

|                                                                  |             |                                                                                          | << Declaration of BEng major                                              |             | << Declaration of BBA major |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------|-----------------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|-------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--|--|--|--|--|--|
| School:                                                          |             |                                                                                          | School of Engineering and School of Business Management                   |             |                             |             |               |             |               |             |               |             | Student's Pathway |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| Program:                                                         |             |                                                                                          | Dual Degree Program (BEng in Mechanical Engineering and BBA in Marketing) |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| Course Offering Dept.<br>(course code prefix)                    | Course Code | Course Title / Courses List                                                              | Credits                                                                   | Year 1 Fall | Year 1 Spring               | Year 2 Fall | Year 2 Spring | Year 3 Fall | Year 3 Spring | Year 4 Fall | Year 4 Spring | Year 5 Fall | Year 5 Spring     | Subtotal | Remarks                                                                                                                                                                        |    |  |  |  |  |  |  |
|                                                                  |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>BEng in Mechanical Engineering</b>                            |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Engineering Fundamental Courses</b>                           |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| COMP                                                             | 1023        | Note: COMP1023 OR COMP2011 OR COMP2012H                                                  | 3-5                                                                       |             |                             |             |               |             |               |             |               |             |                   | 3        | Students should take COMP 1023, COMP 2011 or COMP 2012H which will also be used to substitute ISOM 2010 and to waive ISOM 2020                                                 |    |  |  |  |  |  |  |
| COMP                                                             | 2011        | Introduction to Python Programming                                                       | 3                                                                         | 3           |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| COMP                                                             | 2012H       | Programming with C++                                                                     | 4                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Honors Object-Oriented Programming and Data Structures                                   | 5                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1013        | Note: [MATH 1013 OR MATH1023] AND [MATH 1014 OR MATH 1024] OR [MATH 1020]                | 4-7                                                                       |             |                             |             |               |             |               |             |               |             |                   |          | DDP students should take MATH 1013 or MATH 1020 or MATH 1023 to satisfy the requirements of both BEng and BBA degrees                                                          |    |  |  |  |  |  |  |
| MATH                                                             | 1014        | Calculus I                                                                               | 3                                                                         | 3           | 3                           |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1020        | Calculus II                                                                              | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1023        | Accelerated Calculus                                                                     | 4                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1024        | Honors Calculus I                                                                        | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 2011        | Honors Calculus II                                                                       | 3                                                                         |             |                             | 3           |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Introduction to Multivariable Calculus                                                   | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 2111        | Note: MATH2111 OR MATH2350 OR MATH2351                                                   | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          | 3                                                                                                                                                                              |    |  |  |  |  |  |  |
| MATH                                                             | 2350        | Matrix Algebra and Applications                                                          | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 2351        | Applied Linear Algebra and Differential Equations                                        | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 2351        | Introduction to Differential Equations                                                   | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| PHYS                                                             | 1112        | Note: PHYS1112 OR PHYS1312                                                               | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          | 3                                                                                                                                                                              |    |  |  |  |  |  |  |
| PHYS                                                             | 1312        | General Physics I with Calculus                                                          | 3                                                                         |             | 3                           |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Honors General Physics I                                                                 | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Science 1000-level course (1 course of the specified course list)                        | 3-4                                                                       |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| CHEM                                                             | 1008        | Introductory Chemistry                                                                   | 3                                                                         |             | 3                           |             |               |             |               |             |               |             |                   |          | 3                                                                                                                                                                              |    |  |  |  |  |  |  |
| CHEM                                                             | 1012        | General Chemistry B: Atomic Structure, Molecules, and Bonding Theories                   | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| LFS                                                              | 1901        | General Biology I                                                                        | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| PHYS                                                             | 1301        | General Physics I                                                                        | 4                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Required Credits for Engineering Fundamental Courses</b>      |             |                                                                                          |                                                                           | 19-25       | 6                           | 9           | 3             | 3           | 0             | 0           | 0             | 0           | 0                 | 0        | 21                                                                                                                                                                             |    |  |  |  |  |  |  |
| <b>Major Required Courses and Electives</b>                      |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 1001        | Academic and Professional Development I                                                  | 0                                                                         | 0           | 0                           | 0           | 0             | 0           |               |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 1910        | Foundations of Mechanical and Aerospace Engineering                                      | 3                                                                         | 3           |                             |             |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 1990        | Industrial Training                                                                      | 0                                                                         |             |                             | 0*          | 0*            |             |               |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2002        | Academic and Professional Development II                                                 | 0                                                                         |             |                             |             |               | 0           | 0             | 0           | 0             | 0           | 0                 | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2020        | Statics and Dynamics                                                                     | 3                                                                         |             |                             | 3           |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2040        | Solid Mechanics I                                                                        | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2210        | Fluid Mechanics                                                                          | 3                                                                         |             |                             |             |               | 3           |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2310        | Thermodynamics                                                                           | 3                                                                         |             |                             | 3           |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2410        | Engineering Materials I                                                                  | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 2620        | Design and Manufacturing I                                                               | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3030        | Mechanisms of Machinery                                                                  | 3                                                                         |             |                             |             |               | 3           |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Note: MECH3030 OR MECH4020 OR MECH3710                                                   | 3                                                                         |             |                             |             |               |             | 3             |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3300        | Energy Conversion                                                                        | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3420        | Engineering Materials II                                                                 | 3                                                                         |             |                             |             |               | 3           |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3710        | Manufacturing Processes and Systems                                                      | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3310        | Heat Transfer                                                                            | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3810        | Control Principles                                                                       | 3                                                                         |             |                             |             |               | 3           |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3830        | Electrical Technology                                                                    | 3                                                                         |             |                             |             |               |             | 3             |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3830        | Laboratory                                                                               | 3                                                                         |             |                             |             |               |             |               | 3           |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 3907        | Mechanisms Design and Prototyping                                                        | 3                                                                         |             |                             |             |               |             | 3             |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MECH                                                             | 4000        | Final Year Design Project                                                                | 6                                                                         |             |                             |             |               |             |               |             |               | 3           | 3                 | 6        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ELEC                                                             | 2420        | Basic Electronics                                                                        | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>BEng in Mechanical Engineering Major Requirements</b>         |             |                                                                                          |                                                                           | 51          | 3                           | 0           | 9             | 12          | 12            | 9           | 0             | 0           | 0                 | 3        | 3                                                                                                                                                                              | 51 |  |  |  |  |  |  |
| <b>BBA in Marketing</b>                                          |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>School Requirements</b>                                       |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ACCT                                                             | 2010        | Principles of Accounting I                                                               | 3                                                                         | 3           |                             |             |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ACCT                                                             | 2200        | Principles of Accounting II                                                              | 3                                                                         |             |                             |             |               |             |               |             | 3             |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ECON                                                             | 2103        | Note: ECON 2103 OR ECON 2113                                                             | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   |          | 3                                                                                                                                                                              |    |  |  |  |  |  |  |
| ECON                                                             | 2113        | Principles of Microeconomics                                                             | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Macroeconomics                                                                           | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ECON                                                             | 3123        | Note: ECON 2123 OR ECON 3123                                                             | 3                                                                         |             |                             |             |               |             |               |             | 3             |             |                   |          | 3                                                                                                                                                                              |    |  |  |  |  |  |  |
| ECON                                                             | 3123        | Macroeconomics                                                                           | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ECON                                                             | 3123        | Macroeconomic Theory I                                                                   | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| FINA                                                             | 2303        | Financial Management                                                                     | 3                                                                         |             |                             | 3           |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ISOM                                                             | 2010        | Introduction to Information Systems                                                      | 3                                                                         | -           | -                           | -           | -             | -           | -             | -           | -             | -           | -                 | 0        | COMP 1023, COMP 2011 or COMP 2012H are more advanced computing courses as compared to ISOM 2010. Students SHOULD take COMP 1023, COMP 2011 or COMP 2012H instead of ISOM 2010. |    |  |  |  |  |  |  |
| ISOM                                                             | 2020        | Coding for Business                                                                      | 1                                                                         | -           | -                           | -           | -             | -           | -             | -           | -             | -           | -                 | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ISOM                                                             | 2050        | Business Statistics                                                                      | 3                                                                         | 3           |                             |             |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ISOM                                                             | 2600        | Introduction to Business Analytics                                                       | 1                                                                         |             |                             |             |               | 1           |               |             |               |             |                   | 1        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| ISOM                                                             | 2700        | Operations Management                                                                    | 3                                                                         |             |                             |             |               |             |               |             |               | 3           | 3                 | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MARK                                                             | 2120        | Marketing Management                                                                     | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        | MARK 2120 is a major pre-requisite                                                                                                                                             |    |  |  |  |  |  |  |
| MGMT                                                             | 2010        | Business Ethics and the Individual                                                       | 2                                                                         |             |                             |             |               |             |               |             |               | 2           | 2                 | 2        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MGMT                                                             | 2110        | Organizational Behavior                                                                  | 3                                                                         |             |                             |             | 3             |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MGMT                                                             | 2150        | Business Ethics and Social Responsibility                                                | 2                                                                         |             |                             |             |               |             |               |             |               |             | 2                 | 2        |                                                                                                                                                                                |    |  |  |  |  |  |  |
