

# General Curriculum Report #222

UNIVERSITY OF IDAHO - REGISTRAR'S OFFICE

November 08, 2002

## TO: MEMBERS OF THE UNIVERSITY OF IDAHO FACULTY

The items listed below, approved by the University Curriculum Committee, will be considered to have the necessary faculty approvals unless a petition requesting further consideration of specific items is signed by five faculty members and submitted to the chair of the Faculty Council within 14 calendar days after the date of circulation. If no petition is received within 14 days, the entire report will be submitted to the president for approval and transmittal to the regents, if regents action is required. If a petition is received, the items in the report for which further consideration is requested will be referred to the Faculty Council and the remainder of the report will move forward. On items referred to it, the council may: (1) affirm the action and report it to a meeting of the university faculty, (2) amend the action and report it to a meeting of the university faculty, or (3) rescind the action. *Note:* If a petition concerns courses or curricula in the College of L & S or in the College of Agriculture, and is signed by five faculty members of the respective college, those items will be returned to the college concerned for further consideration.

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### AGRICULTURAL EDUCATION

Drop the following course [**Effective:** Summer 2003]

**AgEd 459** Cooperative Extension Practicum (1-9 cr, max 9)

### ARCHITECTURE

Add the following course [**Effective:** Fall 2003]

**Arch 520** Architectural Research Methods (3 cr) Philosophy of research in architecture, research design, data gathering and interpretation, and thesis preparation. Prereq: senior or graduate standing.

### BIOLOGICAL & AGRICULTURAL ENGINEERING

1. Add the following courses [**Effective:** Summer 2003]

- **ASM 320** Water and Wastewater Operations Management (3 cr) Concepts for drinking water operations, including basic chemistry, sampling, basic water treatment methods such as softening, taste and odor control, etc. Some demonstrations, review of math. Concepts of waste water treatment, including basic treatment plant components, sampling, disinfection, chemical and biological processes. Introduction to State certification process Prereq: Chem 101 or Chem 111.
- **BAE 356** Hydrologic Measurement Techniques (1 cr) See CE 326 Coreq: BAE 351, BAE 355, CE 325, FOR 462 or GEOG 320.

2. Change the curricular requirements of the following minor [**Effective:** Summer 2003]

#### **AGRICULTURAL SYSTEMS MANAGEMENT MINOR**

ASM 202 Agricultural Shop Practices (2 cr)

At least four credits from the following skill courses:

ASM 107 Beginning Welding (2 cr)

~~ASM 115 Graphical Representation or~~ ITED 265 Computer Aided Drafting/Design (2 cr)

ASM 210 Small Engines (2 cr)

At least twelve credits from the following application courses:

ASM 304 Agricultural Fluid Power Systems (2 cr)

ASM 305 Agricultural Machinery Systems (3 cr)

~~ASM 306 Agricultural Structures and Environmental Systems (3 cr)~~

ASM 315 Irrigation Systems and Water Management (3 cr)

ASM 409 Agricultural Tractors and Power Units (3 cr)

ASM 320 Water and Wastewater Management (3 cr)

ASM 412 Agricultural Safety and Health (2 cr)

The minimum number of credits in agricultural systems management courses for the minor is 19.

## **BIOLOGICAL SCIENCES**

Change the prerequisites of the following course [**Effective:** Summer 2003]

**Gene 314** General Genetics (3 cr). Prereq: Biol 112 or MMBB 154 or perm. (Spring only)

## **CHEMICAL ENGINEERING**

Add the following course [Effective: Fall 2003]

**ChE 441 Statistical Process Analysis** (3 cr) Statistical analysis methods used in chemical engineering including design of experiments, reduction of process and product variability, and optimization. Prereq: ChE 223.

## **COMPUTER SCIENCE**

1. Change the prerequisites of the following course [**Effective:** Summer 2003]

**CS 245** Computer Organization and Architecture (4 cr). ~~Same as CoE 245.~~ Prereq: CS 113 and ~~CoE 243~~ Math 176.

2. Add the following course [**Effective:** Summer 2003]

**CS J448/J548 Survivable Systems and Networks (3 cr)** Computers and networks under malicious threat or attack. Attributes of survivability, trustworthiness, dependability and assurance. Threats to survivability, security, reliability and performance. Models and analytical methods to assess survivability, vulnerability, interdependence and risk. Systemic inadequacies and approaches for overcoming deficiencies. Literature review and case studies. Additional projects/assignments required for graduate credit. Prereq: CS J449/J549 or CS J423

3. Change the curricular requirements of Computer Science (B.S.C.S.) [**Effective:** Summer 2003]

Required course work includes the university requirements (see regulation J-3) and:....

