

AY2023-24
CURRICULUM FOR B.Eng (Computer Engineering) & B.Business (BA Specialization)
DOUBLE DEGREE PROGRAMME

| SUMMARY OF ACADEMIC UNIT REQUIREMENT | | | | | | | |
|--------------------------------------|-----------|-----------|----------|----------|-----------|-----------|------------|
| Year of Study | Core | | MPE | | ICC | | Total AU |
| | CSC | BUS | CSC | BUS | C-Core | F-Core | |
| 1 | 16 | 12 | 0 | 0 | 11 | 8 | 47 |
| 2 | 15 | 15 | 0 | 0 | 6 | 5 | 41 |
| 3 | 28 | 6 | 0 | 3 | 0 | 0 | 37 |
| 4 | 11 | 6 | 9 | 6 | 0 | 0 | 32 |
| Total | 70 | 39 | 9 | 9 | 17 | 13 | 157 |

Recommended Course Schedule

| YEAR 1 SEMESTER 1 | | | | |
|-------------------|--|--------|----|---------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC1003 | Introduction to Computational Thinking & Programming | Core | 3 | Nil |
| SC1013 | Physics For Computing | Core | 2 | Nil |
| MH1810 | Mathematics I | Core | 3 | Nil |
| EG1001 | Engineers in Society | Core | 2 | Nil |
| AB1202 | Statistics & Analysis | Core | 3 | Nil |
| AB1301 | Business Law | Core | 3 | Nil |
| CC0003 | Ethics & Civics in a Multicultural World | C-Core | 2 | Nil |
| CC0005 | Healthy Living & Wellbeing | C-Core | 3 | Nil |
| | | | 21 | |

| YEAR 1 SEMESTER 2 | | | | |
|-------------------|--|--------|----|---------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC1005 | Digital Logic | Core | 3 | Nil |
| MH1812 | Discrete Mathematics | Core | 3 | Nil |
| SC1015 | Introduction to Data Science & Artificial Intelligence | F-Core | 3 | SC1003 |
| AD1102 | Financial Accounting | Core | 3 | Nil |
| AB1601 | Organisational Behaviour and Design | Core | 3 | Nil |
| CC0001 | Inquiry & Communication in an Interdisciplinary World | C-Core | 2 | Nil |
| CC0002 | Navigating the Digital World | C-Core | 2 | Nil |
| ML0004 | Career & Innovative Enterprise for the Future World | C-Core | 2 | Nil |
| | | | 21 | |

| YEAR 1 SPECIAL SEMESTER | | | | |
|-------------------------|-------------------------|--------|----|---------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| AB1003 | Professional Attachment | F-Core | 5 | ABXXXX |
| | | | 5 | |

Year 1 Total AU **47**

| YEAR 2 SEMESTER 1 | | | | |
|-------------------|--|--------|----|--------------------------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC1004 | Linear Algebra for Computing | Core | 3 | SC1003 (co-requisite) & MH1810 |
| SC1006 | Computer Organisation & Architecture | Core | 3 | SC1005 (co-requisite) |
| SC1007 | Data Structures & Algorithms | Core | 3 | SC1003 |
| AB0602 | Communication Management Strategies (HW0288) | F-Core | 4 | CC0001 |
| AB2008 | Careers II | F-Core | 1 | Nil |
| BC2402 | Designing & Developing Database (SC2207) | Core | 4 | Nil |
| BC2406 | Analytics I: Visual and Predictive Analytics | Core | 4 | Nil |
| CC0007 | Science & Technology for Humanity | C-Core | 3 | Nil |
| | | | 25 | |

| YEAR 2 SEMESTER 2 | | | | |
|-------------------|--|--------|----|-----------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC2001 | Algorithm Design & Analysis | Core | 3 | SC1007 & MH1812 |
| SC2103 | Digital Systems Design | Core | 3 | SC1005 |
| AB1201 | Financial Management | Core | 3 | Nil |
| BC2407 | Analytics II: Advanced Predictive Analytics | Core | 4 | AB1202, BC2406 |
| CC0006 | Sustainability: Society, Economy & Environment | C-Core | 3 | Nil |
| | | | 16 | |

