

## B.S. Chemistry Track

*Recommended courses are listed first with alternate approved courses in parenthesis.*

### Lower Division Courses

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#### *General Chemistry*

- Chem CS 11A (or Chem 1A or 3A), 11B, (or Chem 1B or 3B), 11C (or Chem 1C or 3C)  
Note: Must earn 3 units in each CCS Chem 11 course per quarter to count as completion.
- CHEM 2AL, 2BL, 3L

#### *Organic Chemistry*

- Chem 130A (or 109A), Chem 130B (or 109B), Chem 130C (or 109C)
- Chem 6AL, 6BL (or 6BH), Chem 6CL (or 6CH)

#### *Mathematics*

- Math 3A (or 2A), 3B (or 2B), 4A, 4B, 6A

#### *Physics*

- Phys 7A, 7B, 7C
- Phys 7L

### Upper Division Courses

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45 UD Chemistry units are required, distributed as follows:

#### *Physical Chemistry*

- Chem 113A, 113B, 113C

#### *Laboratory Courses*

- Chem 116AL, 116BL, 116CL

#### *Inorganic Chemistry*

- Chem 173A, 173B

#### *Other Required Upper Division courses*

- Chem 142A (or W 142A), Chem 150

#### *Electives*

- 4 upper division electives (minimum of 3 units each). Courses in departments other than Chemistry and Biochemistry must be approved by your advisor. No more than one course from Chem 110, 123, and 149 will count. The following courses will not count towards the major: Chemistry 102, 183, 184, 192, 193, 196, 198 and 199.

## Example Schedule for B.S. Chemistry Track

General education courses and upper division electives should be taken as your schedule allows. Changes to the schedule below should be in consultation with your academic advisor.

	Fall	Winter	Spring
Year 1	Chem CS 11A Math 3A	Chem CS 11B Chem 2AL Math 3B Phys 7A	Chem CS 11C Chem 2CL Math 4A Phys 7B
Year 2	Chem 130A Chem 3L Math 4B Phys 7C Phys 7L	Chem 130B Chem 6AL Math 6A	Chem 130C Chem 6BL
Year 3	◊ Chem 113A ◊ Chem 142A* ◊ Chem 150 Chem 6CL	◊ Chem 113B ◊ Chem 116AL	◊ Chem 113C ◊ Chem 116BL
Year 4	◊ Chem 173A ◊ Chem 116CL	◊ Chem 173B	

◊ Courses are offered only in the quarter listed. With these exceptions: Chem W 142A, Chem 150, and Chem 173A may be offered during summer sessions.

\* This course may also be taken in the fall of year 4

## B.S. Biochemistry Track

Recommended courses are listed first with alternate approved courses in parenthesis.

### Lower Division Courses

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#### General Chemistry

- CCS Chemistry 11A (or Chem 1A or 3A), 11B, (or Chem 1B or 3B), 11C (or Chem 1C or 3C)  
Note: Must earn 3 units in each CCS Chem 11 course per quarter to count as completion.
- CHEM 2AL, 2BL, 3L

#### Organic Chemistry

- Chem 130A (or 109A), Chem 130B (or 109B), Chem 130C (or 109C)
- Chem 6AL, 6BL (or 6BH)

#### Mathematics

- Math 3A (or 2A), 3B (or 2B), 4A, 6A

#### Physics

- Phys 7A (or 6A), 7B (or 6B), 7C (or 6C)
- Phys 7L (or 6AL and 6BL and 6CL)

*Biology* – recommended to meet prerequisites for upper division biology courses

- MCDB 1A, 1B, EEMB 2
- MCDB 1LL

### Upper Division Courses

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46 UD Chemistry units are required, distributed as follows:

#### Physical Chemistry

- Chem 112A (or 113A), 112B, 112C

#### Laboratory Courses

- Chem 110L, 125L, 112L

#### Biochemistry

- Chem 142A (or W142A), 142B, 142C

#### Other Required Upper Division courses

- Chem 173A

#### Electives

- Six units from the following core electives: Chem 141, 143, 145, 146, 147, with no more than one course from Chemistry 110, 123 and 149 151, 154A, 154B, 161, 162A, 162B, 171, 181
- Five additional units from the core electives above or from the following with no more than one course from Chemistry 110, 123 and 149: Chem 110, 111, 113AL, 115A, 115B, 115C, 117A, 118, 120, 123, 124, 126 (provided 145 has not been taken), 127, 128, 129, 132, 133, 134, 148, 149, 150, 153, 163, 173B, 175, 176, 186; MCDB 101A, 101B, 103, 126B, 126C, 134, 135. Courses not listed here must be approved by your academic advisor. The following courses will not count towards the major: Chemistry 102, 183, 184, 192, 193, 196, 198 and 199.

## Example Schedule for B.S. Biochemistry Track

General education courses and upper division electives should be taken as your schedule allows. Changes to the schedule below should be in consultation with your academic advisor.

	Fall	Winter	Spring
Year 1	Chem CS 11A Math 3A	Chem CS 11B Chem 2AL Math 3B Phys 7A	Chem CS 11C Chem 2CL Math 4A Phys 7B
Year 2	Chem 130A Chem 3L Phys 7C Phys 7L ◇ MCDB 1A	Chem 130B Chem 6AL ◇ MCDB 1B ◇ EEMB 2 ◇ MCDB 1LL	Chem 130C Chem 6BL Math 6A
Year 3	◇ Chem 112A ◇ Chem 142A ◇ Chem 110L*	◇ Chem 112B ◇ Chem 142B ◇ Chem 125L*	◇ Chem 112C ◇ Chem 142C ◇ Chem 112L*
Year 4	◇ Chem 173A		

◇ courses are offered only in the quarter listed. With these exceptions: Chem W 142A, Chem 173A, MCDB 1A, MCDB 1B, MCDB 1LL, and EEMB 2 may be offered during summer sessions.

