This list is to replace the “List of Pre-Approved Technical Electives” shown in Appendix D of the Undergraduate Student Manual 2010 – 2011. Other provisions remain otherwise the same.

- So, ECE students will have to take 6 EECE credits and 12 credits from the following list provided that “no more than two technical electives (6 credits) may be taken from the same DEPARTMENT, PROGRAM OR TRACK”.

- This new list contains the courses in the previous list in addition to new courses.

- This list is effective as of the fall term 2010-2011.

FACULTY OF ENGINEERING AND ARCHITECTURE

ELECTRICAL AND COMPUTER ENGINEERING
- Any EECE course with a number equal to. or greater than 400

CIVIL AND ENVIRONMENTAL ENGINEERING

Environmental Engineering Sequence
- CIVE 647: GIS for Water Resources and Environmental Engineering. 3 cr.
- CIVE 652: Environmental Management and Decision Making. 3 cr.
- CIVE 656: Air Pollution and Control I. 3 cr. (Pre: CHEM 202).
- CIVE 657: Air Pollution and Control II. 3 cr. (Pre: CIVE 656 or consent of instructor).

Transportation Engineering Sequence
- CIVE 460: Highway Engineering. 3 cr. (Pre: CIVE 360).
- CIVE 461: Transportation Engineering and Laboratory. 3 cr. (Pre: CIVE 460).
- CIVE 662: Traffic Engineering. 3 cr. (Pre: CIVE 461).
- CIVE 663: Transportation Systems Analysis. 3 cr.
- CIVE 666: Transport Operations. 3 cr. (Pre: CIVE 461).
- CIVE 672: Introduction to Geographical Information Systems. 3 cr.

**MECHANICAL ENGINEERING**

- MECH 310: Thermodynamics I. 3 cr.
- MECH 314: Introduction to Fluids Engineering. 3 cr.
- MECH 320: Mechanics of Material. 3 cr.
- MECH 340: Engineering Material. 3 cr.
- MECH 550: Computer Application in Mechanical Engineering. 3 cr.
- MECH 631: Micro Electro Mechanical Systems. 3 cr.
- MECH 633: Biomechanics. 3 cr.
- MECH 634: Biomaterial and Medical Devices. 3 cr.
- MECH 642: Computer Vision. 3 cr.

**ENGINEERING MANAGEMENT PROGRAM**

- Any ENMG course with a number equal to or greater than 500 (except ENMG 504)

**FACULTY OF ARTS & SCIENCES**

**BIOLOGY**

**General Biology**

- BIOL 201: General Biology I 3.3. 4 cr.
- BIOL 202: General Biology II 3.3. 4 cr. (Pre: BIOL 201).
- BIOL 210: Human Biology 3.0. 3 cr. Not open to biologymajors. Students cannot receive credit for all three of the following: BIOL 201. BIOL 202. BIOL 210.
- BIOL 290: Special Topics in Biology 1. 2. 3. or 4 cr.

**Microbiology and Biotechnology**

- BIOL 223: Genetics 3.3. 4 cr. (Pre: BIOL 202).
- BIOL 224: Microbiology 3.3. 4 cr. (Pre: BIOL 223).
- BIOL 225: Molecular Biology 3.0. 3 cr. (Pre: BIOL 223).
- BIOL 268: Introduction to Biotechnology 3.0. 3 cr. (Pre: BIOL 223).
- BIOL 260: Cell Biology 3.3. 4 cr. (Pre: BIOL 220 and BIOL 223).

**Physiology and Neuroscience**
- BIOL 247: Animal Physiology 3.0. 3 cr. (Pre: BIOL 202 and senior standing).
- BIOL 243: Behavioral Neuroscience 3.0. 3 cr. (Pre: PSYC 102 or 201).
- BIOL 244: Introduction to Neurobiology 3.0. 3 cr. (Pre: BIOL 202).

