Computer Electives (CE) and Technical Electives (TE)
for the Computer Engineering Option

Guideline for electives selection for Computer Engineering option:

1. TWO Computer Electives are to be selected from list 2.1.
2. Any One Elective is to be selected from either list 2.1 or list 2.2.
3. Any One Elective is to be selected from list 2.2.
4. One Science Math and Engineering elective (any Science, Math, or Engineering course above 200 level)
5. Two lower level Hum/Soc electives, and two upper level Hum/Soc electives. For more info on humanity electives, see http://soe.rutgers.edu/oaa/electives
6. Each 4-credit Computer Science (Livingston College) course constitutes one elective course.
7. Students with a cumulative average of 3.2 or better may take a graduate level course as a Technical or Computer Elective with the approval of their advisor, instructor of the course, and the Dean's office.

LIST 2.1: COMPUTER ELECTIVES

14:332:322	Principles of Communication Systems
14:332:346	Digital Signal Processing
14:332:376	Virtual Reality (14:332:378 is a co-requisite)
14:332:402	Sustainable Energy: choosing among options
14:332:415	Introduction to Automatic Control Theory
14:332:417	Introduction to Control System Design
14:332:421	Wireless Communication Systems (14:332:322 is a prerequisite)
14:332:423	Computer and Communication Networks
14:332:424	Introduction to Information and Network Security
14:332:427	Communication System Design
14:332:435	Topics in Electrical and Computer Engineering
14:332:436	Topics in Electrical and Computer Engineering
14:332:445	Topics in Electrical and Computer Engineering
14:332:446	Topics in Electrical and Computer Engineering
14:332:447	Digital Signal Processing Design
14:332:451	Introduction to Parallel and Distributed Programming
14:332:453	Mobile App Engineering and User Experience
14:332:456	Network-Centric Programming (usually offered only in alternate years)
14:332:472	Robotics and Computer Vision
14:332:474	Intro to Computer Graphics (The course198:428 can be taken in place)
14:332:479	VLSI Design
14:332:482	Deep Submicron VLSI Design for Electrical and Computer Engineering
14:332:491/2	Special Problems/Independent Study (not open to students on academic probation)
14:332:493	Topics in Electrical and Computer Engineering (if topic is computer related)
14:332:494	Topics in Electrical and Computer Engineering (if topic is computer related)
01:198:334	Introduction to Imaging and Multimedia
01:198:336	Principles of Information and Data Management
01:198:344	Design and Analysis of Computer Algorithms
01:198:440	Introduction to Artificial Intelligence

LIST 2.2: TECHNICAL ELECTIVES

14:xxx:xxx	SOE 200+ level courses from other departments are accepted as technical electives (where "xxx" is a departmental code and course code)
14:332:382	Electromagnetic Fields
14:332:460	Power Electronics
14:332:463	Analog Electronics
14:332:464	RF Integrated Circuits
14:332:465	Physical Electronics
14:332:466	Opto-Electronic Devices
14:332:481	Electromagnetic Waves
14:332:491/2	Special Problems/Independent Study (not open to students on academic probation)
14:332:496/7	Co-Op and Internship (not open to students on academic probation)
01:198:314	Principles of Programming Languages
01:198:323*	Numerical Analysis and Computing
01:198:417	Distributed Systems: Concepts and Design
01:198:424	Modeling and Simulation of Continuous Systems
01:198:442	Topics in Computer Science
01:198:443	Topics in Computer Science
01:198:444	Topics in Computer Science
01:198:445	Topics in Computer Science
01:198:440	Introduction to Artificial Intelligence
01:198:452	Formal Languages and Automata
01:640:250	Introductory Linear Algebra
01:640:311	Advanced Calculus I
01:640:312	Advanced Calculus II (640:421 Advanced Calculus for Engineers is not acceptable as this duplicate 332:345 Linear Systems and Signals)
01:640:350	Linear Algebra
01:640:351	Introduction to Abstract Algebra I
01:640:352	Introduction to Abstract Algebra II
01:640:354	Linear Optimization
01:640:357	Topics in Applied Algebra
01:640:373	Numerical Analysis I
01:640:374	Numerical Analysis II
01:640:403	Introduction to Theory of Functions of a Complex Variable
01:640:423	Elementary Partial Differential Equations (01:640:421 is not acceptable)
01:640:424	Stochastic Models in Operations Research
01:640:428	Graph Theory
01:640:454	Combinatorics
01:640:478	Mathematical Theory of Probability II
01:750:313	Modern Physics I
01:750:314	Modern Physics II
01:750:351**	Thermal Physics I
01:750:352	Thermal Physics II
01:750:406	Introductory Solid-State Physics
01:750:417	Intermediate Quantum Mechanics
01:750:421	Fluid and Plasma Phenomena
01:750:464	Mathematical Physics
01:960:463	Regression Methods
01:960:467	Applied Multivariate Analysis
01:960:484	Basic Applied Statistics

01:160:307 Organic Chemistry I
01:160:308 Organic Chemistry II
01:160:316 Honors Organic Chemistry II

Independent Study/Special Problems (491/492), other than 332, are not, in general, considered as electives.

NOTEs:

* Credit not given for both 01:198:323-324 and 01:640:373-374

** Credit not given for both 01:750:351 and 14:650:351

*** **Credit will not be given to 01:198:416**