~~CoE 243 Digital Logic (3 cr)~~

~~CoE 244 Logic Circuit Lab (1 cr)~~

Comm 101 Fundamentals of Public Speaking (2 cr)....

## **ELECTRICAL & COMPUTER ENGINEERING**

1. Change the subject name of the following Electrical Engineering (EE) courses to Electrical & Computer Engineering (ECE) [**Effective:** Fall 2003]

Old #	New #	Substitute Name
EE 101	ECE 101	ECE 101 Foundations of Electrical and Computer Engineering
EE 204	ECE 204	ECE 204 Special Topics
EE 210	ECE 210	ECE 210 Electrical Circuits I
EE 211	ECE 211	ECE 211 Electrical Circuits Lab I
EE 292	ECE 292	ECE 292 Sophomore Seminar
EE 313	ECE 314	ECE 314 Analog and Digital Engineering
EE 398	ECE 398	ECE 398 Electrical and Computer Engineering Cooperative Internship
EE 401	ECE 401	ECE 401 Advanced Circuit Theory
EE 404	ECE 404	ECE 404 Special Topics
EE J412/J512	ECE J412/J512	ECE 412 Active Filters
EE J413/J513	ECE J413/J513	ECE 413 Communication Circuits
EE J414/J514	ECE J414/J514	ECE 414 Analog Integrated Circuit Analysis and Design
EE J415/J515	ECE J415/J515	ECE 415 CMOS Analog Electronics
EE 416	ECE 416	ECE 416 Applications of Linear Integrated Circuits
EE 421	ECE 421	ECE 421 Introduction to Power Systems
EE 422	ECE 422	ECE 422 Power Systems Analysis
EE ID&WS424	ECE ID&WS424	ECE 424 Power Electronic Circuits
EE 425	ECE 425	ECE 425 Power Electronics Lab
EE 432	ECE 432	ECE 432 Applications of Electromagnetic Theory
EE ID&WS433	ECE ID&WS433	ECE 433 Numerical Solutions to Electromagnetic Problems

EE 440	ECE 440	ECE 440	Digital Systems Engineering
EE 441	ECE 441	ECE 441	Computer Organization
EE 445	ECE 445	ECE 445	Introduction to VLSI Design
EE J449/J549	ECE J449/J549	ECE 495	Fault-Tolerant Systems
EE 452	ECE 452	ECE 452	Communications Systems
EE 453	ECE 453	ECE 453	Communications Systems Lab
EE ID&WS455	ECE ID&WS455	ECE 455	Information and Coding Theory
EE 470	ECE 470	ECE 470	Control Systems
EE 471	ECE 471	ECE 471	Digital Control Systems
EE 476	ECE 476	ECE 476	Digital Filters
EE 477	ECE 477	ECE 477	Digital Process Control
EE 491	ECE 491	ECE 491	Senior Seminar
EE 499	ECE 499	ECE 499	Directed Study

All 500 level EE courses change to 500 level ECE courses.

2. Change the subject and number of the following courses [**Effective:** Fall 2003]

Old #	New #	Substitute	Name
EE 315	to ECE 319	ECE 319	Background Study in Electronics
EE 321	to ECE 329	ECE 329	Background Study in Electric Machines
EE 331	to ECE 339	ECE 339	Background Study in Electromagnetic Theory
EE 341	to ECE 349	ECE 349	Background Study in Digital Computer Fundamentals
EE 351	to ECE 359	ECE 359	Background Study in Signals and Systems Analysis
EEJ411/J511	ECE J417/J517	ECE J417/J517	Pulse and Digital Circuits

