

# 2005/2006 CURRICULUM - COMPUTER ENGINEERING

ENTRY FROM CEGEP (Total Credits = 111)

## First ( Fall ) Semester ( TOTAL = 15 cr )

|                 |   |   |
|-----------------|---|---|
| <b>CIVE 281</b> | <b>Analytical Mechanics</b>                     | (3 cr, C - MATH 260 or MATH 262, MATH 261 or MATH 263.) |
| <b>COMP 202</b> | <b>Introduction to Computing 1</b>              | (3 cr)  |
| <b>MATH 262</b> | <b>Intermediate Calculus</b>                    | (3 cr, P-MATH 141, MATH 133 or equivalent.)             |
| <b>MATH 263</b> | <b>Ord.Differential Eqns. &amp; Linear Alg.</b> | (3 cr, C - MATH 262 or MATH 260)                        |
| <b>MIME 310</b> | <b>Engineering Economy</b>                      | (3 cr)  |

## Third ( Fall ) Semester (TOTAL = 17 cr )

|                 |  |                      |
|-----------------|--|----------------------|
| <b>COMP 302</b> | <b>Prog. Languages &amp; Paradigms</b> | (3 cr, P - COMP 250) |
| <b>ECSE 210</b> | <b>Circuit Analysis</b>                | (3 cr, P - ECSE 200) |
| <b>ECSE 291</b> | <b>Electrical Measurements Lab</b>     | (2 cr, C - ECSE 210) |
| <b>ECSE 321</b> | <b>Intro. to Software Engineering</b>  |                      |

## Second ( Winter ) Semester ( TOTAL = 17 cr )

|                 |  |  |
|-----------------|--|--|
| <b>COMP 250</b> | <b>Introduction to Computer Science</b>  | (3 cr)   |
| <b>ECSE 200</b> | <b>Fundamentals of Elect Eng</b>         | (3 cr, C - MATH 261 or MATH 263 or MATH 325)                           |
| <b>ECSE 221</b> | <b>Intro. to Computer Engineering</b>    | (3 cr, P - COMP 202)   |
| <b>EDEC 206</b> | <b>Communication in Engineering</b>      | (3 cr)   |
| <b>MATH 264</b> | <b>Advanced Calculus</b>                 | (3 cr, P - MATH 260 or MATH 262 or MATH 151 or MATH 152 or equivalent) |
| <b>MIME 221</b> | <b>Engineering Professional Practice</b> | (2 cr)   |

## Fourth ( Winter ) Semester ( TOTAL = 17 cr )

|                 |                                    |   |
|-----------------|------------------------------------|---|
| <b>ECSE 303</b> | <b>Signals &amp; Systems 1</b>     | (3 cr, P - ECSE 210, MATH 270 or 271/247; C - MATH 381/249) |
| <b>ECSE 323</b> | <b>Digital Systems Design</b>      | (5 cr, P - EDEC 206, ECSE 221 & ECSE 291)                   |
| <b>ECSE 330</b> | <b>Introduction to Electronics</b> | (3 cr, P - ECSE 210)  |

ET .92 -0.0494 Tw (Engin17 Tc 0.0771 Tw (EDEC 206) Tj 40.92 TD /F0 8.52

## TECHNICAL COMPLEMENTARY COURSES - COMPUTER ENGINEERING PROGRAM

### Technical Complementaries (3 courses) 9 credits

Students following the Computer Engineering program should take 3 courses (9 credits) from the following list. It is possible that not all the courses listed will be offered in any given year. Please refer to the up-to-date course assignments before selecting any course. Permission will not be granted to take Technical Complementary courses that are not on this list.

#### Computer Engineering Technical Complementaries:

|          |  |  |           |
|----------|--|--|-----------|
| ECSE 404 | Control Systems                        | A,B (3 cr, C - ECSE 304)                             |           |
| ECSE 411 | Communications Systems 1               | A (3 cr, P - ECSE 304 & ECSE 305 )                   |           |
| ECSE 412 | Discrete-Time Signal Processing        | A,B (3 cr, P - ECSE 304)                             |           |
| ECSE 414 | Intro. to Telecom Networks             | A (3 cr, P - ECSE 304, ECSE 322)                     | <b>OR</b> |
| COMP 535 | Computer Networks 1                    | A (3 cr, P - ECSE 427)                               |           |
| ECSE 420 | Parallel Computing                     | (3 cr, P - ECSE 427)                                 |           |
| ECSE 421 | Embedded Systems                       | B (3 cr, P - ECSE 322, ECSE 323)                     |           |
| ECSE 422 | Fault Tolerant Computing               | (3 cr, P - ECSE 322)                                 |           |
| ECSE 424 | Human-Computer Interaction             | B (3 cr, P - ECSE 322)                               |           |
| ECSE 428 | Software Engineering Practice          | B (3 cr, P - ECSE 321 or COMP 335)                   |           |
| ECSE 429 | Software Validation                    | (3 cr, P - ECSE 321)                                 |           |
| ECSE 431 | Introduction to VLSI CAD.              | A (3 cr, P - ECSE 323 & ECSE 330)                    |           |
| ECSE 436 | Signal Processing Hardware             | (3 cr, P - ECSE 322, ECSE 323 & ECSE 304)            |           |
| ECSE 450 | Electromagnetic Compatability (EMC)    | B (3cr, P- ECSE 221, ECSE 334, ECSE 352 or ECSE 353) |           |
| ECSE 526 | Artificial Intelligence                | B (3 cr, P - ECSE 322)                               |           |
| ECSE 530 | Logic Synthesis                        | B (3 cr, P - ECSE 323)                               |           |
| ECSE 531 | Real-Time Systems                      | (3 cr, P - ECSE 322 & ECSE 323)                      |           |
| ECSE 532 | Computer Graphics                      | A (3 cr, P - ECSE 322)                               |           |
| ECSE 548 | Introduction to VLSI Systems           | A (3 cr, P - ECSE 323 & ECSE 334)                    |           |
| COMP 420 | Files & Databases                      | A (3 cr, P - COMP 302)                               |           |
| COMP 431 | Algorithms for Engineers               | (3 cr)   |           |
| COMP 575 | Fundamentals of Distributed Algorithms | B (3 cr, P - ECSE 427)                               |           |

#### Laboratory Complementary Courses - Computer Engineering Program:

|          |                                     |  |
|----------|-------------------------------------|--|
| ECSE 431 | Introduction to VLSI CAD.           | A (3 cr, P - ECSE 323 & ECSE 330)                            |
| ECSE 435 | Mixed Signal Test Techniques        | B (3 cr, P - ECSE 304 & ECSE 334)                            |
| ECSE 436 | Signal Processing Hardware          | (3 cr, P - ECSE 322, ECSE 323 & ECSE 304)                    |
| ECSE 487 | Computer Architecture Laboratory    | A,B (2 cr, P - EDEC 206; C- ECSE 425 or ECSE 525)            |
| ECSE 489 | Telecommunication Network Laborator | B (2 cr, P - EDEC 206; C - ECSE 414)                         |
| ECSE 490 | Digital Signal Processing Lab       | A,B (2 cr, P - ECSE 291 & EDEC 206; C- ECSE 412 or ECSE 512) |
| ECSE 491 | Communications Systems Lab          | A,B (2 cr, P - EDEC 206, ECSE 291;C- ECSE 411 or ECSE 511)   |
| ECSE 493 | Control & Robotics Lab              | B (2 cr, P - EDEC 206 & ECSE 291;C- ECSE 404 or ECSE 502)    |

Revised December 2005