MacEwan UNIVERSITY

BACHELOR OF SCIENCE
COMPUTER SCIENCE MAJOR
2016/17 Academic Year

REQUIRED JUNIOR LEVEL COURSES[1,3] | 3 - 6 CREDITS

☐ CMPT 101: Introduction to Computing I
☐ CMPT 103: Introduction to Computing II[2]

☐ *Students who have previously completed CMPT 114 and CMPT 115 may use those courses to fulfill this requirement.[4]*

To meet the requirements of this major, students must complete a minimum of 15 credits at the 300- or 400-level.

REQUIRED SENIOR LEVEL COURSES
GENERAL COMPUTER SCIENCE MAJOR | 18 CREDITS

6 CREDITS
☐ CMPT 200: Data Structures & their Algorithms[4]
☐ CMPT 395: Introduction to Software Engineering[56]

9 CREDITS
in
CORE
COMPUTING
☐ CMPT 201: Practical Programming Methodology[5]
☐ CMPT 204: Algorithms I
☐ CMPT 229: Computer Organization & Architecture
☐ CMPT 250: Introduction to Computer Human Interaction I
☐ CMPT 291: Introduction to Relational Databases

3 CREDITS
☐ CMPT 496: Individual Project[7] – *minimum grade of C- required*
☐ CMPT 498: Team Project[7] – *minimum grade of C- required*

REQUIRED SENIOR LEVEL COURSES
SOFTWARE PROFESSIONAL STREAM | 30 CREDITS

21 CREDITS
☐ CMPT 200: Data Structures & their Algorithms[4]
☐ CMPT 201: Practical Programming Methodology[5]
☐ CMPT 204: Algorithms I
☐ CMPT 229: Computer Organization & Architecture
☐ CMPT 291: Introduction to Relational Databases
☐ CMPT 305: Object-Oriented Programming[5]
☐ CMPT 395: Introduction to Software Engineering

6 CREDITS
in
PROGRAMMING
☐ CMPT 315: Web-Centric Computing & eCommerce
☐ CMPT 350: Human-Computer Interaction - Interactive Systems
☐ CMPT 360: Introduction to Operating Systems
☐ CMPT 361: Introduction to Networks
☐ CMPT 430: 3D Game Development and Artificial Intelligence

3 CREDITS
☐ CMPT 496: Individual Project[7] – *minimum grade of C- required*
☐ CMPT 498: Team Project[7] – *minimum grade of C- required*

GENERAL REQUIREMENTS[8] | 12 - 24 CREDITS

☐ CMPT 201: Practical Programming Methodology
☐ CMPT 204: Algorithms I
☐ CMPT 220: Unix, Scripting & Other Tools
☐ CMPT 229: Computer Organization & Architecture
☐ CMPT 230: Introduction to Computer Games
☐ CMPT 250: Introduction to Human Computer Interaction
☐ CMPT 272: Formal Systems & Logic
☐ CMPT 280: Introduction to Computer Security
☐ CMPT 291: Introduction to Relational Databases
☐ CMPT 305: Object-Oriented Programming
☐ CMPT 306: Non-Procedural Programming Languages
☐ CMPT 310: Computers & Society
☐ CMPT 311: Phenomenon of Technology
☐ CMPT 315: Web-Centric Computing & eCommerce
☐ CMPT 330: Introduction to Real Time Gaming

☐ CMPT 340: Introduction to Numerical Methods
☐ CMPT 350: Human-Computer Interaction
☐ CMPT 351: Human-Computer Interaction: Usability
☐ CMPT 355: Introduction to Artificial Intelligence
☐ CMPT 360: Introduction to Operating Systems
☐ CMPT 361: Introduction to Networks
☐ CMPT 370: Introduction to Computer Graphics
☐ CMPT 385: Introduction to Database Concepts Using access
☐ CMPT 391: Database Management Systems
☐ CMPT 399: Topics in Computer Science[7]
☐ CMPT 430: 3D Game Development & Artificial Intelligence
☐ CMPT 464: Wireless Networks and Embedded Systems
☐ CMPT 491: Datamining and Advanced Database Topics
☐ CMPT 496: Individual Project[7]
☐ CMPT 498: Team Project[7]
☐ CMPT 499: Topics in Computer Science[7]

➢ **Important! Please see the back of this page for planning notes.** ◄

IMPORTANT PLANNING NOTES

1. These courses can be used to satisfy core requirements in the Bachelor of Science degree.

2. The prerequisites for **CMPT 103** are **CMPT 101** or, at the high school level, three credits of intermediate CSE including CSE 2120. If students possess high school level prerequisites, they are required to complete 3 credits of junior level prerequisites for this major (**CMPT 103**). If students do not possess high school level prerequisites, they must complete 6 credits of junior level prerequisites (**CMPT 101** and **CMPT 103**).

3. Students are required to consult with the MacEwan University Academic Calendar to ensure they meet the prerequisites for all Computer Science courses they enrol in.

4. Students who completed **CMPT 114** and **CMPT 115** as their prerequisite junior courses cannot take **CMPT 200**. Students in this situation who are taking the *general Computer Science major* will complete 27 credits of general requirements, instead of 24 credits. Students in this situation who are taking the *Software Professional stream* will complete 15 credits of general requirements instead of 12 credits.

5. Students who intend to major in Computer Science are encouraged to take **CMPT 201**, **CMPT 305** and **CMPT 395** early in their degree, because they are prerequisites for key required courses.

6. Students may take **CMPT 399** and **CMPT 499** for credit a maximum of two times, as long as the course topic is different each time they take any of the courses. Students may take **CMPT 496** and **CMPT 498** for credit a maximum of two times.

7. Students who have chosen the *general Computer Science major* must take 24 credits of general requirements. Students who have chosen the *Software Professional stream* must take 12 credits of general requirements. Please note the caveat to this requirement, explained above.

*This planning sheet should be used only as a **guide** for course planning and it should be used in conjunction with the Bachelor of Science Degree Planner. Remember: not all courses listed are offered each year and course offerings are subject to change. In the event of a discrepancy between the information presented on this sheet and that available on myStudentSystem, the information on myStudentSystem will be considered accurate.*