumental Analysis Laboratory	1	2	Required	3
ACU1131	Organic Spectroscopy	3	3	Required	3
ACU1132	Seminars I	1	1	Required	4
ACU1130	Project Research	1	1	Required	4
ACU1133	Seminars II	1	1	Required	4
<b>II. Elective Courses ( 17 Credits )</b>					
ACU2101	Scientific English	2	2	Selected	1
ACU2102	General Physics	3	3	Selected	1
ACU1108	General Biology	3	3	Selected	1
ACU1109	Experiments in General Biology	1	2	Selected	1
ACU2103	Cosmetic Chemistry	3	3	Selected	2
ACU1121	Biochemistry(I)	3	3	Selected	2
ACU2104	Molecular Biology	3	3	Selected	2
ACU1117	Experiments in Analytical Chemistry(II)	1	2	Selected	2
ACU1121	Biochemistry(II)	3	3	Selected	2
ACU2105	Marine Chemistry	3	3	Selected	3
ACU2106	Natural Product Chemistry	3	3	Selected	3
ACU2112	Cell Biology	3	3	Selected	3
ACU2107	Chemistry of Protein	3	3	Selected	3
ACU2113	Physiology	3	3	Selected	3

ACU2114	Microbiology	3	3	Selected	3
ACU2108	Applied Chemistry	3	3	Selected	3
ACU1123	Techniques in Biochemistry.	1	2	Selected	3
ACU2109	Chemical Separation	3	3	Selected	3
ACU2124	Introduction of Marine Resources	3	3	Selected	3
ACI2119	Molecular Biotechnology	3	3	Selected	3
ACI2114	Characterization of Nanomaterials	3	3	Selected	3
ACU2115	Chemical biology	3	3	Selected	3
ACU2118	Pharmacology	3	3	Selected	3
ACU2121	Techniques in Molecular and Cellular Biology	1	2	Selected	3
ACU2119	Molecular Biotechnology	3	3	Selected	3
ACU2120	Applied Techniques in Biotechnology	1	2	Selected	3
ACI2123	Protein Structure and Function	3	3	Selected	3
ACU2125	An Introduction to Energy Science and Technology	3	3	Selected	3
ACI2121	Perfume Chemistry	3	3	Selected	3
ACU1120	Experiments in Physical Chemistry	1	2	Selected	3
ACI2101	Manufacture of Cosmetics	3	3	Selected	4
ACU2110	Quantum Chemistry	3	3	Selected	4
ACU2122	Organic Synthesis	3	3	Selected	4
ACI2108	Electrochemistry	3	3	Selected	4
ACI1103	Special Topic in Biochemistry	3	3	Selected	4
ACI2103	Genome Science	3	3	Selected	4
ACI2104	Tumor Biology	3	3	Selected	4
ACU2123	Biochemical Engineering	3	3	Selected	4
ACI2102	Cosmeceuticals	3	3	Selected	4

ACU2111	Solid State Chemistry	3	3	Selected	4
ACI2109	Special Topics in Bioinorganic Chemistry	3	3	Selected	4
ACI2110	Special Topics in Microbial Biochemical Engineering	3	3	Selected	4
ACU2117	Nanoscale Materials	3	3	Selected	4
ACI2111	Toxicology	3	3	Selected	4
ACI1101	Special Topic in Material Chemistry	3	3	Selected	4
ACI2113	Special Topics in Organic Spectroscopy	3	3	Selected	4
ACI2124	Challenges and perspectives of Global Biotechnology	3	3	Selected	4
ACI1102	Advanced Material Chemistry	3	3	Selected	4
ACI2115	Organometallic Chemistry	3	3	Selected	4
ACI2106	Photochemistry	3	3	Selected	4
ACI2116	Surface Chemistry	3	3	Selected	4
ACI1104	Advanced Biochemistry	3	3	Selected	4
ACI2120	Immunology	3	3	Selected	4
ACI2117	Biophysical Chemistry	3	3	Selected	4
ACI2105	Bioinformatics	3	3	Selected	4
ACI2118	Bioimaging Technology	3	3	Selected	4
ACI2122	Special Topics in Plant Biotechnology	3	3	Selected	4

**National Pingtung University**  
**Department of Applied Chemistry**  
**(2014 Courses offering - Biochemistry degree)**

**Total credits: 133**

**1. General compulsory courses: 35 credits**

**2. Compulsory courses: 54 credits**

**3. Elective courses: 44 credits**

Course Code	Subject	Credits	Hours	Required/ Selected	Grade
<b>I. Compulsory Courses ( 54 Credits )</b>					
ACU1101	General Chemistry I	3	3	Required	1
ACU1103	Experiments in General Chemistry I	1	2	Required	1
ACU1105	Calculus	3	3	Required	1
ACU1106	Introduction to Applied Chemistry	1	1	Required	1
ACU1102	General Chemistry II	3	3	Required	1
ACU1104	Experiments in General Chemistry II	1	2	Required	1
ACU1108	General Biology	3	3	Required	1
ACU1109	Experiments in General Biology	1	2	Required	1
ACU1110	Organic Chemistry(I)	3	3	Required	2
ACU1112	Experiments in Organic Chemistry(I)	1	2	Required	2
ACU1114	Analytical Chemistry(I)	3	3	Required	2
ACU1116	Experiments in Analytical Chemistry(I)	1	2	Required	2
ACU1121	Biochemistry(I)	3	3	Required	2
ACU1111	Organic Chemistry(II)	3	3	Required	2
ACU1113	Experiments in Organic Chemistry	1	2	Required	2
ACU1115	Analytical Chemistry(II)	3	3	Required	2
ACU1121	Biochemistry(II)	3	3	Required	2
ACU1118	Physical Chemistry(I)	3	3	Required	3
ACU1124	Inorganic Chemistry(I)	3	3	Required	3
ACU1128	Instrumental Analysis	3	3	Required	3
ACU1123	Techniques in Biochemistry.	1	2	Required	3
ACU1130	Project Research	1	1	Required	3
ACU1130	Project Research	1	1	Required	3