**CHEMISTRY**

- CHEM 200: Basic Chemistry and Applications. 3cr. Students cannot receive credit for both CHEM 200 and CHEM 201.
- CHEM 201: Chemical Principles. 3 cr. Students cannot receive credit for both CHEM 200 and CHEM 201.
- CHEM 202: Introduction to Environmental Chemistry. 3cr.
- CHEM 206: Quantitative Analysis (Pre: CHEM 201)
- CHEM 208: Brief Survey of Organic Chemistry. 3 cr. Students cannot receive credit for both CHEM 208 and CHEM 211.
- CHEM 211: Organic Chemistry I (Pre: CHEM 201)
- CHEM 212: Organic Chemistry II (Pre: CHEM 211)
- CHEM 215: Analytical Chemistry (Pre: CHEM 201). students cannot receive credit for both CHEM 215and CHEM 206.
- CHEM 217: Thermodynamics and Chemical Dynamics (Pre: CHEM 201 & MATH 201)
- CHEM 218: Molecular Structure (Pre: CHEM 201 and MATH 201). Students cannot receive credit for both CHEM 218 and PHYS 212.
- CHEM 227: Technical Analysis (Pre: CHEM 215)
- CHEM 228: Inorganic Chemistry (Pre: CHEM 201)
- CHEM 229: Coordination Compounds (Pre: CHEM 228)

**COMPUTER SCIENCE**

- CMPS 251: Numerical Computing. 3cr. Pre: (CMPS 200 or EECE 230) and MATH 201. (Students cannot receive credit for both MAT 251 and CMPS 251)
- CMPS 257: Theory of Computation. 3cr. Pre: (MATH 211 or CMPS 211) and (CMPS 212 and 212L or EECE 330).
- CMPS 272: Operating Systems. 3cr. Pre: (CMPS 255 or EECE 321) and (CMPS 256 or EECE 330).
- CMPS 274: Compiler Construction. 3cr. Pre: CMPS 255, CMPS 258. and CMPS 257.
- CMPS 277: Database Systems. 3cr. Pre: CMPS 256 or EECE 330.
- CMPS 281: Numerical Linear Algebra. 3cr. Pre: (MATH 218 or 219) and (MATH 251 or CMPS 211). (Students cannot receive credit for both MATH 281 and CMPS 281)
- CMPS 283: The Logic of Programming. 3cr. Pre: (CMPS 212 or EECE 330) and CMPS 211.
- CMPS 286: Computer-Aided Geometric Design. 3cr. Pre: CMPS 212 or EECE 330.
- CMPS 287: Artificial Intelligence. 3cr. Pre: CMPS 256 and 258.
CMPS 350: Discrete Models for Differential Equations. 3cr. Pre: linear algebra and the equivalent of MATH/CMPS 251 (which can be taken concurrently) or consent of instructor. (Students cannot receive credit for both MATH 350 and CMPS 350)

CMPS 357: Complexity Theory. 3cr. Pre: CMPS 257 or graduate standing.
CMPS 366: Object-Oriented Software Development Methods. 3cr. Pre: CMPS 282 or graduate standing.
CMPS 367: Object-Oriented Technology. 3cr. Pre: CMPS 366 or consent of instructor.
CMPS 368: Programming Language Design. 3cr. Pre: CMPS 258 or graduate standing.
CMPS 372: Advanced Operating Systems. 3cr. Pre: CMPS 272 or graduate standing.
CMPS 373: Parallel Computing. 3cr. Pre: CMPS 255 and CMPS 256 or graduate standing.
CMPS 378: Advanced Database Applications. 3cr. Pre: CMPS 277 or graduate standing.
CMPS 387: Data Visualization. 3cr. Pre: CMPS 385 or graduate standing.

