



**PROGRAMME STRUCTURE:  
BACHELOR OF BIOMEDICAL ENGINEERING  
2018/2019 SESSION**

**SEPTEMBER INTAKE**

**FACULTY OF ENGINEERING, UNIVERSITY OF MALAYA  
KUALA LUMPUR, MALAYSIA**

| Course Component          | Contents   | Credit     |
|---------------------------|--|------------|
| University Courses        | ❖ Compulsory Courses:  |            |
|                           | • The Islamic and Asian Civilization (TITAS)* / Basic Malay Language** | 2          |
|                           | • Ethnic Relations * /Introduction to Malaysia**                       | 2          |
|                           | • Basic Entrepreneurship Culture                                       | 2          |
|                           | • English for Communication Programme                                  | 6          |
|                           | • Information Literacy   | 2          |
|                           | • Social Engagement  | 2          |
|                           | • <b>Co-Curriculum</b>   | 2          |
|                           | • <b>Elective Course From Other Faculties</b>                          | 4          |
|                           | <b>Sub Total Credit</b>  | <b>22</b>  |
| Faculty Courses           | ❖ Faculty Core Courses   | 22         |
|                           | ❖ Faculty Elective Courses   | 2          |
|                           | <b>Sub Total Credit</b>  | <b>24</b>  |
| Programme Courses         | ❖ Programme Core Courses   | 94         |
|                           | ❖ Programme Elective Courses   | 8          |
|                           | <b>Sub Total Credit</b>  | <b>102</b> |
| <b>TOTAL CREDIT HOURS</b> |  | <b>148</b> |

**Notes:**

- (1) \*Compulsory for Local students.
- (2) \*\* Compulsory for International students.
- (3) Students are required to take a minimum of 6 credits of English course based on English Proficiency qualification (MUET/IELTS/TOEFL).

| YEAR 1                            |  |           |           |    |           |               |
|-----------------------------------|--|-----------|-----------|----|-----------|---------------|
| CODE                              | COURSE   | S1        | S2        | SS | TOTAL     | PRE-REQUISITE |
| <b>UNIVERSITY COURSES</b>         |  |           |           |    |           |               |
| GIG1001/<br>GLT1017               | The Islamic And Asian Civilization (TITAS)*/<br>Basic Malay Language** | 2         |           |    | 9         |               |
| GIG1004                           | Information Literacy   |           | 2         |    |           |               |
| GLT10xx                           | English for Communication Programme I                                  | 3         |           |    |           |               |
| GIG1002/<br>GIG1006               | Ethnic Relations* /<br>Introduction to Malaysia**                      |           | 2         |    |           |               |
|                                   | <b>Sub-total</b>   | <b>5</b>  | <b>4</b>  |    | <b>9</b>  |               |
| <b>FACULTY CORE COURSES</b>       |  |           |           |    |           |               |
| KIX1001                           | Engineering Mathematics I  | 3         |           |    | 8         |               |
| KIX1002                           | Engineering Mathematics II   |           | 3         |    |           |               |
| KIX1003                           | Thinking and Communication Skill                                       | 2         |           |    |           |               |
|                                   | <b>Sub-total</b>   | <b>5</b>  | <b>3</b>  |    | <b>8</b>  |               |
| <b>PROGRAMME CORE COURSES</b>     |  |           |           |    |           |               |
| KIB1001                           | Laboratory Practical I   | 1         |           |    | 19        |               |
| KIB1002                           | Human Anatomy and Physiology I   | 3         |           |    |           |               |
| KIB1003                           | Statics  | 3         |           |    |           |               |
| KIB1004                           | Laboratory Practical II  |           | 1         |    |           |               |
| KIB1005                           | Human Anatomy and Physiology II  |           | 2         |    |           |               |
| KIB1006                           | Dynamics   |           | 3         |    |           |               |
| KIB1007                           | Electrical Circuit Analysis  |           | 3         |    |           |               |
| KIB1008                           | Basic Prosthetics and Orthotics  |           | 3         |    |           |               |
|                                   | <b>Sub-total</b>   | <b>7</b>  | <b>12</b> |    | <b>19</b> |               |
| <b>PROGRAMME ELECTIVE COURSES</b> |  |           |           |    |           |               |
|                                   | -  |           |           |    |           |               |
|                                   | <b>Sub-total</b>   |           |           |    |           |               |
| <b>Total</b>                      |  | <b>17</b> | <b>19</b> |    | <b>36</b> |               |

