

16_{REVD}



B.S. IN BIOCHEMISTRY & CHEMICAL BIOLOGY DEGREE REQUIREMENTS

THIS SHEET APPLIES FALL 2016

Additional information can be found at www.chem.wayne.edu. (TRANSFER STUDENTS: You must earn a minimum of 15 chemistry credits at WSU. Check transferred chemistry courses with an advisor to prevent problems at graduation.)

NON-CHEMISTRY REQUIREMENTS

ANY FOREIGN LANGUAGE: 1010(4) 1020(4) 2010(4)

MATHEMATICS: 2010(4) 2020(4) 2210(4)

[NOTE: A math placement exam is required prior to enrolling in MAT 2010. Contact the Testing Office (577-3400).]

PHYSICS: math 2020 coreq 2170(4) 2171(1) 2180(4) 2181(1)

ALL students who transfer in less than 10 hrs of physics should check with Dr. Zibuck (101 Chemistry Bldg.)

CHEMISTRY & BIOLOGY COURSES

GENERAL/ORGANIC CHEMISTRY:

1220(4) or 1225(3)/1230(1) or [1070(4) or 1050(6) or 1310(5) or 1410(6)]

1240(4)/1250(1) or [2240(4) or 2310(4) or 1410(6)]

2220(4)/2230(1) or [2260(4)/2270(2) or 2320(4)/2270(2) or 1420(6)]

GENERAL/ANALYTICAL CHEMISTRY: if you have taken 1080 but not 3120, please see an advisor

2280(3)/2290(2) or [1080(5) and 3120(4) or 1320(5)]

INORGANIC CHEMISTRY: 3000(3)[F]

PHYSICAL CHEMISTRY: 5400(4)[W]

BIOCHEMISTRY: 6620(3)[F] 6640(3)[W] Prereq: 6620

6610(3)[W, F] Prereq: 6620 & Coreq: 6635 6635(3)[W] Prereq: 6620 & Coreq: 6610

BIOLOGY: 1510(4) 2200(4) (BIO 2600 and BIO 3070 are required prerequisites for some biology advanced electives.)

ADVANCED ELECTIVES: Students must complete three elective courses from **one** of the following options:

<u>Bioorganic Option</u>	<u>Bioinorganic Option</u>	<u>Bioanalytical Option</u>	<u>Health Science Option**</u>		
CHM 5510 (3) [F]	CHM 6070 (3) [W]	CHM 5160 (3) [F]	BIO 5280 (3)	BIO 6160 (3)	IM 7010 (2)
CHM 6270 (3) [F]	CHM 5020 (3) [F]	CHM 5570 (3) [W]	BIO 5330 (3)	BIO 7011 (3)	IM 7020 (3)
CHM 6070 (3) [W]	CHM 6270 (3) [F]	CHM 6170 (3)	BIO 5640 (3)	PHC 6500 (3)	IM 7030 (2)
			BIO 6000 (3)	PHC 7010 (4)	
			BIO 6010 (3)	PHC 7410 (3)	

** Registration for non-chemistry electives require approval from the department that is offering the course. Students need to receive permission from a chemistry advisor prior to taking any 7000 level electives.

RESEARCH IN CHEMISTRY: 5999 (min. 2; max 4) or 5900 (2) [NOTE: Start Research Project no later (sooner the better) than the 1ST SEMESTER OF SENIOR YR.] To sign up for research e-mail Dr. Linz at tlinz@chem.wayne.edu to set up an advising appointment. You must file an Undergraduate Research Form and present a written report signed by the Chairman of the Department of Chemistry in order to obtain a final grade for your work. With prior approval, students may be allowed to substitute 2 credits of an internship experience (CHM 6991) in place of research.

B.S. WITH HONORS

Students wishing to earn a B.S. in Biochemistry & Chemical Biology degree with Honors must see Dr. Linz (367 Chemistry).



Degree Requirements for BS in Biochemistry and Chemical Biology

Freshman Year

Fall Semester

	Credits
<input type="checkbox"/> CHM 1220/1230 – (PS) General Chemistry I (T)	5
<input type="checkbox"/> English 1020 (BC) – (BC) Introductory College Writing	3
<input type="checkbox"/> MAT 2010 – Calculus I (T)	4
<input type="checkbox"/> Competency Requirement	3
Total:	15

Winter Semester

	Credits
<input type="checkbox"/> CHM 1240/1250 - Organic Chemistry I (T)	5
<input type="checkbox"/> Intermediate Composition (IC)	3
<input type="checkbox"/> MAT 2020 - Calculus II (T)	4
<input type="checkbox"/> BIO 1510 - (LS) Basic Life Mechanisms (T)	4
Total:	16

Sophomore Year

Fall Semester

	Credits
<input type="checkbox"/> CHM 2220/2230 - Organic Chemistry II (T)	5
<input type="checkbox"/> Physics 2170/2171 - (PS) General Physics I (T)	5
<input type="checkbox"/> BIO 2200 - Introductory Microbiology	4
<input type="checkbox"/> Competency Requirement	3
Total:	17

Winter Semester

	Credits
<input type="checkbox"/> CHM 2280/2290 - General Chemistry II/ Analytical (T)	5
<input type="checkbox"/> Physics 2180/2181 - General Physics II (T)	5
<input type="checkbox"/> MAT 2210 - Probability and Statistics for Teachers (T)	4
<input type="checkbox"/> Group Requirement	3
Total:	17

Junior Year

Fall Semester

	Credits
<input type="checkbox"/> CHM 6620 - Metabolism: Pathways and Regulation (F)	3
<input type="checkbox"/> CHM 3000 - Metals in Biology	3
<input type="checkbox"/> CHM 5999 - Undergraduate Research (T)	2
<input type="checkbox"/> Group Requirement	3
<input type="checkbox"/> Language I	4
Total:	15

Winter Semester

	Credits
<input type="checkbox"/> CHM 6610 - (WI) Biological Chemistry Laboratory	3
<input type="checkbox"/> CHM 6635 - Tools of Molecular Biology (W)	3
<input type="checkbox"/> CHM 6640 - Molecular Biology (W)	3
<input type="checkbox"/> Group Requirement	3
<input type="checkbox"/> Language II	4
Total:	16

Senior Year

Fall Semester

	Credits
<input type="checkbox"/> Advanced Elective	3
<input type="checkbox"/> Advanced Elective	3
<input type="checkbox"/> Language III	4
<input type="checkbox"/> Group Requirements	6
Total:	16

Winter Semester

	Credits
<input type="checkbox"/> CHM 5400 - Biological Physical Chemistry (W)	4
<input type="checkbox"/> Advanced Elective	2-4
<input type="checkbox"/> Group Requirements	6
Total:	12-14

All College of Liberal Arts and Science students must maintain at least a 2.0 overall gpa. All Biochemistry Majors must earn a grade of "C" or above in all chemistry prerequisite courses in addition to the writing intensive course (CHM 6610). Biochemistry Majors must also maintain at least a 2.0 chemistry gpa. All Bachelor of Science majors must complete 2 to 4 credits of research, which is normally completed over at least two semesters. Some students start research in the Sophomore or Junior year and carry out a two-year or longer research project. Many students also carry out research in the summer.