GEOLOGY

GEOL 201: Physical Geology. 3cr.
GEOL 205: Earth Resources and Energy. 3cr.
GEOL 211: Crystallography and Physical Mineralogy. 3cr.
GEOL 212: Optical Mineralogy. 3 cr. Pre: GEOL 201.
GEOL 213: Structural Geology. 3 cr. Pre: GEOL 201.
GEOL 219: Geologic Field Methods. 3 cr. Pre: GEOL 201 and GEOL 213
GEOL 221: Petrology. 3 cr. Pre: GEOL 212.

MATHEMATICS

MATH 210: Introduction to Analysis. 3 cr. Pre: MATH 201.
MATH 212: Introductory Partial Differential Equations. 3 cr. (Students cannot receive credit for both MAT 212 and MATH 224)
MATH 213: Higher Geometry. 3cr.
MATH 220: Linear Algebra II. 3cr. Pre: MATH 241 or consent of instructor.
MATH 223: Advanced Calculus. 3cr. Pre: MATH 210 or MATH 224. and MATH 218 or MATH 219.
MATH 224: Fourier Analysis and Applications. 3 cr. Pre: MATH 201 and MATH 210. (Students cannot receive credit for both MATH 212 and 224).
MATH 227: Introduction to Complex Analysis. 3cr. Pre: MATH 201 and consent of instructor.
MATH 241: Introduction to Abstract Algebra. 3cr. Pre: MATH 219 or MATH 218 with a good understanding of proof. or consent of instructor.
MATH 242: Topics in Algebra. 3 cr. Pre: MATH 241.
MATH 251: Numerical Computing. 3cr. Pre: CMPS 200 and MATH 201 (Students cannot receive credit for both MATH 251 and CMPS 251)
MATH 261: Number Theory. 3cr. Pre: MATH 219 or consent of instructor.
MATH 271: Set Theory. 3cr.
• MATH 281: Numerical Linear Algebra. 3cr. (Students cannot receive credit for both MATH 281 and CMPS 281).
• MATH 303: Measure and Integration. 3cr. Pre: MATH 223 or graduate standing.
• MATH 304: Complex Analysis. 3cr. Pre: MATH 227 or graduate standing.
• MATH 306: Calculus on Manifolds. 3cr. Pre: MATH 223 or graduate standing.
• MATH 314: Algebraic Topology I. 3cr. Pre: MATH 214 and MATH 241 or graduate standing.
• MATH 315: Algebraic Topology II. 3cr. Pre: MATH 314.
• MATH 341: Modules and Rings. 3cr. Pre: MATH 241 or graduate standing.
• MATH 343: Field Theory. 3cr. Pre: MATH 242.
• MATH 344: Commutative Algebra. 3cr. Pre: MATH 242 and MATH 341.

• STAT 234: Introduction to Statistical Inference. 3cr. Pre: STAT 233 or consent of instructor.
• STAT 236: Sampling Techniques. 3cr. Pre: STAT 234.
• STAT 237: Applied Nonparametric Methods. 3cr. Pre: STAT 234 or consent of instructor.
• STAT 238: Applied Probability Models. 3cr. Pre: STAT 233 or consent of instructor.

PHYSICS

• PHYS 212: Modern Physics (Pre: MATH 201)
• PHYS 217: Mechanics (Pre: MATH 202)
• PHYS 222: Computational Physics (Pre: MATH 201 and MATH 202)
• PHYS 223: Physical Optics
• PHYS 225: Astronomy and Astrophysics.
• PHYS 226: Solid State Physics (Pre: PHYS 235 and PHYS 236)
• PHYS 235: Statistical Physics (Pre: PHYS 210)
• PHYS 236: Quantum Mechanics (Pre: PHYS 212 or CHEM 218)
• PHYS 249: Nuclear and Elementary Particle Physics.

