

## Double Degree Programme in Engineering & Economics

### List of Courses which contribute to BEng (CE) and BEng (CS) degrees

#### BEng (Computer Engineering) and BA (Economics) (AY2014)

| List of courses that contribute towards BEng (Computer Engineering) |                      |                            |   | AU Load        |   |
|---|----------------------|----------------------------|---|----------------|---|
| <b>Discipline Requirement</b>                                       | <b>Core</b>          | MH1812                     | Discrete Mathematics                              | 3              | 78 AUs (PA)<br>82 AUs (PI)  |
|   |                      | CE1002                     | Introduction to Computing Systems                 | 3              |   |
|   |                      | CE1003                     | Introduction to Computational Thinking            | 3              |   |
|   |                      | CE1004                     | Great Ideas in Computing                          | 2              |   |
|   |                      | CE1005                     | Digital Logic                                     | 3              |   |
|   |                      | CE1006                     | Computer Organisation and Architecture            | 3              |   |
|   |                      | CE1007                     | Data Structures                                   | 3              |   |
|   |                      | CE1008                     | Engineering Mathematics                           | 3              |   |
|   |                      | CE2001                     | Algorithms  | 3              |   |
|   |                      | CE2002                     | Object Oriented Design & Programming              | 3              |   |
|   |                      | CE2003                     | Digital Systems Design                            | 3              |   |
|   |                      | CE2004                     | Circuits and Signal Analysis                      | 3              |   |
|   |                      | CE2005                     | Operating Systems                                 | 3              |   |
|   |                      | CE2006                     | Software Engineering                              | 3              |   |
|   |                      | CE2007                     | Microprocessor-based Systems Design               | 3              |   |
|   |                      | CE3001                     | Advanced Computer Architecture                    | 3              |   |
|   |                      | CE3002                     | Sensors and Control Systems                       | 3              |   |
|   |                      | CE3003                     | Microcontroller Programming                       | 3              |   |
|   |                      | CE3005                     | Computer Networks                                 | 3              |   |
|   |                      | CE3006                     | Digital Communications                            | 3              |   |
|   |                      | CE3007                     | Digital Signal Processing                         | 3              |   |
|   |                      | CE3004                     | Multidisciplinary Design Project                  | 4              |   |
|   |                      | CE3026 / CE3079            | Professional Attachment / Professional Internship | 4 / 8          |   |
|   | CE4079               | Final Year Project         | 8   |                |   |
|   | <b>Core Elective</b> | CE4xxx                     | CE Technical Elective 1                           | 3              | 18 AUs  |
|   |                      | CE4xxx                     | CE Technical Elective 2                           | 3              |   |
|   |                      | CE4xxx                     | CE Technical Elective 3                           | 3              |   |
|   |                      | CE4xxx                     | CE Technical Elective 4                           | 3              |   |
|   |                      | CE4xxx                     | CE Technical Elective 5                           | 3              |   |
|   |                      | CE4xxx                     | CE Technical Elective 6                           | 3              |   |
|   | <b>UE</b>            | HE1001                     | Microeconomic Principles                          | 3              | 24 AUs<br>12 AUs from compulsory Year 1 and 2 Economics courses.<br>Remaining 12 AUs from 3 <sup>rd</sup> and 4 <sup>th</sup> year Economics courses that yield the highest CGPA. |
|   |                      | HE1002                     | Macroeconomic Principles                          | 3              |   |
|   |                      | HE1005                     | Intro to Probability & Statistical Inference      | 3              |   |
| HE2005  |                      | Principles of Econometrics | 3   |                |   |
| HExxxx  |                      | Economics Course 1         | 3   |                |   |
| HExxxx  |                      | Economics Course 2         | 3   |                |   |
| HExxxx  |                      | Economics Course 3         | 3   |                |   |
| HExxxx  |                      | Economics Course 4         | 4   |                |   |
| <b>General Education Requirements (GER)</b>                         | <b>GER (Core)</b>    | HW0188                     | Engineering Communication I                       | 2              | 12 AUs  |
|   |                      | HW0288                     | Engineering Communication II                      | 2              |   |
|   |                      | MLXXXX                     | MLCPS Communication                               | 2              |   |
|   |                      | GC0001                     | Introduction to Sustainability                    | 1              |   |
|   |                      | XXXXXX                     | Ethics and Moral Reasoning                        | 1              |   |
|   |                      | XXXXXX                     | Entrepreneurship and Innovation                   | 1              |   |
|   |                      | CE0001                     | Engineers and Society                             | 3              |   |
|   | <b>GER-UE</b>        |                            | Elective  | 4              |   |
| <b>TOTAL</b>  |                      |                            |   | <b>136 AUs</b> |   |

