



**LEYTE STATE UNIVERSITY**

6521-A Visca, Baybay, Leyte, Philippines

Office of the Secretary of the University  
and of the Board of Regents

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**EXCERPT FROM THE APPROVED MINUTES OF THE  
3<sup>rd</sup> LSU Board of Regents Meeting  
08 February 2002 \* LNU, Tacloban City**

**Proposal to Offer Bachelor of Science in Chemistry**

**Board Resolution No. 16, s. 2002**

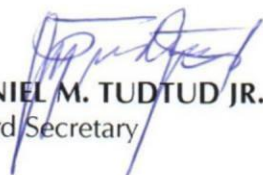
**Approving the proposal to Offer B.S. Chemistry as proposed.**

**BOARD ACTION: APPROVED**

Date: 08 February 2002

ATTACHMENT: S

**Certified True and Correct:**

  
**DANIEL M. TUDTUD JR.**  
Board Secretary

Cc: Prof. JG Jansalin

*received:  
Jan 11/25/10*



LEYTE STATE UNIVERSITY  
Visca, Baybay, Leyte 6521 A  
Philippines

*Office of the Board Secretary*

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08 February 2002

**The Honorable Chairman and  
Members of the LSU Board of Regents**

*Ladies/Gentlemen:*

I am hereby endorsing the "**Proposal to Offer Bachelor of Science in Chemistry**" which was prepared by the Department of Pure and Applied Chemistry (formerly the Department of Ag. Chemistry and Food Science), College of Arts and Sciences. This proposal was presented to and approved by the University Academic Council during its 29 January 2002 meeting. The University Academic Council has endorsed the proposal for approval by the Board of Regents.

I am, therefore, recommending the same **FOR APPROVAL** by the Board of Regents.

Very truly yours,

**PACIENCIA P. MILAN**  
President

BOARD ACTION : \_\_\_\_\_

DATE : 08 February 2002



# PROPOSAL TO OFFER THE BACHELOR OF SCIENCE IN CHEMISTRY

## I. RATIONALE

The recent conversion of the Visayas State College of Agriculture into the Leyte State University necessitates redefinition of the institution's thrusts. This should take into consideration the need to bolster the development of human resources in the field of basic sciences to backstop technological innovations. Moreover, government-sponsored scholarships and financing institutions give priority attention to the development of basic science education and technology programs.

Along this line, the renamed Department of Pure and Applied Chemistry strongly recommends to offer BS Chemistry (BS Chem) in addition to the existing BS Agricultural Chemistry (BSAC) curriculum. Being a top priority course in the DOST's Science and Technology program, LSU's offering of BS Chem would attract donors and other funding agencies for the development of manpower and physical facilities. Moreover, this can help increase the number of LSU enrollees since students from Region VIII who intend to take up BS Chem can take the course here at LSU. Indigent but mentally-endowed students would then have greater chances of getting scholarship grants.

Both curricula have the same chemistry core courses: Inorganic, Organic, Physical and Analytical Chemistry. These conform to the requirements of the Professional Regulation Commission (PRC), the Commission on Higher Education (CHED) Technical Panel for Chemistry's 1997 Policies and Standards for BS Chemistry, the CHED Memorandum Number 4 series 1997, and the provision of Republic Act (RA) Number 7722, otherwise known as the Education Act of 1994.

The graduates of the proposed BS Chemistry curriculum will have additional theoretical chemistry subjects, which will better prepare them for advanced studies in pure chemistry. They are likewise equipped and kept abreast with technological innovations in chemistry to meet the challenges of the fast changing technological world. The BS Chem curriculum has a total of 158 units while the BSAC curriculum has 168 units since agricultural sciences are included in the latter. This will allow the students to do more independent research.



1           Although the word "agricultural" oftentimes present a stigma, the BSAC  
2 curriculum equipped the graduates with technical know-how on the analysis of  
3 agricultural products hence in terms of employment opportunities they are preferred in  
4 agriculture-related industries. Most manufacturing companies, however, prefer licensed  
5 BS Chem graduates to work in line with production, quality control and product research.

