

# Course Map of Agricultural Chemistry (Undergraduate)

## Freshman and Sophomore

## University Requirements

### Common Required Courses (12)

- 1 R (3, 3) ●  
Freshman Chinese
- 1 R (3, 3) ●  
Freshman English
- 1 R (0, 0) ●  
Online English Program I, II
- 1~4 R (0) X 4 ●  
Physical Education I-IV
- 1~3 R (0) X 3 ●  
Service Learning I-III

### Core Courses (88)

#### Freshman Year

1 R (2, 2) X (1, 1) General Biology (B) with General Biology Lab.	1 R (3, 3) X (1, 1) General Physics (B) I, II with General Physics Lab.	1 R (3, 3) X (1, 1) General Chemistry (A) I, II with General Physics Lab.
1 R (1, 0) Fundamental Topic on Agricultural Chemistry	1 R (3, 3) Calculus (B) I, II	

#### Sophomore Year

2 R (2, 2) X (1, 1) Organic Chemistry (B) I, II with Organic Chemistry Lab. (B) I, II	2 R (3, 3) X (1, 1) Analytical Chemistry (B) I, II with Analytical Chemistry Lab. (B) I, II	2 R (3, 3) Physical Chemistry
2 R (0, 3) Statistics	2 R (2, 0) X (1, 0) Soil Science with Soil Science Lab.	2 R (0, 3) X (0, 1) General Microbiology with General Microbiology Lab.

At least one course in each discipline

### General Education Courses (18)

- Q R ●  
Literature & Arts
- Q R ●  
Historical Thinking
- Q R ●  
World Civilization
- Q R ●  
Philosophy & Moral Reasoning
- Q R ●  
Civic Awareness & Social Analysis

### Electives

- 3/4 E (0, 2)  
Soil Morphology & Classification
- 3/4 E (0, 2)  
Environmental Soil Physics
- 3/4 E (0, 2)  
Pesticide Chemistry
- 3/4 E (2, 0)  
Plant Physiology
- 3/4 E (0, 2)  
Plant Tissue Culture
- 3/4 E (0, 2)  
Microbial Physiology
- 3/4 E (0, 2)  
Microbial Genetics
- 3/4 E (0, 2)  
Food Chemistry II
- 3/4 E (0, 2)  
Food Processing
- 3/4 E (0, 2)  
Cereal Material & Processing

### Junior Year & Senior Year

### Required Courses

3 R (2, 0) X (1, 0) Environmental Microbiology with Environmental Microbiology Lab.	3 R (2, 0) X (1, 0) Soil Chemistry with Soil Chemistry Lab.	3 R (2, 0) X (2, 0) Chemical Analysis of Biomaterials with Chem. Anal. Lab.	
3 R (2, 2) X (0, 2) Biochemistry (B) I, II with Biochemistry Lab	3 R (0, 2) Environmental Chemistry	3 R (0, 2) X (0, 1) Plant Nutrition with Plant Nutrition Lab.	
3 R (2, 0) Food Chemistry I	3 R (2, 0) Molecular Biology	3 R (2, 0) Agricultural Pesticides	4 R (1, 1) Seminar I, II

### Graduation

Recommended Year(1-4 or any-Q)  
Required (R) Elective (E)  
Credit (1<sup>st</sup> or 2<sup>nd</sup> semester)  
Lab. (X)  
Credit (1<sup>st</sup> or 2<sup>nd</sup> semester)

2 R (4, 0) X (2, 0)
Course Name

● General Education courses in these disciplines  
▲ Academic Programs

### Related Programs

- 3/4 E(Q) ▲  
Biotechnology Program
- 3/4 E(Q) ▲  
Program of Food Science & Technology
- 3/4 E (Q) ▲  
Polymer Science & Technology Program
- 3/4 E (Q) ▲  
Program of Genomic & Proteomics
- 3/4 E (Q) ▲  
Sustainable Development Resource
- 3/4 E (Q) ▲  
Ecological Engineering
- 3/4 E (Q) ▲  
Chinese Herbal Medicine Program
- 3/4 E (Q) ▲  
Other Programs

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