Note:

- (1) \* For Local students only.  
 \*\* For international student only

| YEAR 2                          |  |           |           |    |           |               |
|---------------------------------|--|-----------|-----------|----|-----------|---------------|
| CODE                            | COURSE   | S1        | S2        | SS | TOTAL     | PRE-REQUISITE |
| <b>UNIVERSITY COURSES</b>       |  |           |           |    |           |               |
| GLT10xx                         | English for Communication Programme II                 | 3         |           |    |           |               |
| GIG1003                         | Basic Entrepreneurship Culture                         | 2         |           |    |           |               |
| GIG1005                         | Social Engagement                                      |           | 2         |    |           |               |
|                                 | <b>Sub-total</b>                                       | <b>5</b>  | <b>2</b>  |    | <b>7</b>  |               |
| <b>FACULTY CORE COURSES</b>     |  |           |           |    |           |               |
| KIX2002                         | Engineering Economic Analysis                          |           | 3         |    |           |               |
|                                 | <b>Sub-total</b>                                       |           | <b>3</b>  |    | <b>3</b>  |               |
| <b>FACULTY ELECTIVE COURSES</b> |  |           |           |    |           |               |
|                                 | -  |           |           |    |           |               |
|                                 | <b>Sub-total</b>                                       |           |           |    |           |               |
| <b>PROGRAMME CORE COURSES</b>   |  |           |           |    |           |               |
| KIB2001                         | Laboratory Practical III                               | 1         |           |    |           |               |
| KIB2002                         | Electronics  | 3         |           |    |           | KIB1007       |
| KIB2003                         | Mechanics of Materials                                 | 3         |           |    |           | KIB1003       |
| KIB3004                         | Materials in Biomedical Engineering                    | 3         |           |    |           |               |
| KIB3008                         | Biomedical Statistics                                  | 2         |           |    |           |               |
| KIB2004                         | Laboratory Practical IV                                |           | 1         |    |           |               |
| KIB2005                         | Safety, Standard, and Ethics in Biomedical Engineering |           | 2         |    |           |               |
| KIB2006                         | Computer and Programming                               |           | 2         |    |           |               |
| KIB2007                         | Medical Electronics                                    |           | 3         |    |           | KIB1007       |
| KIB2008                         | Biomechanics of Human Motion                           |           | 3         |    |           |               |
| KIB3007                         | Capstone Design Project                                |           | 2P        |    |           |               |
|                                 | <b>Sub-total</b>                                       | <b>12</b> | <b>13</b> |    | <b>25</b> |               |
|                                 | <b>Total</b>   | <b>17</b> | <b>18</b> |    | <b>35</b> |               |