6           Based on the survey conducted among the top 20 graduating high school  
7 students from seven (7) different schools of Baybay and Ormoc, 61 out of 134 (46%)  
8 respondents are interested to take up BS Chem at LSU. (See Appendix Table)

## 10   **II. GRADUATE PROFILE**

### 11   **A. Cognitive**

- 12
- 13       1. Explain chemical concepts, principles, applications and their limitations.
- 14       2. Analyze and assess chemical based technologies and their impact on the
- 15       environment.
- 16       3. Gain fundamental knowledge on chemical instrumentation, theories and
- 17       applications of some analytical methods.

### 18   **B. Psychomotor**

- 19
- 20       1. Apply basic knowledge in chemistry in trying to solve common and chemistry
- 21       related problems.
- 22       2. Conduct scientific experiments/research studies effectively.
- 23       3. Assist in the enforcement of safe and efficient disposal systems of chemical
- 24       wastes to safeguard the health of the populace.

### 25   **C. Affective**

- 26       1. Show genuine awareness and concern of the impact of chemistry and technology
- 27       on society and the environment.
- 28       2. Develop interest and appreciation in chemistry as a science that provide answers
- 29       to questions of day-to-day living.
- 30       3. Appreciate the important role chemistry plays in society and the interrelationship
- 31       it shares with other scientific disciplines.

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1    **III. EMPLOYMENT OPPORTUNITIES**

- 2    Laboratory and quality control analyst in  
3  
4    Industries (e.g. sugar, flour, cement, alcohol, textile, etc.)  
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6        Research Institutions (e.g. IRRI, IPB, PhilRice, PhilRootcrops, etc.)  
7        Government Agencies (e.g. DA, BAR, LGU, Crime Laboratories, etc.)  
8        Pharmaceutical Companies (e.g. Unilab, IPI, Interphil, Metro Drug, etc.)  
9    Chemistry teacher/ researcher  
10   Sales representative/agent of chemical or industrial companies  
11   Entrepreneur.  
12



# 1 IV. COMPARISON OF THE BSAC & PROPOSED BS CHEM CURRICULUM

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## 3 A. Comparison based on semestral offering

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### 5 PRESENT BSAC

### PROPOSED BS CHEM

#### FIRST YEAR

##### 8 First Semester

##### First Semester

9 Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
10 Bio 11	General Biology	3	3	4	Bio 11	General Biology	3	3	4
11 Chem 11	General Chemistry I	3	3	4	Chem 11	General Chemistry I	3	3	4
12 Engl 11	Communication Skills I	3	0	3	Engl 11	Communication Skills	3	0	3
13 Math 11	College Algebra	3	0	3	Math 11	College Algebra	3	0	3
14 Psych 11	General Psychology	3	0	3	Psych 11	General Psychology	3	0	3
15 SocSci 13	Socio Economic Systems	3	0	3	SocSci 13	Socio Economic Systems	3	0	3
16 PhyEd 11	Physical Fitness & Gymnastics			(2)	PhyEd 11	Physical Fitness & Gymnastics			(2)
17 Euth11/	Personality Devt. & Adjustment				Euth11/	Personality Devt. & Adjustment			
18 MS 11	First Year Basic Course			(1/1.5)	ROTC 11	First Year Basic Course			(1/1.5)
19				20					20

##### 21 Second Semester

##### Second Semester

22 Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
23 Bot 21	General Botany	2	3	3	Stat 21	Elementary Statistics	2	3	3
24 Chem 21	General Chemistry II	2	3	3	Chem 21	General Chemistry II	2	3	3
25 Engl 12	Communication Skills II	3	0	3	Engl 12	Communication Skills II	3	0	3
26 Math 12	Plane Trigonometry	3	0	3	Math 12	Plane Trigonometry	3	0	3
27 SocSci 14	Phil Soc Prob Land Ref & Taxn	3	0	3	SocSci 14	Phil Soc Prob Land Ref & Taxn	3	0	3
28 Socio 11	General Sociology	3	0	3	Socio 11	General Sociology	3	0	3
29 Zoo 21	General Zoology	3	0	3	Hum 11	Introduction to Humanities	3	0	3
30 PhyEd 12	Recreational Games &				PhyEd 12	Recreational Games &			
31	Rhythmic Activity			(2)		Rhythmic Activity			(2)
32 Euth 12/	Human Relationship				Euth 12/	Human Relationship			
33 MS 12	First Year Basic Course			(1/1.5)	ROTC 12	First Year Basic Course			(1/1.5)
34				21					21