3. Drop the following courses [**Effective:** Fall 2003]

- CoE 101** Foundations of Electrical and Computer Engineering (2 cr).
- CoE 243** Digital Logic (3 cr).
- CoE 244** Logic Circuit Lab (1 cr).
- CoE 245** Computer Organization and Architecture (4 cr).
- CoE 341** Digital Systems Engineering (3 cr).
- CoE 361** Microcontrollers (4 cr).
- CoE J413/513** Concurrent Systems (3 cr).
- CoE J420/J520** Data Communication Systems (3 cr).
- CoE 421** Data Communication Lab (1 cr).
- CoE 445** Introduction to VLSI Design (3 cr).
- CoE 480-481** Computer Systems Design Projects (3 cr).
- CoE 500** Master's Research and Thesis (cr arr).
- CoE 513** Concurrent Systems (3 cr).
- CoE 520** Data Communication Systems (3 cr).
- CoE 548** Supercomputing (3 cr).

4. Add the following courses [**Effective:** Fall 2003]

- **ECE 321** Energy Systems I Laboratory (1 cr) Lab to accompany ECE 320. Lab experiments and computer simulations. One 3-hr lab a wk. Prereq: ECE 213, Physics 212, Math 310. Coreq: ECE 320.
- **ECE 331** Electromagnetics Laboratory (1 cr) Lab to accompany ECE 330. Lab experiments and computer simulations. One 3-hr lab a wk. Prereq: Math 275, 310; Physics 212. Coreq: ECE 330.
- **ECE 341** Microcontrollers Lab (1 cr) Lab to accompany ECE340. Coreq: ECE 340.
- **ECE 351** Signals and Systems I Lab (1 cr) Laboratory to accompany EE 350. Software and hardware laboratories. Introduction to Matlab. Coreq: ECE 350.
- **ECE 420** Energy Systems II (3 cr) Three-phase systems, three-phase transformers, regulating transformers, winding theory, rotating waves, synchronous machines, short and medium line models, Ybus, power flow. Prereq: ECE 320 and ECE 321. (Spring Only)
- **ECE 450** Signals and Systems II (3 cr) Continuation of ECE 350. Two-sided Laplace transform. Relationships among Fourier series, Fourier transform, and Laplace transform. Feedback, modulation, filtering, DFT algorithm, signal flow graphs, state space analysis, and modeling of electromechanical systems. Emphasis on practical applications of theory to solve engineering problems. Prereq: ECE 350.

- **ECE 482-483** Computer Engineering Senior Design I and II (3 cr) (EE 480-481) The capstone design sequence for computer engineering majors. Application of formal software and hardware design techniques, hardware/software interface considerations, project management; specifications, prototyping, troubleshooting and verification; report writing, documentation and oral presentations. Topics are considered in the context of a major design project involving a team of students. Projects incorporate realistic engineering constraints; i.e. environmental, sustainability, manufacturability, ethical, safety, social and political considerations. May be used as capstone design core credit to satisfy J-3-d & e. Prereq: **ECE 482**: ECE 240, 241, 310, 311, 340, 341, 440 and Stat 301, or perm. **ECE 483**: ECE 350, 351, 482, and CS 381 or perm.
5. Change the credits, description and co-requisites of the following courses [**Effective:** Fall 2003]
    - ~~EE-ECE 212~~ **ECE 212** Electrical Circuits II (4-3 cr). (EE 212) Continuation of ~~EE-ECE 210~~. Intro to sinusoidal steady state circuits; time and frequency domain analysis; Laplace and Fourier transforms; and Fourier series; transfer functions; Bode plots, filters, transformers, polyphase circuits. Four Three lec and one recitation a wk. Prereq: ~~EE-ECE 210~~, Math 310, and Phys 212. Coreq: ECE 213.
    - ~~EE-ECE 330~~ **ECE 330** Electromagnetic Theory (4-3 cr). (EE 330) Vector calculus; electrostatics; electrodynamics; electromagnetic waves in isotropic media; Maxwell's equations; boundary value problems. mathematics; charge and current; fields as forces; work, potential and electro-motive force; Faraday's law of induction; Gauss's and Ampere's laws; material modeling; waves in isotropic media. Prereq: Math 275, 310, and Phys 212. Coreq: ECE 331.
  6. Change the title, number, prerequisite and co-requisites of the following courses [**Effective:** Fall 2003]
    - ~~EE-ECE 319-411~~ **ECE 319-411** Electronics II Lab Analog Electronics Laboratory (1 cr). (EE 319) Lab to accompany or follow ~~EE-318~~**ECE 410**. Prereq or coreq: ~~EE-318~~**ECE 410**.
    - ~~EE-ECE 317-1~~ **ECE 317-1** Electronics I Lab (1 cr). (EE 317) Lab to accompany ECE 310. Prereq or Coreq: EE-316**ECE 310**.
  7. Change the number, prerequisites and co-requisite of the following courses [**Effective:** Fall 2003]
    - ~~EE-ECE 2430~~ **ECE 2430** Digital Logic (3 cr). Same as CoE 243. (EE 243) Number systems, truth tables, logic gates, flip-flops, combinational and synchronous sequential circuits using SSI, MSI, and programmable devices; intro to digital systems and basic microprocessor architecture; certification exam not reqd. Prereq: Phys 212. Coreq: ECE 241.
    - ~~EE-ECE 2441~~ **ECE 2441** Logic Circuit Lab (1 cr). Same as CoE 244. (EE 244) Open lab to accompany ~~EE-243~~**ECE 240**. Design and construction of combinational and synchronous sequential logic circuits; certification exam not reqd. Prereq: Phys 212. Coreq: ECE 240. One 1-hr lec a wk.
  8. Change the title, description and co-requisite of the following course [**Effective:** Fall 2003]
 