| YEAR 3                          |   |           |           |          |           |               |
|---------------------------------|---|-----------|-----------|----------|-----------|---------------|
| CODE                            | COURSE  | S1        | S2        | SS       | TOTAL     | PRE-REQUISITE |
| <b>UNIVERSITY COURSES</b>       |   |           |           |          |           |               |
|                                 | -   |           |           |          |           |               |
|                                 | <b>Sub-total</b>                                |           |           |          |           |               |
| <b>FACULTY CORE COURSES</b>     |   |           |           |          |           |               |
| KIX2004                         | Engineering Project Management                  | 3         |           |          |           |               |
| KIX2001                         | Integrated Design I                             | 2         |           |          |           |               |
| KIX3001                         | Integrated Design II                            |           | 4         |          |           | KIX2001       |
| KIX2003                         | Law and Ethics in Engineering                   |           | 2         |          |           |               |
|                                 | <b>Sub-total</b>                                | <b>5</b>  | <b>6</b>  |          | <b>11</b> |               |
| <b>FACULTY ELECTIVE COURSES</b> |   |           |           |          |           |               |
|                                 | -   |           |           |          |           |               |
|                                 | <b>Sub-total</b>                                |           |           |          |           |               |
| <b>PROGRAMME CORE COURSES</b>   |   |           |           |          |           |               |
| KIB3001                         | Laboratory Practical V                          | 1         |           |          |           |               |
| KIB3002                         | Medical Device Safety in Biomedical Engineering | 2         |           |          |           | KIB2005       |
| KIB3003                         | Management in Clinical Engineering              | 3         |           |          |           |               |
| KIB3005                         | Biomedical Engineering Practice                 | 2         |           |          |           |               |
| KIB3006                         | Mechanics of Machines                           | 3         |           |          |           |               |
| KIB3007                         | Capstone Design Project                         | 2         |           |          |           |               |
| KIB3009                         | Signal and System                               |           | 2         |          |           | KIX1002       |
| KIB3010                         | Control System                                  |           | 2         |          |           |               |
| KIB3011                         | Microcomputer and Digital Systems               |           | 3         |          |           |               |
| KIB3012                         | Fluid Mechanics                                 |           | 3         |          |           |               |
| KIB3013                         | Biochemistry and Analysis                       |           | 3         |          |           |               |
| KIB3014                         | Industrial Training                             |           |           | 5        |           |               |
|                                 | <b>Sub-total</b>                                | <b>13</b> | <b>13</b> | <b>5</b> | <b>31</b> |               |
|                                 | <b>Total</b>                                    | <b>18</b> | <b>19</b> | <b>5</b> | <b>42</b> |               |

| YEAR 4                            |   |           |           |    |           |               |
|-----------------------------------|---|-----------|-----------|----|-----------|---------------|
| CODE                              | COURSE  | S1        | S2        | SS | TOTAL     | PRE-REQUISITE |
| <b>UNIVERSITY COURSES</b>         |   |           |           |    |           |               |
|                                   | Co-Curriculum                                     | 2         |           |    |           |               |
|                                   | Other Faculty Elective Course                     | 2         |           |    |           |               |
|                                   | Other Faculty Elective Course                     |           | 2         |    |           |               |
|                                   | <b>Sub-total</b>                                  | <b>4</b>  | <b>2</b>  |    | <b>6</b>  |               |
| <b>FACULTY CORE COURSES</b>       |   |           |           |    |           |               |
|                                   | -   |           |           |    |           |               |
|                                   | <b>Sub-total</b>                                  |           |           |    |           |               |
| <b>FACULTY ELECTIVE COURSES</b>   |   |           |           |    |           |               |
| KIX3XXX                           | Faculty Elective Course                           |           | 2         |    |           |               |
|                                   | <b>Sub-total</b>                                  |           | <b>2</b>  |    | <b>2</b>  |               |
| <b>PROGRAMME CORE COURSES</b>     |   |           |           |    |           |               |
| KIB4001                           | Computational Modelling in Biomedical Engineering | 2         |           |    |           | KIB2006       |
| KIB4004                           | Electromagnetism and Electrical Machine           | 3         |           |    |           |               |
| KIB4005                           | Medical Instrumentation: Application and Design   | 3         |           |    |           | KIB2007       |
| KIB4006                           | Graduation Project                                | 2P        | 4         |    |           |               |
| KIB4010                           | Medical Imaging                                   |           | 3         |    |           |               |
| KIB4011                           | Financial Management in Healthcare Engineering    |           | 2         |    |           |               |
|                                   | <b>Sub-total</b>                                  | <b>10</b> | <b>9</b>  |    | <b>19</b> |               |
| <b>PROGRAMME ELECTIVE COURSES</b> |   |           |           |    |           |               |
| KIB4XXX/<br>KII4XXX               | Programme Elective Course I                       | 2         |           |    |           |               |
| KIB4XXX/<br>KII4XXX               | Programme Elective Course II                      | 2         |           |    |           |               |
| KIB4XXX/<br>KII4XXX               | Programme Elective Course III                     |           | 2         |    |           |               |
| KIB4XXX/<br>KII4XXX               | Programme Elective Course IV                      |           | 2         |    |           |               |
|                                   | <b>Sub-total</b>                                  | <b>4</b>  | <b>4</b>  |    | <b>8</b>  |               |
|                                   | <b>Total</b>                                      | <b>18</b> | <b>17</b> |    | <b>35</b> |               |