#### SUMMER

37 None

None

#### SECOND YEAR

##### 41 First Semester

##### First Semester

42 Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
43 Chem 111	Thermo & Chem'l Equil	2	3	3	Chem 111	Thermo & Chem'l Equil	2	3	3
44 Chem 125	Organic Chemistry I	3	6	5	Chem 125	Organic Chemistry I	3	6	5
45 Engl 21	Introduction to Literature	3	0	3	Engl 21	Introduction to Literature	3	0	3
46 Math 112	Analytic Geometry & Calc I	5	0	5	Math 112	Analytic Geometry & Calc I	5	0	5
47 Phys 11	General Physics	3	3	4	Phys 11	General Physics	3	3	4
48 PhyEd 13	Team Sports			(2)	PhyEd 13	Team Sports			(2)
49 Euth 13/	Moral & Spiritual Values				Euth 13/	Moral & Spiritual Values			
50 MS 21	Second Year Basic Course			(1/1.5)	ROTC 21	Second Year Basic Course			(1/1.5)
51				20					20

##### 53 Second Semester

##### Second Semester

54 Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
55 Chem 126	Organic Chemistry II	3	6	5	Chem 126	Organic Chemistry II	3	6	5
56 Math 113	Analytic Geometry & Calc II	5	0	5	Math 113	Analytic Geometry & Calc II	5	0	5
57 Phys 21	College Physics	2	3	3	Phys 21	College Physics	2	3	3
58 SS 22	Fund of Soil Science	2	3	3	CS 21	Introduction to Computers	2	3	3
59 SocSci 15	Phil History & Constitution	3	0	3	SocSci 15	Phil History & Constitution	3	0	3
60 PhyEd 14	Individual-Dual Sports			(2)	PhyEd 14	Individual-Dual Sports			(2)
61 Euth 14/	Career Development				Euth 14/	Career Development			
62 MS 22	Second Year Basic Course			(1/1.5)	ROTC22	Second Year Basic Course			(1/1.5)
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## SUMMER

Course No.	Descriptive Title	Lec	Lab	Units	None
Chem 31	Biochemistry	3	0	3	
Chem 31a	Biochemistry Laboratory	0	6	2	
				5	

## THIRD YEAR

11	<u>First Semester</u>				<u>First Semester</u>					
12	Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
13	Chem 145	Analytical Chemistry	3	6	5	Chem 145	Analytical Chemistry I	3	6	5
14	CS 21	Introduction to Computers	2	3	3	<b>CS 134</b>	<b>Prin. Comp Programming</b>	2	3	3
15	Philo 12	Contemporary Philo Thoughts	3	0	3	Philo 12	Contemporary Philo Thoughts	3	0	3
16	<b>PP 21</b>	<b>Prin of Plant Protection</b>	2	3	3	Fil 25	Sining ng Pakikipagtalastasan	3	0	3
17	Spch 11	Speech Communication	3	0	3	Spch 11	Speech Communication	3	0	3
18	<b>SS 23</b>	<b>Soil Fertility &amp; Fertilizer</b>	2	3	<u>3</u>	<b>Chem 127</b>	<b>Organic Chemistry II</b>	3	0	<u>3</u>
19					<b>20</b>					<b>20</b>
20										
21	<u>Second Semester</u>				<u>Second Semester</u>					
22	Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
23	Chem 112	Inorganic Chemistry	2	6	4	Chem 112	Inorganic Chemistry	2	6	4
24	Chem 146	Analytical Chemistry II	3	6	5	Chem 146	Analytical Chemistry II	3	6	5
25	Chem 198	Res. Planning & Manus. Prep	3	0	3	Chem 198	Res. Planning & Manus. Prep	3	0	3
26	Micro 22	General Microbiology	2	3	3	Micro 22	General Microbiology	2	3	3
27	SocSci 16	Life & Works of Rizal	3	0	3	SocSci 16	Life & Works of Rizal	3	0	3
28	Stat 21	Elementary Statistics	2	3	<u>3</u>	Fil 26	Panitikang Filipino	3	0	<u>3</u>
29					<b>21</b>					<b>21</b>