<b>Course Code</b>	<b>Subject</b>	<b>Credits</b>	<b>Hours</b>	<b>Required/ Selected</b>	<b>Grade</b>
ACU1129	Instrumental Analysis Laboratory	1	2	Required	3
ACU1120	Experiments in Physical Chemistry	1	2	Required	3
ACU1132	Seminars I	1	1	Required	4
ACU1130	Project Research	1	1	Required	4
ACU1133	Seminars II	1	1	Required	4
ACU2101	Scientific English	2	2	Selected	1
ACU2102	General Physics	3	3	Selected	1
ACU1107	Mathematics For Chemists	3	3	Selected	1
ACU2103	Cosmetic Chemistry	3	3	Selected	2
ACU2104	Molecular Biology	3	3	Selected	2
ACU1117	Experiments in Analytical Chemistry(II)	1	2	Selected	2
ACU2105	Marine Chemistry	3	3	Selected	3
ACU2106	Natural Product Chemistry	3	3	Selected	3
ACU2112	Cell Biology	3	3	Selected	3
ACU2107	Chemistry of Protein	3	3	Selected	3
ACU2113	Physiology	3	3	Selected	3
ACU2114	Microbiology	3	3	Selected	3
ACU2108	Applied Chemistry	3	3	Selected	3
ACU1126	Characterization of Nanomaterials	3	3	Selected	3
ACU1120	Experiments in Physical Chemistry	1	2	Selected	3
ACU1119	Physical Chemistry(II)	3	3	Selected	3
ACU2109	Chemical Separation	3	3	Selected	3
ACU2124	Introduction of Marine Resources	3	3	Selected	3
ACI2119	Molecular Biotechnology	3	3	Selected	3
ACI2114	Analytical Chemistry I	3	3	Selected	3

<b>Course Code</b>	<b>Subject</b>	<b>Credits</b>	<b>Hours</b>	<b>Required/ Selected</b>	<b>Grade</b>
ACU2115	Chemical biology	3	3	Selected	3
ACU2118	Pharmacology	3	3	Selected	3
ACU2121	Techniques in Molecular and Cellular Biology	1	2	Selected	3
ACU2119	Molecular Biotechnology	3	3	Selected	3
ACU2120	Applied Techniques in Biotechnology	1	2	Selected	3
ACI2123	Protein Structure and Function	3	3	Selected	3
ACU2125	An Introduction to Energy Science and Technology	3	3	Selected	3
ACI2121	Perfume Chemistry	3	3	Selected	3
ACU1125	Inorganic Chemistry(II)	3	3	Selected	3
ACU1127	Material Chemistry II	3	3	Selected	3
ACU1131	Organic Spectroscopy	3	3	Selected	3
ACI2101	Manufacture of Cosmetics	3	3	Selected	4
ACU2110	Quantum Chemistry	3	3	Selected	4
ACU2122	Organic Synthesis	3	3	Selected	4
ACI2108	Electrochemistry	3	3	Selected	4
ACI1103	Special Topic in Biochemistry	3	3	Selected	4
ACI2103	Genome Science	3	3	Selected	4
ACI2104	Tumor Biology	3	3	Selected	4
ACU2123	Biochemical Engineering	3	3	Selected	4
ACI2102	Cosmeceuticals	3	3	Selected	4
ACU2111	Solid State Chemistry	3	3	Selected	4
ACI2109	Special Topics in Bioinorganic Chemistry	3	3	Selected	4
ACI2110	Special Topics in Microbial Biochemical Engineering	3	3	Selected	4
ACU2117	Nanoscale Materials	3	3	Selected	4
ACI2111	Toxicology	3	3	Selected	4
ACI1101	Special Topic in Material Chemistry	3	3	Selected	4

<b>Course Code</b>	<b>Subject</b>	<b>Credits</b>	<b>Hours</b>	<b>Required/ Selected</b>	<b>Grade</b>
ACI2113	Special Topics in Organic Spectroscopy	3	3	Selected	4
ACI2124	Challenges and perspectives of Global Biotechnology	3	3	Selected	4
ACI1102	Advanced Material Chemistry	3	3	Selected	4
ACI2115	Organometallic Chemistry	3	3	Selected	4
ACI2106	Photochemistry	3	3	Selected	4
ACI2116	Surface Chemistry	3	3	Selected	4
ACI1104	Advanced Biochemistry	3	3	Selected	4
ACI2120	Immunology	3	3	Selected	4
ACI2117	Biophysical Chemistry	3	3	Selected	4
ACI2105	Bioinformatics	3	3	Selected	4
ACI2118	Bioimaging Technology	3	3	Selected	4
ACI2122	Special Topics in Plant Biotechnology	3	3	Selected	4