**LIST OF FACULTY ELECTIVE COURSE#:**

| CODE    | COURSE                       | CREDIT |
|---------|------------------------------|--------|
| KIX3002 | Engineering Entrepreneurship | 2      |
| KIX3003 | Sustainable Engineering      | 2      |

**LIST OF PROGRAMME ELECTIVE COURSES#:**

| CODE    | COURSE                                       | CREDIT |
|---------|--|--------|
| KIB4002 | Drug Delivery System                         | 2      |
| KIB4003 | Biomems                                      | 2      |
| KIB4007 | Tissue Engineering                           | 2      |
| KIB4008 | Advanced Biomaterials                        | 2      |
| KIB4009 | Pattern Recognition                          | 2      |
| KIB4012 | Biosensors and Biochips                      | 2      |
| KII4001 | Biomechatronics in Prosthetics and Orthotics | 2      |
| KII4005 | Sensors in Healthcare                        | 2      |
| KII4006 | Sports Biomechanics                          | 2      |
| KII4008 | Medical Image Analysis                       | 2      |

# The list of courses offered is subject to change.

**GRADUATION REQUIREMENT CHART**  
**BACHELOR OF BIOMEDICAL ENGINEERING**

| CODE                            | COURSE  | CREDIT    | PASSING GRADE    | MARKING SCHEME   |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|---------------------------------|---|-----------|------------------|--|--|--|--|--------------|---------|--------------|---------|--------|----|------|------------------|-------|---|------|-------------|-------|----|------|-------------|-------|----|------|------|-------|---|------|------|-------|----|------|------|-------|----|------|------|-------|---|------|------|-------|----|------|------|-------|----|------|------|-------|---|------|------|------|---|------|------|
| <b>UNIVERSITY COURSES</b>       |   |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG 1001                        | Islamic and Asian Civilizations (TITAS)*  | 2         | C                | <table border="1"> <thead> <tr> <th>MARKS</th> <th>GRADE</th> <th>GRADE POINTS</th> <th>MEANING</th> </tr> </thead> <tbody> <tr> <td>90-100</td> <td>A+</td> <td>4.00</td> <td>HIGH DISTINCTION</td> </tr> <tr> <td>80-89</td> <td>A</td> <td>4.00</td> <td>DISTINCTION</td> </tr> <tr> <td>75-79</td> <td>A-</td> <td>3.70</td> <td>DISTINCTION</td> </tr> <tr> <td>70-74</td> <td>B+</td> <td>3.30</td> <td>GOOD</td> </tr> <tr> <td>65-69</td> <td>B</td> <td>3.00</td> <td>GOOD</td> </tr> <tr> <td>60-64</td> <td>B-</td> <td>2.70</td> <td>GOOD</td> </tr> <tr> <td>55-59</td> <td>C+</td> <td>2.30</td> <td>PASS</td> </tr> <tr> <td>50-54</td> <td>C</td> <td>2.00</td> <td>PASS</td> </tr> <tr> <td>45-49</td> <td>C-</td> <td>1.70</td> <td>FAIL</td> </tr> <tr> <td>40-44</td> <td>D+</td> <td>1.30</td> <td>FAIL</td> </tr> <tr> <td>35-39</td> <td>D</td> <td>1.00</td> <td>FAIL</td> </tr> <tr> <td>0-34</td> <td>F</td> <td>0.00</td> <td>FAIL</td> </tr> </tbody> </table> |  |  |  | MARKS        | GRADE   | GRADE POINTS | MEANING | 90-100 | A+ | 4.00 | HIGH DISTINCTION | 80-89 | A | 4.00 | DISTINCTION | 75-79 | A- | 3.70 | DISTINCTION | 70-74 | B+ | 3.30 | GOOD | 65-69 | B | 3.00 | GOOD | 60-64 | B- | 2.70 | GOOD | 55-59 | C+ | 2.30 | PASS | 50-54 | C | 2.00 | PASS | 45-49 | C- | 1.70 | FAIL | 40-44 | D+ | 1.30 | FAIL | 35-39 | D | 1.00 | FAIL | 0-34 | F | 0.00 | FAIL |
| MARKS                           | GRADE   |           |                  |  |  |  |  | GRADE POINTS | MEANING |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 90-100                          | A+  | 4.00      | HIGH DISTINCTION |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 80-89                           | A   | 4.00      | DISTINCTION      |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 75-79                           | A-  | 3.70      | DISTINCTION      |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 70-74                           | B+  | 3.30      | GOOD             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 65-69                           | B   | 3.00      | GOOD             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 60-64                           | B-  | 2.70      | GOOD             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 55-59                           | C+  | 2.30      | PASS             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 50-54                           | C   | 2.00      | PASS             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 45-49                           | C-  | 1.70      | FAIL             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 40-44                           | D+  | 1.30      | FAIL             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 35-39                           | D   | 1.00      | FAIL             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| 0-34                            | F   | 0.00      | FAIL             |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GLT 1017                        | Basic Malay Language**  |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG 1002                        | Ethnic Relations*   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG 1006                        | Introduction to Malaysia**  |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG1003                         | Basic of Entrepreneurship Culture   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG 1004                        | Information Literacy  | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GIG1005                         | Social Engagement   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| GLT 10XX                        | English for Communication Programme   | 6         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | Elective Course from Other Faculties  | 4         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | Co-Curriculum   | 2         | c                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | <b>Sub-total Credit Hours</b>   | <b>22</b> |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| <b>FACULTY CORE COURSES</b>     |   |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 1001                        | Engineering Mathematics I   | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 1002                        | Engineering Mathematics II  | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 1003                        | Thinking and Communication Skills   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 2001                        | Integrated Design I   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 2002                        | Engineering Economic Analysis   | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 2003                        | Law and Ethics in Engineering   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 2004                        | Engineering Project Management  | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIX 3001                        | Integrated Design II  | 4         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | <b>Sub-total Credit Hours</b>   | <b>22</b> |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| <b>FACULTY ELECTIVE COURSES</b> |   |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | <b>List of Faculty Elective Courses#:</b> <ul style="list-style-type: none"> <li>• KIX3002 – Engineering Entrepreneurship</li> <li>• KIX3003 – Sustainable Engineering</li> </ul> <i>#subject to changes.</i> | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
|                                 | <b>Sub-total Credit Hours</b>   | <b>2</b>  |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| <b>PROGRAMME CORE COURSES</b>   |   |           |                  |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1001                         | Laboratory Practical I  | 1         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1002                         | Human Anatomy and Physiology I  | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1003                         | Statics   | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1004                         | Laboratory Practical II   | 1         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1005                         | Human Anatomy and Physiology II   | 2         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |
| KIB1006                         | Dynamics  | 3         | C                |  |  |  |  |              |         |              |         |        |    |      |                  |       |   |      |             |       |    |      |             |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |       |    |      |      |       |    |      |      |       |   |      |      |      |   |      |      |