## SUMMER

Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
Chem 148	Technical Analysis I	0	6	2	Chem 31	Biochemistry	3	0	3
Chem 149	Technical Analysis II	0	6	2	Chem 31a	Biochemistry Laboratory	0	6	2
Chem 200	Undergraduate Thesis			1	Chem 200.1	Undergraduate Thesis			1
				5					6

## FOURTH YEAR

41	<u>First Semester</u>				<u>First Semester</u>					
42	Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
43	AS 21	<b>Principles of Animal Science</b>	2	3	3	Chem 113	<b>Inorganic Chemistry II</b>	3	0	3
44	Chem 151	Physical Chemistry I	3	6	5	Chem 151	Physical Chemistry	3	6	5
45	Hum 11	Introduction to Humanities	3	0	3	Chem 153	<b>Computational Chemistry</b>	2	3	3
46	Chem 161	Environmental Chemistry	2	3	3	Chem 161	Environmental Chemistry	2	3	3
47	Fil 26	Sining ng Pakikipagtalastasan	2	3	3	Chem 200.1	Undergraduate Thesis			<u>1</u>
48	Chem 200	Undergraduate Thesis			<u>1</u>					<b>15</b>
49					<b>18</b>					
50										
51	<u>Second Semester</u>				<u>Second Semester</u>					
52	Course No.	Descriptive Title	Lec	Lab	Units	Course No.	Descriptive Title	Lec	Lab	Units
53	Chem 152	Physical Chemistry II	3	6	5	Chem 152	Physical Chemistry II	3	6	5
54	Chem 162	Developments in Chemistry	3	0	3	Chem 162	Developments in Chemistry	3	0	3
55	Chem 172	Industrial Chemistry	3	0	3	Chem 172	Industrial Chemistry	3	0	3
56	Chem 199	Undergraduate Seminar	1	0	1	Chem 199	Undergraduate Seminar	1	0	1
57	Chem 200	Undergraduate Thesis			4	Chem 200.1	Undergraduate Thesis			<u>4</u>
58	Fil 26	Panitikang Filipino	3	0	<u>3</u>					<b>16</b>
59					<b>19</b>					



B. Comparison based on Course Analysis

BSAC Curriculum

BS Chem Curriculum

1. General Education (60 units)

1. General Education (60 units)

1.1 Language, Speech, Humanities (24 units)

1.1 Language, Speech, Humanities (24 units)

Engl 11 Communication Skills I	3
Engl 12 Communication Skills II	3
Engl 21 Introduction to Literature	3
Speech 11 Speech Communication	3
Fil 25 Sining ng Pakikipagtalastasan	3
Fil 26 Panitikang Filipino	3
Hum 11 Introduction to Humanities	3
Philo12 Contemporary Philosophical Thoughts	3
	<u>24</u>

Engl 11 Communication Skills I	3
Engl 12 Communication Skills II	3
Engl 21 Introduction to Literature	3
Speech 11 Speech Communication	3
Fil 25 Sining ng Pakikipagtalastasan	3
Fil 26 Panitikang Filipino	3
Hum 11 Introduction to Humanities	3
Philo12 Contemporary Philosophical Thoughts	3
	<u>24</u>

1.2 Mathematics & Natural Sciences (18 units)

1.2 Mathematics & Natural Sciences (18 units)

Math 11 College Algebra	3
Math 12 Plane Trigonometry	3
Chem 11 General Chemistry I	4
Bio 11 General Biology	4
Phys 11 General Physics	4
	<u>18</u>

Math 11 College Algebra	3
Math 12 Plane Trigonometry	3
Chem 11 General Chemistry I	4
Bio 11 General Biology	4
Phys 11 General Physics	4
	<u>18</u>

1.3 Social Sciences (15 units)

1.3 Social Sciences (15 units)

Socio 11 General Sociology	3
Psych 11 General Psychology	3
SocSci 13 Socio Economic Systems	3
SocSci 14 Phil. Soc. Prob., Land Reform & Taxation	3
SocSci 15 Phil. His & Constitution	3
	<u>15</u>

