BME Major Senior Checklist NAME

| Graduation                              |                          | ]  |     |       |                                       |  |                               |                            |                  |     | ]     |                     |
|---|--------------------------|--|-----|-------|---------------------------------------|--|-------------------------------|----------------------------|------------------|-----|-------|---------------------|
| Month/Year                              |                          | <br>   |     |       | Track Specialization                  |  | Cell/Molecular                | Biomaterial/Biomech        | Bioelect/Bioimag |     |       |                     |
| Pre-requisites for this                 |                          |  |     |       | This course is                        |  | Pre-requisites for this       |                            |                  |     |       | This course is      |
| Course                                  | Fall, Freshman Year      | Credits  | Sem | Grade | required for:                         |  | Course                        | Spring, Freshman Year      | Credits          | Sem | Grade | required for:       |
| Math placement exam                     |                          |  |     |       |                                       |  | C or higher in Calc 1, or MPE |                            |                  |     |       |                     |
| (MPE) level 5                           | AMS 151: Calc 1 SBC QPS  | 3  |     |       | Calc 2                                |  | level 7                       | AMS 161: Calc 2            | 3                |     |       | Calc 3 or 4; BME260 |
|   |                          |  |     |       |                                       |  | C or higher in Chem 1; Pre-   |                            |                  |     |       |                     |
| MAT 125 or higher                       | CHE 131: Chem 1          | 4  |     |       | Chem 2; BIO 202/204                   |  | or Co-req: Calc 1 or Calc A   | CHE 132: Chem 2            | 4                |     |       | BME 381; BME404     |
|   | PHY 131/133: Physics     |  |     |       |                                       |  | C or higher in PHY 131 or     |                            |                  |     |       |                     |
| 5 MPE; Co-req Calc 1                    | 1/Lab SBC SNW            | 4  |     |       | Physics 2; BME260                     |  | PHY 141; Co-req: Calc 2       | PHY 132/134: Physics 2/Lab | 4                |     |       |                     |
|   | BME 100: Intro to BME    |  |     |       | BME212; BME260;                       |  |                               |                            |                  |     |       |                     |
| BME major                               | SBC TECH                 | 3  |     |       | BME 381; BME353                       |  | BME major                     | BME 120: Programming       | 3                |     |       |                     |
|   | WRT 102 (WRT)            | 3  |     |       | BME 300                               |  |                               | SBC                        | 3                |     |       |                     |
|   | Freshman Seminar (101)   | 1  |     |       |                                       |  |                               | Freshman Seminar (102)     | 1                |     |       |                     |
|   | Total                    | 18   |     |       |                                       |  |                               | Total                      | 18               |     |       |                     |
| Pre-requisites for this                 |                          |  |     |       | This course is                        |  | Pre-requisites for this       |                            |                  |     |       | This course is      |
| Course                                  | Fall, Sophomore Year     | Credits  | Sem | Grade | required for:                         |  | Course                        | Spring, Sophomore Year     | Credits          | Sem | Grade | required for:       |
|   |                          |  |     |       |                                       |  |                               |                            |                  |     |       |                     |
| Calc 2 or MPE level 9                   | AMS 261: Calc 3          | 4  |     |       | BME305; BME430                        |  | Calc 2 or MPE level 9         | AMS 361: Calc 4            | 4                |     |       | BME 305             |
| BME major; BME 100;                     |                          |  |     |       |                                       |  |                               |                            |                  |     |       |                     |
|   | BME 212: Res Lab Fund or |  |     |       | BME303; BME311;                       |  | BME major; BME 100; Pre-      | BME 212: Res Lab Fund or   |                  |     |       | BME303; BME 311;    |
| or 203                                  | SBC                      | 3  |     |       | BME313; BME353<br>Pre/Co BME212; 303; |  | or Co-req: BIO 202 or 203     | BME 203                    | 3                |     |       | BME 313; BME353     |
| C or higher in Chem 1                   | BIO 202: Mol & Cell      |  |     |       | 304; 305; 381;                        |  | BME 100; AMS 161; Phy 1 or    |                            |                  |     |       |                     |
| or Co-requisite CHE 152                 |                          | 3  |     |       | 404;430; 481                          |  | Phy A                         | BME 260: Statics/Dynamics  | 4                |     |       | BME303; BME305      |
| C or higher in Chem 1                   | 2.0.087                  | <del>                                     </del> |     |       | 101,100,102                           |  | ,                             |                            |                  |     |       | 51112303) 51112303  |
| or Co-requisite CHE                     |                          |  |     |       |                                       |  |                               |                            |                  |     |       |                     |
| 152; pre- or Co-                        |                          |  |     |       |                                       |  |                               |                            |                  |     |       |                     |
| requisite: BIO 202                      | BME 204: Bio Lab         | 2  |     |       |                                       |  | BME 100; Bio 202 or 203       | BME 304: Genetic Eng STAS  | 3                |     |       | BME 402             |
| AMS 151 or MAI 131 or                   |                          |  |     |       |                                       |  |                               |                            |                  |     |       |                     |
| 141 or Co-req MAT 126<br>or MPE level 7 | AMS 210: Lin Alg         | 3  |     |       |                                       |  |                               | SBC                        | 3                |     |       |                     |
| OI IVIFL IEVEL /                        | <u> </u>                 | -  |     |       |                                       |  |                               | 350                        | 3                |     |       |                     |
|   | BME 203: Emergent        | ,  |     |       |                                       |  |                               |                            |                  |     |       |                     |
|   | BioDesign                | 3  |     |       |                                       |  |                               |                            |                  |     |       |                     |
|   | Total                    | 18   |     |       |                                       |  |                               | Total                      | 17               |     |       |                     |

