

AY2020-21 CURRICULUM FOR COMPUTER ENGINEERING 2ND MAJOR IN BUSINESS

Last Updated : 29-May-21

Option 1: 10-week Professional Attachment (PA)

| SUMMARY OF ACADEMIC UNIT REQUIREMENT | | | | | | | |
|--------------------------------------|-----------|-----------|-----------|---------------------------|----------------|----------|------------|
| Year of Study | Core | MPE | GER-Core | Advanced Business Courses | UE (2nd Major) | UE | Total AU |
| 1 | 23 | 0 | 8 | 0 | 7 | 0 | 38 |
| 2 | 21 | 0 | 4 | 0 | 13 | 0 | 38 |
| 3 | 24 | 6 | 2 | 0 | 0 | 5 | 37 |
| 4 | 11 | 12 | 0 | 12 | 0 | 0 | 35 |
| Total | 79 | 18 | 14 | 32 | 20 | 5 | 148 |

Option 1: 10-week Professional Attachment (PA)

| YEAR 1 SEMESTER 1 | | | | |
|-------------------|--|----------------|-----------|------------------------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| MH1810 | Mathematics I | C | 3 | |
| CE1103 | Introduction to Computational Thinking & Programming | C | 3 | |
| CE1105 | Digital Logic | C | 3 | |
| CE1113 | Physics for Computing | C | 2 | |
| AB1201 | Financial Management | UE (2nd Major) | 3 | |
| HW0111 | Communication: A Journey of Inquiry through Writing and Speech | GER-Core | 2 | HW0001 (can be taken concurrently) |
| GC0001 | Sustainability: Seeing Through the Haze | GER-Core | 1 | online course |
| HY0001 | Ethics & Moral Reasoning | GER-Core | 1 | online course |
| HW0001 | Introduction to Academic Communication | GER-Core | 0 | For students who failed QET |
| | | | 18 | |

| YEAR 1 SEMESTER 2 | | | | |
|-------------------|--|----------------|-----------|------------------------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| MH1812 | Discrete Mathematics | C | 3 | |
| CE1106 | Computer Organisation and Architecture | C | 3 | CE1105 (can be taken concurrently) |
| CE1107 | Data Structures and Algorithms | C | 3 | CE1103 |
| | Engineering Fundamentals 2 | C | 3 | |
| BE1401 | Business Operations and Processes | UE (2nd Major) | 4 | |
| CE1115 | Introduction to Data Science and Artificial Intelligence | GER-Core | 3 | CE1103 |
| ET0001 | Enterprise & Innovation | GER-Core | 1 | online course |
| | | | 20 | |

| YEAR 2 SEMESTER 1 | | | | |
|-------------------|--|----------------|-----------|---------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE1104 | Linear Algebra for Computing | C | 3 | MH1810 |
| CE2100 | Probability and Statistics for Computing | C | 3 | MH1810 |
| CE3002 | Sensors, Interfacing & Control | C | 3 | CE1106 |
| CE2107 | Microprocessor System Design and Development | C | 3 | CE1106 |
| AB1301 | Business Law | UE (2nd Major) | 3 | |
| AD1101 | Financial Accounting | UE (2nd Major) | 4 | |
| | | | 19 | |

| YEAR 2 SEMESTER 2 | | | | |
|-------------------|-------------------------------------|----------------|-----------|----------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE2101 | Algorithm Design and Analysis | C | 3 | CE1107, MH1812 |
| CE2003 | Digital Systems Design | C | 3 | CE1105 |
| CE3103 | Embedded Programming | C | 3 | CE2107 |
| AB1501 | Marketing | UE (2nd Major) | 3 | |
| AB1601 | Organisational Behaviour and Design | UE (2nd Major) | 3 | |
| EG0001 | Engineers & Society | GER-Core | 3 | |
| ML0003 | Kickstart your Career Success | GER-Core | 1 | online course |
| | | | 19 | |