Year 2 Total AU **41**

| YEAR 3 SEMESTER 1 | | | | |
|-------------------|--|------|----|------------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC2000 | Probability & Statistics for Computing | Core | 3 | MH1810 |
| SC2002 | Object Oriented Design & Programming | Core | 3 | SC1003 OR SC1007 |
| SC2005 | Operating Systems | Core | 3 | SC1006 & SC1007 |
| SC2104 | Sensors, Interfacing & Digital Control | Core | 3 | SC1006 |
| SC2107 | Microprocessor System Design and Development | Core | 3 | SC1006 |
| AB1501 | Marketing | Core | 3 | Nil |
| | | | 18 | |

| YEAR 3 SEMESTER 2 | | | | |
|-------------------|----------------------------------|--------|----|-----------------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC2079 | Multidisciplinary Design Project | Core | 4 | Year 3 Standing |
| SC2006 | Software Engineering | Core | 3 | SC2002 (co-requisite) |
| SC2008 | Computer Network | Core | 3 | SC2000 & SC1004 |
| SC3103 | Embedded Programming | Core | 3 | SC2107 |
| AD2102 | Management Accounting | Core | 3 | AD1102 |
| BXxxxx | BA/CS Integration 1 | BC-PE1 | 3 | - |
| | | | 19 | |

Year 3 Total AU 37

| YEAR 4 SEMESTER 1 | | | | |
|-------------------|--|--------|----|-----------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC4079 | Final Year Project (Part 1) | Core | 4 | Year 4 Standing |
| SC3102 | Signals, Systems and Transforms | Core | 3 | SC1004 |
| AB3602 | Strategic Management | Core | 3 | AB1501, AB1601 |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE | 3 | Year 3 Standing |
| BXxxxx | BA/CS Integration 2 | BC-PE2 | 3 | - |
| | | | 16 | |

| YEAR 4 SEMESTER 2 | | | | |
|-------------------|--|--------|----|-----------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| SC4079 | Final Year Project (Part 2) | Core | 4 | Year 4 Standing |
| HE5091 | Principles of Economics | Core | 3 | Nil |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE | 3 | Year 3 Standing |
| SC3xxx/SC4xxx | Major Prescribe Elective (Choose within SC3xxx/SC4xxx) | MPE | 3 | Year 3 Standing |
| BXxxxx | BA/CS Integration 3 | BC-PE3 | 3 | - |
| | | | 16 | |

Year 4 Total AU 32

| MPE Structure of Computer Engineering (U21 and after) | | | | |
|---|--------------|-----------|-------------------------------|--|
| Course Code | Type | AU | Remarks | |
| SC3xxx/SC4xxx | MPE | 3 | Choose within SC3xxx & SC4xxx | |
| SC3xxx/SC4xxx | MPE | 3 | Choose within SC3xxx & SC4xxx | |
| SC3xxx/SC4xxx | MPE | 3 | Choose within SC3xxx & SC4xxx | |
| SC3xxx/SC4xxx | MPE | 3 | Choose within SC3xxx & SC4xxx | |
| | Total | 12 | | |

Please refer the CE MPE Courses and Elective Focus Areas on SCSE website.

| Business Course Listing | | | | |
|-------------------------|--|--------|----|----------------|
| Course Code | Course Title | Type | AU | Pre-requisite |
| AB1202 | Statistics & Analysis | Core | 3 | Nil |
| AB1301 | Business Law | Core | 3 | Nil |
| AD1102 | Financial Accounting | Core | 3 | Nil |
| AB1601 | Organisational Behaviour and Design | Core | 3 | Nil |
| AB1003 | Professional Attachment | F-Core | 5 | ABXXXX |
| AB0602 | Communication Management Strategies (HW0288) | F-Core | 4 | CC0001 |
| AB2008 | Careers II | F-Core | 1 | Nil |
| BC2402 | Designing & Developing Database (SC2207) | Core | 4 | Nil |
| BC2406 | Analytics I: Visual and Predictive Analytics | Core | 4 | Nil |
| AB1201 | Financial Management | Core | 3 | Nil |
| BC2407 | Analytics II: Advanced Predictive Analytics | Core | 4 | AB1202, BC2406 |
| AB1501 | Marketing | Core | 3 | Nil |
| AD2102 | Management Accounting | Core | 3 | AD1102 |
| AB3602 | Strategic Management | Core | 3 | AB1501, AB1601 |
| HE5091 | Principles of Economics | Core | 3 | Nil |
| BXxxxx | BA/CS Integration 1 | BC-PE1 | 3 | - |
| BXxxxx | BA/CS Integration 2 | BC-PE2 | 3 | - |
| BXxxxx | BA/CS Integration 3 | BC-PE3 | 3 | - |