ECONOMICS

• ECON 214: Economic Statistics and Econometrics 3.0. 3 cr. Pre: 70 or more in ECON 211. ECON 212. ECON 213. MATH 201.
• ECON 217: Intermediate Price Theory 3.0. 3 cr. Pre: 70 or more in ECON 211 and ECON 212. MATH 201.
• ECON 218: Income Distribution and Welfare Economics 3.0. 3 cr. Pre: 70 or more in ECON 217.
• ECON 222: Labor Economics 3.0. 3 cr. Pre: 70 or more in ECON 217.
• ECON 223/224: Economics of the Middle East 3.0. 3 cr. Pre: 70 or more in ECON 211 and 212.
• ECON 226: Intermediate Public Finance 3.0. 3 cr. Pre: 70 or more in ECON 217.
- ECON 227: Intermediate Macroeconomics 3.0. 3 cr. Pre: 70 or more in ECON 211 and 212. MATH 201 and 202.
- ECON 228: Intermediate Monetary Economics 3.0. 3 cr. Pre: 70 or more in ECON 227.
- ECON 230: Economic History 3.0. 3 cr. Pre: 70 or more in ECON 211 and ECON 212.
- ECON 232: Economic Policy in Developing Countries 3.0. 3 cr. Pre: 70 or more in ECON 227.
- ECON 235: Intermediate International Trade Theory 3.0. 3 cr. Pre: 70 or more in ECON 217.
- ECON 236: Intermediate International Economic Policy 3.0. 3 cr. Pre: 70 or more in ECON 217 and ECON 227.
- ECON 237: Economic Development I 3.0. 3 cr. Pre: ECON 217 or 227.
- ECON 239: Introduction to Mathematical Economics 3.0. 3 cr. Pre: 70 or more in ECON 217. MATH 201.
- ECON 241: Industrial Organization and Public Policy 3.0. 3 cr. Pre: 70 or more in ECON 217.
- ECON 242: The Economics of Petroleum 3.0. 3 cr. Pre: ECON 211, ECON 212, and ECON 217.

FACULTY OF HEALTH SCIENCES

MEDICAL LABORATORY SCIENCES

- PHYL 246: Physiology (for Nursing Degree Students and Undergraduates). 4 cr. (Pre: BIOL 201 or BIOL 210)

SULEIMAN OLAYAN SCHOOL OF BUSINESS

FAME Track

- ACCT 210: Financial Accounting
- ACCT 215: Managerial Accounting (Pre: ACCT 210)
- FINA 210: Business Finance (Pre: ACCT 210)
- FINA 215: Financial Markets and Institutions (Pre: FINA 210)

MM&E Track

- ENTM 220: Entrepreneurship and Small Business Management (Pre: MNGT 215)
- ENTM 225: Business Environment of the Firm (Pre: MNGT 215)
- ENTM 225: Entrepreneurial Decision Making (Pre: MNGT 215)
- ENTM 241/ FINA 241: Venture Capital Management (Pre: FINA 210)
• MNGT 218: Advanced Topics in organizational Behavior (Pre: MNGT 215)
• MNGT 220: Human Resource Management (Pre: MNGT 215)
• MNGT 229: Contemporary Issues in Human Capital Management (Pre: MNGT 215 and MNGT 220)
• MNGT 230: International Management (Pre: MNGT 215 and MNGT 220)

• MKTG 210: Principles of Marketing (Pre: ENGL 204)
• MKTG 215: Services Marketing (Pre: MKTG 210)
• MKTG 225: Marketing Communications (Pre: MKTG 210)
• MKTG 230: Sales Management (Pre: MKTG 210)
• MKTG 238: Public Relations (Pre: MKTG 210)
• MKTG 240: Consumer Behavior (Pre: MKTG 210)

BIDS Track

• DCSN 200: Operations Management (Pre: CMPS 209 or EECE 230)
• DCSN 205: Managerial Decision Making (Pre: DCSN 200 and MATH 204 or MATH 218)
• DCSN 210: Advanced Managerial Decision Making Models (Pre: DCSN 205)

BUSS Courses

• BUSS 211: Business Law (Pre: MNGT 215)
• BUSS 235: Macro Business Analysis (Pre: ECON 212)