Socio 11 General Sociology	3
Psych 11 General Psychology	3
SocSci 13 Socio Economic Systems	3
SocSci 14 Phil. Soc. Prob., Land Reform & Taxation	3
SocSci 15 Phil. His & Constitution	3
	<u>15</u>

1.4 Rizal Course (3 units)

1.4 Rizal Course (3 units)

SocSci 16 Life & Works of Rizal	3
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SocSci 16 Life & Works of Rizal	3
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1	2. Fundamental Courses (38 units)			
2	Chem 21	General Chemistry II	3	
3	Phys 21	College Physics	3	
4	Chem 31	Biochemistry	3	
5	Chem 31a	Biochemistry Laboratory	2	
6	Stat 21	Elementary Statistics	3	
7	CS 21	Intro to Comp Science	3	
8	Micro 22	General Microbiology	3	
9	<b>Bot 21</b>	<b>General Botany</b>	<b>3</b>	
10	<b>Zoo 21</b>	<b>General Zoology</b>	<b>3</b>	
11	<b>SS 22</b>	<b>Fund. of Soil Science</b>	<b>3</b>	
12	<b>PP 21</b>	<b>Prin. of Plant Protection</b>	<b>3</b>	
13	<b>SS 23</b>	<b>Soil Fertility &amp; Fertilizer</b>	<b>3</b>	
14	<b>AS 21</b>	<b>Prin. of Animal Science</b>	<b>3</b>	
15			<b>38</b>	
16	3. Major Courses ( 70 units)			
17	A. Chemistry			
18	Chem 111	Thermochemistry & Chemical Equilibrium	3	
19				
20	Chem 112	Inorganic Chemistry	4	
21	Chem 125	Organic Chemistry I	5	
22	Chem 126	Organic Chemistry II	5	
23	Chem 145	Analytical Chemistry I	5	
24	Chem 146	Analytical Chemistry II	5	
25	<b>Chem 148</b>	<b>Technical Analysis I</b>	<b>2</b>	
26	<b>Chem 149</b>	<b>Technical Analysis II</b>	<b>2</b>	
27	Chem 151	Physical Chemistry I	5	
28	Chem 152	Physical Chemistry II	5	
29	Chem 161	Environmental Chemistry	3	
30	Chem 162	Devs. in Chem	3	
31	Chem 172	Industrial Chemistry	3	
32	Chem 198	Res. Plan & Manus Prep	3	
33	Chem 199	Undergraduate Seminar	1	
34	Chem 200	Undergraduate Thesis	6	
35			60	
36				
37	B. Others			
38	Math 112	Anal Geometry & Calculus I	5	
39	Math 113	Anal Geometry & Calculus II	5	
40			10	
41				
42				
43	TOTAL UNITS		168	

2. Fundamental Courses (20 units)			
Chem 21	General Chemistry II	3	
Phys 21	College Physics	3	
Chem 31	Biochemistry	3	
Chem 31a	Biochemistry Laboratory	2	
Stat 21	Elementary Statistics	3	
CS 21	Intro to Comp Science	3	
Micro 22	General Microbiology	3	
		<u>3</u>	20
3. Major Courses (78 units)			
A. Chemistry			
Chem 111	Thermochemistry & Chemical Equilibrium	3	
Chem 112	Inorganic Chemistry	4	
<b>Chem 113</b>	<b>Inorganic Chemistry II</b>	<b>3</b>	
Chem 125	Organic Chemistry I	5	
Chem 126	Organic Chemistry II	5	
<b>Chem 127</b>	<b>Organic Chemistry III</b>	<b>3</b>	
Chem 145	Analytical Chemistry I	5	
Chem 146	Analytical Chemistry II	5	
Chem 151	Physical Chemistry I	5	
Chem 152	Physical Chemistry II	5	
<b>Chem 153</b>	<b>Computational Chemistry</b>	<b>3</b>	
Chem 161	Environmental Chemistry	3	
Chem 162	Devs. in Chem	3	
Chem 172	Industrial Chemistry	3	
Chem 198	Res. Plan & Manus Prep	3	
Chem 199	Undergraduate Seminar	1	
Chem 200.1	Undergraduate Thesis	6	
			65
B. Others			
Math 112	Anal Geometry & Calculus I	5	
Math 113	Anal Geometry & Calculus II	5	
<b>CS 134</b>	<b>Prin. Computer Programming</b>	<b>3</b>	
			13
TOTAL UNITS		158	