**BEng (Computer Science) and BA (Economics) (2014)**

| List of courses that contribute towards BEng (Computer Science) |                         |  |   | AU Load  |                            |   |        |
|---|-------------------------|--|---|--|----------------------------|---|--------|
| <b>Discipline Requirement</b>                                   | <b>Core</b>             | MH1812                                       | Discrete Mathematics                              | 3  | 78 AUs (PA)<br>82 AUs (PI) |   |        |
|   |                         | CZ1002                                       | Introduction to Computing Systems                 | 3  |                            |   |        |
|   |                         | CZ1003                                       | Introduction to Computational Thinking            | 3  |                            |   |        |
|   |                         | CZ1004                                       | Great Ideas in Computing                          | 2  |                            |   |        |
|   |                         | CZ1005                                       | Digital Logic                                     | 3  |                            |   |        |
|   |                         | CZ1006                                       | Computer Organisation and Architecture            | 3  |                            |   |        |
|   |                         | CZ1007                                       | Data Structures                                   | 3  |                            |   |        |
|   |                         | CZ1008                                       | Engineering Mathematics                           | 3  |                            |   |        |
|   |                         | CZ2001                                       | Algorithms  | 3  |                            |   |        |
|   |                         | CZ2002                                       | Object Oriented Design & Programming              | 3  |                            |   |        |
|   |                         | CZ2003                                       | Computer Graphics and Visualisation               | 3  |                            |   |        |
|   |                         | CZ2004                                       | Human Computer Interaction                        | 3  |                            |   |        |
|   |                         | CZ2005                                       | Operating Systems                                 | 3  |                            |   |        |
|   |                         | CZ2006                                       | Software Engineering                              | 3  |                            |   |        |
|   |                         | CZ2007                                       | Database Systems                                  | 3  |                            |   |        |
|   |                         | CZ3001                                       | Advanced Computer Architecture                    | 3  |                            |   |        |
|   |                         | CZ3002                                       | Advanced Software Engineering                     | 3  |                            |   |        |
|   |                         | CZ3003                                       | Software Systems Analysis and Design              | 3  |                            |   |        |
|   |                         | CZ3005                                       | Artificial Intelligence                           | 3  |                            |   |        |
|   |                         | CZ3006                                       | Net Centric Computing                             | 3  |                            |   |        |
|   |                         | CZ3007                                       | Compiler Techniques                               | 3  |                            |   |        |
|   |                         | CZ3004                                       | Multidisciplinary Design Project                  | 4  |                            |   |        |
|   |                         | CZ3026 / CZ3079                              | Professional Attachment / Professional Internship | 4 / 8  |                            |   |        |
|   |                         | CZ4079                                       | Final Year Project                                | 8  |                            |   |        |
|   |                         | <b>Core Elective</b>                         | CZ4xxx  | CZ Technical Elective 1  |                            | 3 | 18 AUs |
|   |                         |  | CZ4xxx  | CZ Technical Elective 2  |                            | 3 |        |
|   |                         |  | CZ4xxx  | CZ Technical Elective 3  |                            | 3 |        |
|   |                         |  | CZ4xxx  | CZ Technical Elective 4  |                            | 3 |        |
| CZ4xxx  | CZ Technical Elective 5 |  | 3   |  |                            |   |        |
| CZ4xxx  | CZ Technical Elective 6 |  | 3   |  |                            |   |        |
| <b>UE</b>   | HE1001                  | Microeconomic Principles                     | 3   | 24 AUs<br>12 AUs from compulsory Year 1 and 2 Economics courses.<br>Remaining 12 AUs from 3 <sup>rd</sup> and 4 <sup>th</sup> year Economics courses that yield the highest CGPA |                            |   |        |
|   | HE1002                  | Macroeconomic Principles                     | 3   |  |                            |   |        |
|   | HE1005                  | Intro to Probability & Statistical Inference | 3   |  |                            |   |        |
|   | HE2005                  | Principles of Econometrics                   | 3   |  |                            |   |        |
|   | HExxxx                  | Economics Course 1                           | 3   |  |                            |   |        |
|   | HExxxx                  | Economics Course 2                           | 3   |  |                            |   |        |
|   | HExxxx                  | Economics Course 3                           | 3   |  |                            |   |        |
|   | HExxxx                  | Economics Course 4                           | 4   |  |                            |   |        |
| <b>General Education Requirements (GER)</b>                     | <b>GER (Core)</b>       | HW0188                                       | Engineering Communication I                       | 2  | 12 AUs                     |   |        |
|   |                         | HW0288                                       | Engineering Communication II                      | 2  |                            |   |        |
|   |                         | MLXXXX                                       | MLCPS Communication                               | 2  |                            |   |        |
|   |                         | GC0001                                       | Introduction to Sustainability                    | 1  |                            |   |        |
|   |                         | XXXXXX                                       | Ethics and Moral Reasoning                        | 1  |                            |   |        |
|   |                         | XXXXXX                                       | Entrepreneurship and Innovation                   | 1  |                            |   |        |
|   |                         | CZ0001                                       | Engineers and Society                             | 3  |                            |   |        |
|   | <b>GER-UE</b>           |  | Elective  | 4  | 4 AUs (PA only)            |   |        |
| <b>TOTAL</b>  |                         |  |   | <b>136 AUs</b>   |                            |   |        |