\* Students often move this laboratory series to year 4.

## B.A. Chemistry Track

Recommended courses are listed first with alternate courses in parenthesis.

### Lower Division Courses

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#### General Chemistry

- Chem CS 11A (or Chem 1A or 3A), 11B, (or Chem 1B or 3B), 11C (or Chem 1C or 3C)  
Note: Must earn 3 units in each CCS Chem 11 course per quarter to count as completion.
- CHEM 2AL, 2BL, 3L

#### Organic Chemistry

- Chem 130A (or 109A), Chem 130B (or 109B), Chem 130C (or 109C)
- Chem 6AL, 6BL (or 6BH), Chem 6CL (or 6CH)

#### Mathematics

- Math 3A (or 2A), 3B (or 2B), 4A, 4B, 6A

#### Physics

- Phys 7A, 7B, 7C
- Phys 7L

### Upper Division Courses

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45 UD Chemistry units are required, distributed as follows:

#### Physical Chemistry

- Chem 113A, 113B, 113C

#### Laboratory Courses

- Chem 116AL, 116BL

#### Inorganic Chemistry

- Chem 173A

#### Other Required Upper Division courses

- Chem 142A (or W 142A), Chem 150

#### Electives

- 1 upper division elective (minimum of 3 units each). Courses in departments other than Chemistry and Biochemistry must be approved by your advisor. No more than one course from Chem 110, 123, and 149 will count. The following courses will not count towards the major: Chemistry 102, 183, 184, 192, 193, 196, 198 and 199.

## Example Schedule for B.A. Chemistry Track

General education courses and upper division electives should be taken as your schedule allows. Changes to the schedule below should be in consultation with your academic advisor.

	Fall	Winter	Spring
Year 1	Chem CS 11A Math 3A	Chem CS 11B Chem 2AL Math 3B Phys 7A	Chem CS 11C Chem 2CL Math 4A Phys 7B
Year 2	Chem 130A Chem 3L Math 4B Phys 7C Phys 7L	Chem 130B Chem 6AL Math 6A	Chem 130C Chem 6BL
Year 3	◊ Chem 113A ◊ Chem 142A* ◊ Chem 150 Chem 6CL	◊ Chem 113B ◊ Chem 116AL	◊ Chem 113C ◊ Chem 116BL
Year 4	◊ Chem 173A		

◊ Courses are offered only in the quarter listed. With these exceptions: Chem W 142A, Chem 150, and Chem 173A may be offered during summer sessions.

\* This course may also be taken in the fall of year 4

## B.A. Biochemistry Track

*Recommended courses are listed first with alternate courses in parenthesis.*

### Lower Division Courses

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#### General Chemistry

- CCS Chemistry 11A (or Chem 1A or 3A), 11B, (or Chem 1B or 3B), 11C (or Chem 1C or 3C)  
Note: Must earn 3 units in each CCS Chem 11 course per quarter to count as completion.
- CHEM 2AL, 2BL, 3L

#### Organic Chemistry

- Chem 130A (or 109A), Chem 130B (or 109B), Chem 130C (or 109C)
- Chem 6AL, 6BL (or 6BH)

#### Mathematics

- Math 3A (or 2A), 3B (or 2B), 4A, 6A

#### Physics

- Phys 7A (or 6A), 7B (or 6B), 7C (or 6C)
- Phys 7L (or 6AL and 6BL and 6CL)

*Biology* – recommended to meet prerequisites for upper division biology courses

- MCDB 1A, 1B, EEMB 2
- MCDB 1LL

### Upper Division Courses

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46 UD Chemistry units are required, distributed as follows:

#### Physical Chemistry

- Chem 112A (or 113A), 112B, 112C

#### Laboratory Courses

- Chem 110L, 125L or 112L

#### Biochemistry

- Chem 142A (or W142A), 142B, 142C

#### Other Required Upper Division courses

- Chem 173A

#### Electives

- One course from the following core electives (minimum of 3 units): Chem 141, 143, 145, 146, 147, 151, 154A, 154B, 161, 162A, 162B, 171, 181

## Example Schedule for B.A. Biochemistry Track

General education courses and upper division electives should be taken as your schedule allows. Changes to the schedule below should be in consultation with your academic advisor.

	Fall	Winter	Spring
Year 1	Chem CS 11A Math 3A	Chem CS 11B Chem 2AL Math 3B Phys 7A	Chem CS 11C Chem 2CL Math 4A Phys 7B
Year 2	Chem 130A Chem 3L Phys 7C Phys 7L ◇ MCDB 1A	Chem 130B Chem 6AL ◇ MCDB 1B ◇ EEMB 2 ◇ MCDB 1LL	Chem 130C Chem 6BL Math 6A
Year 3	◇ Chem 112A ◇ Chem 142A ◇ Chem 110L*	◇ Chem 112B ◇ Chem 142B ◇ Chem 125L*	◇ Chem 112C ◇ Chem 142C ◇ Chem 112L*
Year 4	◇ Chem 173A		

◇ courses are offered only in the quarter listed. With these exceptions: Chem W 142A, Chem 173A, MCDB 1A, MCDB 1B, MCDB 1LL, and EEMB 2 may be offered during summer sessions.

\* Students often move this laboratory series to year 4. Must complete 110L and 125L or 112L.