~~EE-ECE 3160~~ **Fundamentals of** Electronics I (3 cr). (EE 316) Intro to application of electronic devices in electrical networks: diodes, rectifiers, power supplies, and thermal management; bipolar junction transistor principles, biasing, modeling and low frequency, small signal applications; field-effect transistor principles, biasing, modeling, and low-frequency, small signal applications; operational amplifier fundamentals and applications. Operational amplifier fundamentals and applications, introduction to electronic devices such as diodes, bipolar junction and field effect transistors, large and small-signal modeling of non-linear electronic devices, DC and small-signal analysis of circuits with non-linear electronic devices, biasing of electronic circuits, introduction to the analysis, design, and applications of electronic circuits such as rectifiers, power supplies, and low-frequency single-stage amplifiers. Practical limitations of amplifiers of electronic circuits. Prereq: ~~EE-ECE 212 and 213~~. Coreq: ECE 311.
  9. Change the title, number and description of the following courses [**Effective:** Fall 2003]
    - ~~EE-ECE 318-410~~ **ECE 318-410** Electronics II (3 cr). (EE 318) Electronic amplifier frequency response (magnitude and phase); RC-coupled amplifiers in cascade; large-signal amplifiers; implications of saturation and cut-off; feed-back amplifiers; intro to analog IC implementation. Introduction to analog integrated circuit implementation and design, differential and common-mode signal concepts, differential amplifiers, multistage amplifiers, operational amplifier design, frequency response of electronic circuits, feedback in electronic circuits, linear oscillators, large-signal amplifiers. Prereq: ~~EE-316 and 317~~**ECE 310 and 311**.
    - ~~EE-ECE 4350~~ **ECE 4350** High Frequency Circuits (3 cr). (EE 435) Transmission line theory; microwave propagation; impedance matching; Smith chart analysis; N-port circuits; S parameters; coupler, filter, transformer and power divider design. Telegrapher's and wave equations; characteristic impedance, wave velocity and wave number; physical transmission lines, including coax, microstrip and stripline; circuit analysis techniques, reflection coefficient and power flow; impedance analysis, impedance matching techniques and Smith Chart;

S-parameters; matching networks, Wilkinson power dividers, circulators and hybrid couplers; transformers and filters.  
Prereq: ~~EE-ECE~~ 330 or perm.