| YEAR 3 SEMESTER 1 | | | | |
|-------------------|--------------------------------------|-----------------------|-----------|----------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE3004 | Multidisciplinary Design Project | C | 4 | Year 3 standing |
| CE2002 | Object Oriented Design & Programming | C | 3 | CE1103 |
| CE2005 | Operating Systems | C | 3 | CE1106, CE1107 |
| CE2006 | Software Engineering | C | 3 | CE2002 (can be taken |
| CE3005 | Computing Networks | C | 3 | CE1104, CE2100 |
| HW0288 | Engineering Communication | GER-Core | 2 | HW0111, Year 3 |
| | Advanced Bus Course 1 | Advanced Course (Bus) | 4 | |
| | | | 22 | |

| YEAR 3 SEMESTER 2 | | | | |
|-------------------|--------------------------------|-----------------|-----------|----------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE3001 | Advanced Computer Architecture | C | 3 | CE1106 |
| CE/CZ4XXX | Prescribed Elective 1 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 2 | MPE | 3 | Depends on MPE |
| | Unrestricted Elective | UE | 3 | |
| | Unrestricted Elective | UE | 2 | |
| | Advanced Bus Course 2 | Advanced Course | 4 | |
| | | | 18 | |

| YEAR 3 SPECIAL SEMESTER | | | | |
|-------------------------|-------------------------|------|----------|----------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE3126 | Professional Attachment | C | 5 | ML0003, Year 3 |
| | | | 5 | |

| YEAR 4 SEMESTER 1 | | | | |
|-------------------|-------------------------------|-----------------|-----------|---------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE4079 | Final Year Project | C | - | Final Year Standing |
| CE3102 | Signal, Systems and Transform | C | 3 | CE1104 |
| CE/CZ4XXX | Prescribed Elective 3 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 4 | MPE | 3 | Depends on MPE |
| | Advanced Bus Course 3 | Advanced Course | 4 | |
| | | | 13 | |

| YEAR 4 SEMESTER 2 | | | | |
|-------------------|---------------------------|------|-----------|---------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE4079 | Final Year Project (cont) | C | 8 | Final Year Standing |
| CE/CZ4XXX | Prescribed Elective 5 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 6 | MPE | 3 | Depends on MPE |
| | | | 14 | |

Total AU for Graduation : **148**

Option 2: 20-week Professional Internship (PI)

| SUMMARY OF ACADEMIC UNIT REQUIREMENT | | | | | | | |
|--------------------------------------|-----------|-----------|-----------|---------------------------|----------------|----------|------------|
| Year of Study | Core | MPE | GER-Core | Advanced Business Courses | UE (2nd Major) | UE | Total AU |
| 1 | 23 | 0 | 8 | 0 | 7 | 0 | 38 |
| 2 | 21 | 0 | 4 | 0 | 13 | 0 | 38 |
| 3 | 29 | 0 | 2 | 0 | 0 | 0 | 31 |
| 4 | 11 | 18 | 0 | 12 | 0 | 0 | 41 |
| Total | 84 | 18 | 14 | 32 | 20 | 0 | 148 |

Option 2: 20-week Professional Internship (PI)

| YEAR 1 SEMESTER 1 | | | | |
|-------------------|--|----------------|-----------|------------------------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| MH1810 | Mathematics I | C | 3 | |
| CE1103 | Introduction to Computational Thinking & Pro | C | 3 | |
| CE1105 | Digital Logic (Engineering Fundamentals 1) | C | 3 | |
| CE1113 | Physics for Computing | C | 2 | |
| AB1201 | Financial Management | UE (2nd Major) | 3 | |
| HW0111 | Communication: A Journey of Inquiry through Writing and Speech | GER-Core | 2 | HW0001 (can be taken concurrently) |
| GC0001 | Sustainability: Seeing Through the Haze | GER-Core | 1 | online course |
| HY0001 | Ethics & Moral Reasoning | GER-Core | 1 | online course |
| HW0001 | Introduction to Academic Communication | GER-Core | 0 | For students who failed QET |
| | | | 18 | |

