# CAL POLY

## B.S. in BIOCHEMISTRY (Polymers and Coatings Concentration)

Suggested 4-Year Academic Flowchart

Updated 3/10/2020 FRESHMAN SOPHOMORE JUNIOR SENIOR Winter Winter Spring Undergraduate Seminar II Undergraduate Seminar III: Senior Project Undergraduate Seminar i Gen Chem for Gen Chem for Gen Chem for CHEM 203 (1) CHEM 403 (1) CHEM 303 (1) Physical Science Physical Science 8 Physical Science & HEM 303: CHEM 35 Engineering I Engineering II Engineering III CHEM 124 (4) CHEM 125 (4) CHEM 126 (4) Organic Chemistry Organic Organic Physical Chemistr Physical CHEM 124 or AP Ch CHEM 125 w/min ( Metabolism Aolecular Biology Molecular Biology Lab Chemistry III Chemistry II Chemistry Lah [B1 & B3] CHEM 216 (5) CHEM 217 (3) CHEM 218 (3) CHEM 372 (4) CHEM 373 (3) CHEM/BIO 475 (3) CHEM 354 (2) CHEM 353 (3) (BIO 161; min C- in BIO 351 or CHEM 373 or Instr CHEM 126 or 129 w/min C- or Instr. HEM 216 w/min 0 HEM 217 w/min C (CHEM 231/331. (CHEM 371) (CHEM 371) (CHEM 352) or Instr. consent; Coreg: CHEM 221) Calculus I Calculus II Calculus III or Instr. consent; oreg: CHEM 324) Coreq: CHEM 352 MATH 141 (4) MATH 142 (4) MATH 143 (4) Choose one: Organic Organic Choose one2: MATH 142 w/min C Physical Chemistry Quantitative Chemistry Physical Chemistry II Chemistry Analysis Protein [B4] [GE Elective] Laboratory II Laboratory III BIO 452 (4)\* Techniques Lab CHEM 221 (2) CHEM 324 (2) CHEM 351 (3) CHEM 352 (3) CHEM 331 (5) (BIO 351 or CHEM 373; CHEM 216, 312 CHEM 474 (3) (CHEM 126 or 129; ATH 143; PHYS 122 or 132) Intro to Cell & General Physics (CHEM 126 or 129 Corea: CHEM 217 Corea: CHEM 218 (CHEM 371) (CHEM 351) or 316) Molecular Biology OR OR Gen Micro I BIO 161 (4) PHYS 141 (4) Gene Expression MCRO 224 (5)\* Polymers and Recom: CHEM 110 111, 124, or 127) Lab Polymers and General Physics Biochemical BIO 476 (3) General Physics T. Coatings Laboratory Coatings BIO 161; CHEM 111 ГВ2 & В31 O/CHEM 475; CH 313 or 371) III Internshin PHYS 132 (4) PHYS 133 (4) CHEM 371 (5) CHEM 451 (2)3 HEM 449 (2) Expository Writing ENGL 133/134 (4)\*\* CHEM 217 or 317 BIO 161. Recom: (PHYS 131 or HNR HEM 450, Recom: CHE (CHEM 444) Can be taken anytime during Freshman Yea 1ATH 142 Recon 145 or 545; CHEM 448 o 548; CHEM 446) CHEM 231/331) Oral Communication COMS 101/102 (4)\*\* [A1] Can be taken anytime during Polymers and Polymers and Surface Chemistry of Coatings Coatings GE (4) **GE (4)** Materials Reasoning, Argumentation, & Writing [A Laboratory I Laboratory II COMS 126; COMS/ENGL 145; ENGL 148; PHIL 126 (4)\*\* CHEM 447 (2) CHEM 448 (2) CHEM 446 (3) (Completion of GE A2 with a C- or bette (CHEM 447. Coreq CHEM 125 or 128; CHEM GE (4) (Coreq: CHEM 444) GE (4) GE (4) Can be taken anytime between Winter of Freshman and Winter of Sc ers & Coatings I. II. & II GE (4) GE (4) GE (4) CHEM 444 (3) CHEM 445 (3) GE (4) GE (4) GE (4) CHEM 450 (3) (CHEM 212/312 or (CHEM 217/317 and (CHEM 444 or 544) Free Elective (1)<sup>1</sup> (1)<sup>1</sup>  $(1)^{1}$ (1)<sup>1</sup> (1)<sup>1</sup> (1)<sup>1</sup>  $(3-4)^1$ Recom: CHEM 1 (Students can attempt to fulfill the requirement after 90 earned units: students should complete the requirement before senior year)

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12-14

#### Notes:

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### MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET

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\* Refer to current catalog for prerequisites

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\*\* One course from each of the following GE areas must be completed: A1, A2, A3, Upper-Division B, C1, C2, Lower-Division C Elective, Upper-Division C, D1, D2, D2, Upper-Division D, E, and a GE Elective, Upper-Division B, Upper-Division C, and Upper-Division D should be taken only after Junior standing is reached (90 units).

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Refer to online catalog for GE course selection, United States Cultural Pluralism (USCP) and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: Upper-Division B, C1, Upper-Division C, D1, D3, or E.

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- <sup>1</sup> A maximum of 10 units of elective credit may be required for the major to reach the 180 unit requirement to graduate. Excess units of AP Test credit may be applied to elective credit. The Chemistry Dept strongly recommends taking CHEM 101 (1) in your first quarter. Also, it is suggested that you take supplemental workshops (SCM 150) along with available Math/Science courses in your first year.
- <sup>2</sup> The Biochemistry/Chemistry Department recommends CHEM 474 be taken as the Advanced Lab option. If the other options are chosen, excess units will count towards elective credit.
- <sup>3</sup> Choose either CHEM 451 Polymers and Coatings Laboratory III in Spring or CHEM 449 P&C Internship over summer. For CHEM 449 selected students will spend up to 12 weeks with an approved P&C firm engaged in production or related business.

#### 0 - 2 12-13 14 15-16 TOTAL: 180 Legend: Course Title Major (64) Course # (Units Support (32-33) (Prerequisite) Concentration (18) General Ed. (56) [GE Area] Free Electives (9-10)