|                                                                  |             | Note: MATH 1003 OR MATH 1013 OR MATH 1020 OR MATH 1023                                   | 3-4                                                                       |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1003        | Calculus and Linear Algebra                                                              | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          | 0                                                                                                                                                                              |    |  |  |  |  |  |  |
| MATH                                                             | 1013        | Calculus IB                                                                              | 3                                                                         | (3)         |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1020        | Accelerated Calculus                                                                     | 4                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MATH                                                             | 1023        | Honors Calculus I                                                                        | 3                                                                         |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Required Credits for School Requirements</b>                  |             |                                                                                          |                                                                           | 30-40       | 6                           | 3           | 6             | 3           | 1             | 0           | 3             | 3           | 5                 | 2        | 32                                                                                                                                                                             |    |  |  |  |  |  |  |
| <b>Major Required Courses and Electives</b>                      |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MARK                                                             | 3220        | Marketing Research                                                                       | 4                                                                         |             |                             |             |               |             | 4             |             |               |             |                   | 4        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MARK                                                             | 3420        | Consumer Behavior                                                                        | 4                                                                         |             |                             |             |               |             |               | 4           |               |             |                   | 4        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MARK                                                             | 4210        | Strategic Marketing                                                                      | 4                                                                         |             |                             |             |               |             |               |             | 4             |             |                   | 4        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| MARK                                                             |             | MARK 3000-level or above Electives (Any 3 courses of the subject and level as specified) | 12                                                                        |             |                             |             |               |             |               |             |               | 4           | 4                 | 4        | 12                                                                                                                                                                             |    |  |  |  |  |  |  |
| <b>Required Credits for Major Required Courses and Electives</b> |             |                                                                                          |                                                                           | 24          | 0                           | 0           | 0             | 0           | 0             | 4           | 4             | 4           | 4                 | 4        | 24                                                                                                                                                                             |    |  |  |  |  |  |  |
| <b>Additional Requirements for Dual Degree</b>                   |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Requirements for Dual Degree Program</b>                      |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 1011        | TBM Professional Activities I                                                            | 0                                                                         | 0           | 0                           |             |               |             |               |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 1012        | TBM Professional Activities II                                                           | 0                                                                         |             |                             | 0           | 0             |             |               |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 1013        | TBM Professional Activities III                                                          | 0                                                                         |             |                             |             |               | 0           | 0             |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 1014        | TBM Professional Activities IV                                                           | 0                                                                         |             |                             |             |               |             |               | 0           | 0             | 0           | 0                 | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 1015        | TBM Professional Activities V                                                            | 0                                                                         |             |                             |             |               |             |               |             |               |             |                   | 0        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 2950        | TBM Case Analysis and Product Innovation                                                 | 3                                                                         |             |                             | 3           |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| TEMG                                                             | 4850        | TBM Corporate Consulting Project                                                         | 3-5                                                                       |             |                             |             |               |             |               | 4           |               |             |                   | 4        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Required Credits for Additional Requirements</b>              |             |                                                                                          |                                                                           | 7           | 0                           | 3           | 0             | 0           | 0             | 0           | 4             | 0           | 0                 | 0        | 7                                                                                                                                                                              |    |  |  |  |  |  |  |
| <b>University Common Core Requirement</b>                        |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| CORE                                                             | C3 - C9     | U CORE - Others                                                                          | 21                                                                        |             |                             |             |               |             |               |             | 9             | 9           |                   | 3        | 21                                                                                                                                                                             |    |  |  |  |  |  |  |
| CORE                                                             | C1 & C2     | U CORE - English Language                                                                | 6                                                                         | 3           | 3                           |             |               |             |               |             |               |             |                   | 6        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| UBAW                                                             | 1905        | Behavioral Foundations of University Education: Habits, Mindsets, and Wellness           | 3                                                                         | 1           | 2                           |             |               |             |               |             |               |             |                   | 3        |                                                                                                                                                                                |    |  |  |  |  |  |  |
| <b>Sub-total for University CORE</b>                             |             |                                                                                          |                                                                           | 30          | 4                           | 5           | 0             | 0           | 0             | 0           | 9             | 9           | 0                 | 3        | 30                                                                                                                                                                             |    |  |  |  |  |  |  |
| Term load (incl. free credits)                                   |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| 19 20 18 18 17 17 16 16 12 12 165                                |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |
| 165##                                                            |             |                                                                                          |                                                                           |             |                             |             |               |             |               |             |               |             |                   |          |                                                                                                                                                                                |    |  |  |  |  |  |  |