| YEAR 1 SEMESTER 2 | | | | |
|-------------------|--|----------------|-----------|------------------------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| MH1812 | Discrete Mathematics | C | 3 | |
| CE1106 | Computer Organisation and Architecture | C | 3 | CE1105 (can be taken concurrently) |
| CE1107 | Data Structures and Algorithms | C | 3 | CE1103 |
| | Engineering Fundamentals 2 | C | 3 | |
| BE1401 | Business Operations and Processes | UE (2nd Major) | 4 | |
| CE1115 | Introduction to Data Science and Artificial Inte | GER-Core | 3 | CE1103 |
| ET0001 | Enterprise & Innovation | GER-Core | 1 | online course |
| | | | 20 | |

| YEAR 2 SEMESTER 1 | | | | |
|-------------------|---|----------------|-----------|---------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE1104 | Linear Algebra for Computing | C | 3 | MH1810 |
| CE2100 | Probability and Statistics for Computing | C | 3 | MH1810 |
| CE3002 | Sensors, Interfacing & Control | C | 3 | CE1106 |
| CE2107 | Microprocessor System Design and Developm | C | 3 | CE1106 |
| AB1301 | Business Law | UE (2nd Major) | 3 | |
| AD1101 | Financial Accounting | UE (2nd Major) | 4 | |
| | | | 19 | |

| YEAR 2 SEMESTER 2 | | | | |
|-------------------|-------------------------------------|----------------|-----------|----------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE2101 | Algorithm Design and Analysis | C | 3 | CE1107, MH1812 |
| CE2003 | Digital Systems Design | C | 3 | CE1105 |
| CE3103 | Embedded Programming | C | 3 | CE2107 |
| AB1501 | Marketing | UE (2nd Major) | 3 | |
| AB1601 | Organisational Behaviour and Design | UE (2nd Major) | 3 | |
| EG0001 | Engineers & Society | GER-Core | 3 | |
| ML0003 | Kickstart your Career Success | GER-Core | 1 | online course |
| | | | 19 | |

| YEAR 3 SEMESTER 1 | | | | |
|-------------------|--------------------------------------|-----------------|-----------|--------------------------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE3004 | Multidisciplinary Design Project | C | 4 | CE2101, CE2004, CE2107 (can be taken |
| CE2002 | Object Oriented Design & Programming | C | 3 | CE1103 |
| CE2005 | Operating Systems | C | 3 | CE1106, CE1107 |
| CE2006 | Software Engineering | C | 3 | CE2002 (can be taken concurrently) |
| CE3005 | Computing Networks | C | 3 | CE1104, CE2100 |
| CE3001 | Advanced Computer Architecture | C | 3 | CE1106 |
| HW0288 | Engineering Communication | GER-Core | 2 | HW0111, Year 3 |
| | Advanced Bus Course 1 | Advanced Course | 4 | |
| | | | 25 | |

| YEAR 3 SEMESTER 2 | | | | |
|-------------------|-------------------------|------|-----------|----------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE3179 | Professional Internship | C | 10 | ML0003, Year 3 |
| | | | 10 | |

| YEAR 4 SEMESTER 1 | | | | |
|-------------------|-------------------------------|-----------------------|-----------|---------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE4079 | Final Year Project | C | - | Final Year Standing |
| CE3102 | Signal, Systems and Transform | C | 3 | CE1104 |
| CE/CZ4XXX | Prescribed Elective 1 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 2 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 3 | MPE | 3 | Depends on MPE |
| | Advanced Bus Course 3 | Advanced Course (Bus) | 4 | |
| | | | 16 | |

| YEAR 4 SEMESTER 2 | | | | |
|---------------------------|-----------------------|-----------------------|------------|---------------------|
| Course Code | Course Title | Type | AU | Pre-Requisite |
| CE4079 | Final Year Project | C | 8 | Final Year Standing |
| CE/CZ4XXX | Prescribed Elective 4 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 5 | MPE | 3 | Depends on MPE |
| CE/CZ4XXX | Prescribed Elective 6 | MPE | 3 | Depends on MPE |
| | Advanced Bus Course 2 | Advanced Course (Bus) | 4 | |
| | | | 21 | |
| Total AU for Graduation : | | | 148 | |