# V. PROPOSED BS CHEMISTRY CURRICULUM

## FIRST YEAR

### First Semester

Course No.	Descriptive Title	Lec	Lab	Units
Bio 11	General Biology	3	0	3
Chem 11	General Chemistry I	3	6	5
Engl 11	Communication Skills I	3	0	3
Math 11	College Algebra	3	0	3
Psych 11	General Psychology	3	0	3
SocSci 13	Socio-Economic Systems	3	0	3
PhyEd 11	Physical Fitness & Gymnastics	2		(2)
Euth 11	Personality Development & Adjustment			
ROTC 11	First Year basic Course	1		(1/1.5)

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20

### Second Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 21	General Chemistry II	2	3	3
Engl 12	Communication Skills II	3	0	3
Stat 21	Elementary Statistics	3	0	3
Math 12	Plane Trigonometry	3	0	3
SocSci 14	Philippine Society, Problem, Land Reform & Taxation	3	0	3
Socio 11	General Sociology	3	0	3
Hum 11	Introduction to Humanities	3	0	3
PhyEd 12	Recreational Games & Rhythmic Activity	2		(2)
Euth 12	Human Relationship			
ROTC 12	First Year Basic Course	1		(1/1.5)

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## SECOND YEAR

### First Semester

Course No.	Descriptive Title	lec	Lab	Units
Chem 111	Thermochemistry & Chem'l Equilibrium	2	3	3
Chem 125	Organic Chemistry I	3	6	5
Engl 21	Introduction to Literature	3	0	3
Math 112	Analytic Geometry & Calculus I	5	0	5
Phys 11	General Physics	3	3	4
PhyEd 13	Team Sports	2		(2)
Euth 13	Moral and Spiritual Values			
ROTC 21	Second Year Basic Course	1		(1/1.5)

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### Second Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 126	Organic Chemistry II	3	6	5
Math 113	Analytic Geometry & Calculus II	5	0	5
Phys 21	College Physics	2	3	3
CS 21	Introduction to Computer Science	2	3	3
SocSci 15	Phil History Government & Constitution	3	0	3
PhyEd 14	Individual-Dual Sports	2		(2)
Euth 14	Career Development			
ROTC 22	Second Year Basic Course	1		(1/1.5)

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## SUMMER

None



### THIRD YEAR

#### First Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 127	Organic Chemistry III	3	0	3
Chem 145	Analytical Chemistry I	3	6	5
CS 134	Principles of Computer Programming	2	3	3
Philo 12	Contemporary Philosophical thoughts	3	0	3
Fil 25	Sining ng Pakikipagtalastasan	3	0	3
Spch 11	Speech Communication	3	0	3
				--
				20

#### Second Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 112	Inorganic Chemistry	2	6	4
Chem 146	Analytical Chemistry II	3	6	5
Chem 198	Research Planning & Manuscript Preparation	3	0	3
Micro 22	General Microbiology	2	3	3
SocSci 16	Life & Works of Rizal	3	0	3
Fil 26	Panitikang Filipino	3	0	3
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				21

#### Summer

Course No.	Descriptive Title	Lec	Lab	Units
Chem 31	Biochemistry	3	0	3
Chem 31a	Biochemistry Laboratory	0	6	2
Chem 200.1	Undergraduate Thesis			1
				6

### FOURTH YEAR

#### First Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 113	Inorganic Chemistry II	3	0	3
Chem 151	Physical Chemistry I	3	6	5
Chem 153	Computational Chemistry	3	0	3
Chem 161	Environmental Chemistry	2	3	3
Chem 200.1	Undergraduate Thesis			1
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#### Second Semester