## Math Sequence

- MAT 125/126 or MAT 131/132 or MAT 141/142 in lieu of AMS 151/161
- MAT 203 or MAT 205 in lieu of AMS 261
- MAT 303 or MAT 305 in lieu of AMS 361
- MAT 211 in lieu of AMS 210
- MAT 307/308 plus a third AMS/MAT course of your choosing (Preferably one approved as a tech elective) in lieu of AMS 210/261/361

## Physics Sequence

- PHY 125/126/127 or 141/142 in lieu of PHY 131/132

## Courses requiring a C or better grade

- All required math courses in the calculus sequence
- All required natural science courses (BIO202/204, CHE sequence and PHY sequence)
- All required BME courses
- (BME 100/203/212/260/271/301/303/304/305/440/441)
- All technical electives

BME 300 requires an "S" grade

## BME Technical Electives (pre-reqs) \* design courses

BME311\* (BME212) BME402
BME312\* BME312\* BME4271 BME 420\*
BME333\* (BME100, 212) BME430
BME353\* (BME353) BME481\*
BME371 (BME305) BME481\*
BME371 (BME305) BME499
BME381\* (BME100, CHE312, pre/co BIO202 or 203)

| BME Major Senior Checklist   |  | NAME      |                           |  |   |  |  | ID  |         |     |       |                              |  |
|--|--|-----------|---------------------------|--|---|--|--|---|---------|-----|-------|------------------------------|--|
| •  |  | •         |                           |  |   |  |  | <b>-</b>  |         |     |       |                              |  |
| Graduation<br>Month/Year   |  |           |                           | Track<br>Specialization  |   | Cell/Molecular                                 | Biomaterial/Biomech  | Bioelect/Bioimag                                |         |     |       |                              |  |
| Pre-requisites for this  |  |           |                           |  | This course is  |  | Pre-requisites for this  |   |         |     |       | This course is               |  |
| Course   | Fall, Junior Year  | Credits   | Sem                       | Grade  | required for:   |  | Course   | Spring, Junior Year                             | Credits | Sem | Grade | required for:                |  |
| Calc 2; Phys 2   | BME 271: Intro Electric Cir<br>& Bioelectricity              | 3         |                           |  | BME 301; BME313;<br>BME481  |  | Pre- or Co-req BME212; C<br>or higher in BME271;<br>BME120                   | BME 301: Bioelectricity                         | 3       |     |       | BME 440                      |  |
| AMS161 or MAT 132 or   |  |           |                           |  |   |  | Calc 3 & 4; Pre- or Co-req<br>BME 212; BME260;                               | BME 305: Biofluids                              | 3       |     |       |                              |  |
| MAT 126 or MAT 142   | AMS 310: Prob/Stat   | 3         |                           |  |   |  | BME303; Pre- or Co-req   |   |         |     |       | BME371; BME440               |  |
| WRT 102; U3 or U4<br>standing; Co-req any<br>BME300-400                        | BME 300: Writing in BME                                      | 0         |                           |  |   |  |  | SBC   | 3       |     |       |                              |  |
| BME 260; BME212; Pre- or<br>Co-req BIO202 or 203                               | BME303 Biomechanics<br>SBC: STATS                            | 3         |                           |  | BME 305; BME420   |  |  | BME Technical Elective 3                        | 3       |     |       |                              |  |
|  | BME Tech Elective 1<br>(Design)                              | 3         |                           |  |   |  |  | BME Technical Elective 4                        | 3       |     |       |                              |  |