PROGRAMME STRUCTURE: BACHELOR OF BIOMEDICAL ENGINEERING 2018/2019 SESSION

| KIB1007                           | Electrical Circuit Analysis  | 3          | C | <table border="1"> <thead> <tr> <th>GRADE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>Progressive</td> </tr> <tr> <td>K</td> <td>Transfer of credit without grade</td> </tr> <tr> <td>K1</td> <td>Exemption of course</td> </tr> <tr> <td>I</td> <td>Maybe given when:<br/>a) a student has not taken the final examination for any course in any semester due to medical reasons/compassionate grounds and/or;<br/>b) a student has not fulfill a part of the course requirement in a semester due to medical/compassionate grounds or by reasons beyond the control of the student which is acceptable to the Committee of Examiners concerned.</td> </tr> <tr> <td>R</td> <td>Given for a course which is audited that fulfils the minimum 80% attendance requirement. No credit is given for this grade</td> </tr> <tr> <td>UR</td> <td>Given for a course which is audited but does not fulfil the minimum 80% attendance requirement. No credit is given for this grade.</td> </tr> <tr> <td>W</td> <td>Given for a course from which a student has withdrawn officially during a particular semester.</td> </tr> <tr> <td>W1</td> <td>Given for all courses where a student has officially withdrawn from a semester.</td> </tr> <tr> <td>W2</td> <td>Given for all courses where a student has withdrawn officially from the University.</td> </tr> </tbody> </table> | GRADE | REMARKS | P | Progressive | K | Transfer of credit without grade | K1 | Exemption of course | I | Maybe given when:<br>a) a student has not taken the final examination for any course in any semester due to medical reasons/compassionate grounds and/or;<br>b) a student has not fulfill a part of the course requirement in a semester due to medical/compassionate grounds or by reasons beyond the control of the student which is acceptable to the Committee of Examiners concerned. | R | Given for a course which is audited that fulfils the minimum 80% attendance requirement. No credit is given for this grade | UR | Given for a course which is audited but does not fulfil the minimum 80% attendance requirement. No credit is given for this grade. | W | Given for a course from which a student has withdrawn officially during a particular semester. | W1 | Given for all courses where a student has officially withdrawn from a semester. | W2 | Given for all courses where a student has withdrawn officially from the University. |
|-----------------------------------|--|------------|---|--|-------|---------|---|-------------|---|----------------------------------|----|---------------------|---|--|---|--|----|--|---|--|----|---|----|---|
| GRADE                             | REMARKS  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| P                                 | Progressive  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| K                                 | Transfer of credit without grade   |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| K1                                | Exemption of course  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| I                                 | Maybe given when:<br>a) a student has not taken the final examination for any course in any semester due to medical reasons/compassionate grounds and/or;<br>b) a student has not fulfill a part of the course requirement in a semester due to medical/compassionate grounds or by reasons beyond the control of the student which is acceptable to the Committee of Examiners concerned. |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| R                                 | Given for a course which is audited that fulfils the minimum 80% attendance requirement. No credit is given for this grade   |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| UR                                | Given for a course which is audited but does not fulfil the minimum 80% attendance requirement. No credit is given for this grade.   |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| W                                 | Given for a course from which a student has withdrawn officially during a particular semester.   |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| W1                                | Given for all courses where a student has officially withdrawn from a semester.  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| W2                                | Given for all courses where a student has withdrawn officially from the University.  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB1008                           | Basic Prosthetics and Orthotics  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2001                           | Laboratory Practical III   | 1          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2002                           | Electronics  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2003                           | Mechanics of Materials   | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3004                           | Materials in Biomedical Engineering  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3008                           | Biomedical Statistics  | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2004                           | Laboratory Practical IV  | 1          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2005                           | Safety, Standard, and Ethics in Biomedical Engineering   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2006                           | Computer and Programming   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2007                           | Medical Electronics  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB2008                           | Biomechanics of Human Motion   | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3007                           | Capstone Design Project  | 4          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3001                           | Laboratory Practical V   | 1          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3002                           | Medical Device Safety in Biomedical Engineering  | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3003                           | Management in Clinical Engineering   | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3005                           | Biomedical Engineering Practice  | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3006                           | Mechanics of Machines  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3009                           | Signal and System  | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3010                           | Control System   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3011                           | Microcomputer and Digital Systems  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3012                           | Fluid Mechanics  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3013                           | Biochemistry and Analysis  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB3014                           | Industrial Training  | 5          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4001                           | Computational Modelling in Biomedical Engineering  | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4004                           | Electromagnetism and Electrical Machine  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4005                           | Medical Instrumentation: Application and Design  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4006                           | Graduation Project   | 6          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4010                           | Medical Imaging  | 3          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4011                           | Financial Management in Healthcare Engineering   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| <b>Sub-total Credit Hours</b>     |  | <b>94</b>  |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| <b>PROGRAMME ELECTIVE COURSES</b> |  |            |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4XXX/KII4XXX                   | Elective 1   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4XXX/KII4XXX                   | Elective 2   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4XXX/KII4XXX                   | Elective 3   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| KIB4XXX/KII4XXX                   | Elective 4   | 2          | C |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| <b>Sub-total Credit Hours</b>     |  | <b>8</b>   |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |
| <b>TOTAL CREDIT</b>               |  | <b>148</b> |   |  |       |         |   |             |   |                                  |    |                     |   |  |   |  |    |  |   |  |    |   |    |   |

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