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|  | **Computer Science (Computer Information Systems) 2021-22 Catalog Advising Checklist** |  | Name: |  |
|  |  **Semester Units: 120** | **Core Units: 80-85** |  | ID #: |  |

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| Lower Division Core (15) |  |
|  |  | CMPS 2010 - Progr. I: Programming Fundamentals (4) (grade of C- or better) | Advising Notes: |
|  |  | CMPS 2020 - Progr. II: Data Structures and Algorithms (4) (grade of C- or better) |   |
|  |  | CMPS 2120 - Discrete Structures (4) |
|  |  | CMPS 2680 - Web Programming I (3) |
| Upper Division Core (39) |
|  |  | CMPS 3120 - Algorithm Analysis (3) |
|  |  | CMPS 3350 - Software Engineering (4) |
|  |  | CMPS 3390 - Application Development (4) |
|  |  | CMPS 3420 - Database Systems (4) |
|  |  | CMPS 3500 - Programming Languages (3) |
|  |  | CMPS 3560 - Artificial Intelligence (3) |
|  |  | CMPS 3600 - Operating Systems (4) |
|  |  | CMPS 3620 - Computer Networks (4) |
|  |  | CMPS 3640 - Distributed and Parallel Computation (3) |
|  |  | CMPS 3680 - Web Programming II (3) |
|  |  | CMPS 4910 - Senior Project I (2) |
|  |  | CMPS 4928 - Senior Project II (2) |
| Advanced Elective [choose from CMPS 4350, 4420, 4430, 4450, 4480, 4490, 4500, 4510, 4560, 4620] (4) |
|  |  | CMPS |
| General Electives or Discipline-based Minor+ [select 12 units of courses] (12) |
| ENGR 2350, 2360; CMPS 2240, 2650, 2770, 2771, or any other 3000-level or 4000-level CMPS. Only up to 4 units of CMPS 277x, 377x, 477x, 48xx may be used for elective credit.+ Note: Must be discipline-based minor. Thematic general education minors will not count. |
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| Cognate Requirements (10-15) |
| *MATH 2310/2510 (Calculus I) or higher may be used to substitute for a MATH cognate course. There must still be two mathematics courses taken when using the calculus course substitution option, e.g. MATH 2510 to substitute for MATH 1040 and MATH 2520 to substitute for MATH 2200.*  |
|  |  | MATH 2200 – Statistical Concepts and Methods (4) |
|  |  | MATH 1030 or 1040 or (both 1050 and 1060) - Pre-calculus I and II (3-8)  |
|  |  | PHIL 3318 - Professional Ethics (3) |
| Additional Units (any university units) (3-8) |
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| General Education and University Requirements (32-38) |
|  |  | First Year Seminar - CSUB 1029 (2) (or CSUB 1009+1019 or ECE/ENGR 1618+1628) |
|  |  | A1 - Oral Communication (3) (grade of C- or better) |
|  |  | A2 - ENGL 1109 (3) (grade of C- or better) |
|  |  | A3 - Critical Thinking (3) (grade of C- or better) |
|  |  | B1/B3 - Physical Sciences (3) |
|  |  | B2/B3 - Waived for Computer Science majors |
|  |  | B4 - Satisfied by MATH 2200, 1030, 1040, 1050, 1060 with grade of C- or better |
|  |  | C1 - Arts (3) |
|  |  | C2 - Humanities (3) |
|  |  | US History for American Institutions (AI) requirement (3) |
|  |  | Government for AI requirement (3) |
|  |  | Area D - Waived for Computer Science majors |
|  |  | Area F - Ethnic Studies (3) |
|  |  | SELF - Recommend course that double-counts for another GE requirement (0-3) |
|  |  | Junior Year Diversity Reflection (JYDR) (3) |
|  |  | UD Area B - Not required for NSME majors |
|  |  | UD Area C - Satisfied by PHIL 3318 |
|  |  | UD Area D - Waived for Computer Science majors |
|  |  | Capstone - Satisfied by CMPS 4928 |
|  |  | GWAR - Pass exam or get C- or better in course (0-3) |