|  | BME Tech Elective 2<br>(Design)                              | 3         |                           |  |   |  |  |   |         |     |       |                              |  |
|  | Total  | 15        |                           |  |   |  |  | Total   | 15      |     |       |                              |  |
| Pre-requisites for this<br>Course  | Fall, Senior Year  | Credits   | Sem                       | Grade  | This course is required for:  |  | Pre-requisites for this Course   | Spring, Senior Year                             | Credits | Sem | Grade | This course is required for: |  |
| BME major; U4 standing;<br>BME 301 and 305                                     | BME 440: Senior Design in BME                                | 3         |                           |  | BME 441   |  | BME 440  | BME 441: Senior Design in BME                   | 3       |     |       |                              |  |
|  | BME Technical Elective 5                                     | 3         |                           |  |   |  |  | Technical Elective 8                            | 3       |     |       |                              |  |
|  | Technical Elective 6   | 3         |                           |  |   |  |  | Technical Elective 9                            | 3       |     |       |                              |  |
|  | Technical Elective 7   | 3         |                           |  |   |  |  | Technical Elective 10                           | 3       |     |       |                              |  |
|  | SBC  | 3         |                           |  |   |  |  |   |         |     |       |                              |  |
|  | Total  | 15        |                           |  |   |  |  | Total   | 12      |     |       |                              |  |
| •  | * Check Undergraduate Bulletin for Alternative Pre-requities |           |                           |  | d the most up to date i   | mation   | ** BME TE required for students admitted before Fall 2017, 2 must be design  |   |         |     |       |                              |  |
| •  | Required Technical Electives ( 30 credits required)          |           |                           |  |   |  | ** 5 BME TE required for students admitted as of Fall 2017, 2 must be design |   |         |     |       |                              |  |
| Required Engineering (5<br>Total credits for progra                            |  | 51<br>128 |                           |  |   | Other TE may be engineering or non-engineering |  |   |         |     |       |                              |  |
|  | Chemistry Sequence - CHE 152 in lieu of CHE 131/132          |           |                           | SBS of admitted in urses can s   | the following SBC courses<br>GLO USA HUM WF<br>n or after fall 2019)<br>atisfy more than one SBC cate | egory  |  | This student has been cleared for the BME major |         |     |       |                              |  |
| Computer Programming - BME 120  To graduate, an overall GPA of 2.5 is required |  |           | QPS sa<br>SNW s<br>TECH s | ning SBC re-<br>atisfied by catisfied by<br>satisfied by<br>satisfied by | chemistry<br>BME100   | e major requirements                           | Undergraduate Program Director   |   |         |     |       |                              |  |
| L  |  |           |                           |  | V SBC satisfied by BME440/4<br>ort is for planning purposes or  | ariations to this flow chart                   | Undergraduate Program Coordinator  |   |         |     |       |                              |  |

DATE \_\_\_\_\_