Course No.	Descriptive Title	Lec	Lab	Units
Chem 152	Physical Chemistry II	3	6	5
Chem 162	Developments in Chemistry	3	0	3
Chem 172	Industrial Chemistry	3	0	3
Chem 199	Undergraduate Seminar	1	0	1
Chem 200.1	Undergraduate Thesis			4
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3 **VI. INSTITUTION OF NEW COURSES**  
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- 5 1. Chem 113 - Inorganic Chemistry II  
6 Mechanisms of inorganic reaction; physical methods of  
7 inorganic analysis.  
8 Prerequisite: Chem 112  
9 Contact Hours: 3 hrs lec  
10 Credit: 3 units  
11

12 **Rationale:**  
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14 This course focuses on the molecular level mechanisms of inorganic  
15 reaction. It also provides sufficient knowledge on the application of spectroscopy  
16 in the study of inorganic compounds.  
17

- 18 2. Chem 127 - Organic Chemistry III  
19 Organic synthesis and spectroscopic analysis of organic  
20 compound.  
21 Prerequisite: Chem 126  
22 Contact Hours: 3 hrs lec  
23 Credit: 3 units  
24

25 **Rationale:**  
26

27 This course is a sequel to Chem 126 (Organic Chem II). It covers the  
28 application of spectroscopy on the structural elucidation of organic compounds.  
29

- 30 3. Chem 153 - Computational Chemistry.  
31 Application of computers in chemistry  
32 Prerequisite: CS 21, Chem 126  
33 Contact Hours: 5 hrs (2 lec; 3 lab)  
34 Credit: 3 units  
35

36 **Rationale:**  
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38 This course provides knowledge on the use of chemistry software in the  
39 design and prediction of chemical reactions. It includes computer assisted  
40 modeling of chemical theories and principles and their applications in various  
41 chemical systems.  
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**VII. FACILITIES**

**LABORATORY Facilities**

Laboratory rooms with acid-proof tables and emergency devices

Equipment	Qty	Equipment	Qty
• Analytical Balance	2	• Rotary Evaporator	1
• Oven	2	• Fume Hood	3
• Muffle Furnace	2	• Crude Fat and Fiber Extraction Set-up	1
• Kjeldahl Digestion and Distillation Set-up	1	• Heating Mantle	1
• Ultraviolet-Visible Spectrophotometer	2	• Vacuum Oven	1
• Atomic Absorption Spectrophotometer	1	• Freeze Dryer	1
• pH Meter	1	• Magnetic Stirrer/Hot Plate	2
• Automatic Titration System		• Extraction Apparatus	1
• Polarimeter	1	• Micropipette	3
• Refractometer	2	• Automatic Dispenser	1
• Viscometer	2	• Water Circulator	1
• Water Distiller	2	• Carver Hydraulic Press	1
• Organic Chem Kit	1	• Retch Laboratory Grinder	1
• Wiley-Mill	2	• Melting point apparatus	2
• Stereozoom Microscope	1	• Turbidimeter	1
• Autoclave	2	• Hydrometer	4 sets
• Westphal Balance	1	• Triple Beam / Platform Balance	6
• Camag Thin Layer Chromatography Spreader	1	• UV-viewing cabinet	1
• Paper electrophoresis	1	• Conductometer	1
• Vacuum pump	2	• Oxygen meter	1
• Salinimeter	1	• Mechanical Shaker	2

**INSTRUCTION/OFFICE FACILITIES**

Lecture halls and classrooms equipped with AV devices such as Overhead Projectors, Screens, "RAMSA" sound system for large lecture classes, Microphones, Computer with Internet connection, Mimeographing Machine, Electronic Stencil Scanner



1 **VIII. FACULTY PROFILE**

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Agricultural Science



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**Appendix Table I. BS Chem Survey results**

High School	Preference for BS Chem			Total Respondents	% Yes
	Yes	No	Abstain		
Baybay National High School	9	10	1	20	45
Bunga National High School Baybay, Leyte	7	12	1	20	35
Franciscan College of Immaculate Conception Baybay, Leyte	5	15	-	20	25
Ipil National High School Ipil, Ormoc City	7	11	-	18	39
LSU – LHS Baybay, Leyte	7	10	-	17	41
St. Peters College Ormoc City	7	12	-	19	37
Valencia National High School Valencia, Ormoc City	19	1	-	20	95
	61	71	2	134	46%