Bioengineering Curriculum - Stream 3 (Biological Information and Computation)

Course number	Course name	Credits	Prerequisites/Co-requisites
BIEN 414	Fundamentals and Rheology of Biological Fluids	3	P - MATH 262 and BIEN 314, or permission of the instructor
BIEN 450	Biological Structures and Assemblies	3	P - BIEN 219 or permission of instructor
BIEN 462	Engineering Principles in Physiological Systems	3	P - BIEN 350 or permission of instructor
BIEN 500	Special Topics in Bioengineering	3	P - Permission of Instructor, Not open to students who took MECH 500 (W2020)
BIEN 535	Electron microscopy and 3D imaging for biological materials	3	P - Permission of instructor
BIEN 545	Medical diagnostics at the point of care	3	P - Permission of instructor
BIEN 580	Synthetic Biology	3	P - Permission of instructor
BIEN 585	Metabolic Engineering	3	P - Permission of instructor
BIEN 595	Advanced Biomolecular Systems Modeling	3	P - BIEN 410 and COMP 208, or permission of instructor
BMDE 502	Biological Modeling and Identification	3	Undergraduate basic statistics and: either BMDE 519, or Signals and Systems (e.g., ECSE 303 & ECSE 304) or equivalent
BMDE 503	Biomedical Instrumentation	3	P - Experience with differential equations, in particular Laplace Transforms and complex numbers (e.g. MATH 263 or MATH 381 or equivalent) or permission of instructor
BMDE 512	Finite Element Modelling	3	P - Differential equations (MATH 271 or equivalent) or permission of instructor
BMDE 519	Biomedical Signals and Systems	3	P - Permission of Instructor
COMP 250	Introduction to Computer Science	3	P - Familiarity with a high level programming language and CEGEP level Math.
COMP 251	Algorithms and Data Structures	3	P - COMP 250
COMP 462	Comput1 0 0 1or MAT (and)-9(D)11(at)-9(a)-9(St)-10(ruc)-10(t)-10(ures)-10( )]TJETQEMC /P <331(om)-(C)11(OM)11(P)-10(250q)-9iD(Alg1hi10(t)-q18.96 433.87 566.64 7.08 reW* nBT/F2 5.4 Tf1 .1 0 3 1o		