10. Change the title, credits, description, prerequisites and co-requisite of the following course [**Effective:** Fall 2003]  
~~EE-ECE 320 Electric Machinery Energy Systems I (5-3 cr).~~ (EE 320) Theory and application of electric machinery and transformers. Four lec and one 3 hr lab a wk. Prereq: EE 212, 213, and Phys 212. Single-phase AC measurements, transformer parameters, transformer performance, rotating DC machines, DC-DC PE converters. Three lec a wk. Prereq: ECE 212 and Physics 212. Coreq: ECE 321.
11. Change the title, credits, description, prerequisites, co-requisite and class meeting information of the following course [**Effective:** Fall 2003]  
~~EE-ECE 350 Signals and Systems Analysis I (4-3 cr).~~ (EE 350) Continuous and discrete, linear time-invariant systems; Laplace transforms; frequency transforms; Fourier series and transforms, DTFT and DFT; modulation; sampling and reconstruction; Z transforms and discrete time systems. Continuous and discrete linear time invariant systems. Sampling. Differential and difference equations. Convolution integrals and sums. Fourier and Laplace transforms. Discrete time Fourier transforms and Z transforms. State variables. Emphasis on practical applications to engineering systems. Prereq: ~~EE-ECE~~ 212, Math 310 and Math 330. Coreq: ECE 351.
12. Change the number and prerequisites of the following course [**Effective:** Fall 2003]  
~~EE-ECE 4504~~ Digital Data Storage Systems (3 cr). (EE 450) Same as MSE 450. Prereq: ~~EE-ECE~~ 330, 331, and 450 350, or perm. (Alt/yrs)
13. Change the title, description and prerequisites of the following course [**Effective:** Fall 2003]  
~~EE-ECE 480-481 EE Senior Design I and II (3 cr).~~ (EE 480-481) Computer aided techniques, economics, marketing, reliability, professional ethics, and patents; projects require original design, working model, and report. The capstone design sequence for electrical engineering majors. Course topics include design, research, simulation, and experimental methods; specifications, prototyping, troubleshooting and verification; report writing, documentation and oral presentations. Topics are considered in the context of a major design project involving a team of students. Projects incorporate realistic engineering constraints; i.e. environmental, sustainability, manufacturability, ethical, safety, social and political considerations. May be used as capstone design core credit to satisfy J-3-d & e. Two lec and one 3 hr lab a wk. Prereq for ~~EE-ECE~~ 480: ~~EE 243, 244, 318, 319, 320, ECE 240, 241, 410, 411, 320,~~ and Stat 301, or perm. Prereq for ~~EE-ECE~~ 481: ~~EE 330, 350, and 480, ECE 330, 331, 350, 351, and 480,~~ or perm.
14. Change the title, number, description and prerequisites of the following course [**Effective:** Fall 2003]  
~~EE-ECE 4866 Solid State Electronics Semiconductor Devices (3 cr).~~ (EE 486) Same as MSE 486. Physical electronics; diode and transistor models; noise mechanics. Introduction to semiconductor physics and basic semiconductor devices; intro to electro-optical devices. Prereq: ~~EE-ECE~~ 330.
15. Change the credits, number, description, prerequisites and co-requisite of the following course [**Effective:** Fall 2003]  
~~EE-ECE 443 340~~ Microcontrollers (4)3 cr. Same as CoE 361. (EE 443) Introduction to use of embedded microcontrollers and microprocessors; processor architecture; assembly language programming; use of development systems and/or emulators for system testing and debugging; software and hardware considerations of processor interfacing for I/O and memory expansion; programmed and interrupt driven I/O techniques. Three lec and five hrs of lab a wk. Prereq: ~~EE 243 and 244~~ ECE 240, ECE 241, CS 112.
16. Change the curricular requirements of Computer Engineering (B.S.Comp.E.) [**Effective:** Fall 2003]  
Required course work includes the university requirements (see regulation J-3) and:  
~~CoE 243 Digital Logic (3 cr)~~  
~~CoE 244 Logic Circuit Lab (1 cr)~~  
~~CoE 245 Computer Organization and Architecture (4 cr)~~  
~~CoE 341 Digital Systems Engineering (3 cr)~~  
~~CoE 361 Microcontrollers (4 cr)~~  
~~CoE 480-481 Computer Systems Design Projects (6 cr)~~  
Comm 101 Fundamentals of Public Speaking (2 cr)  
CS 112 Introduction to Problem Solving and Programming (3 cr)  
CS 113 Program Design and Algorithms (3 cr)  
CS 213 Data Structures (3 cr)

CS 245 Computer Organization and Architecture (4 cr)

CS 341 Computer Operating Systems (4 cr)

CS 381 Software Engineering (3 cr)

~~EE 210, 211 Electrical Circuits I and Lab (4 cr)~~

~~EE 212, 213 Electrical Circuits II and Lab (5 cr)~~

~~EE 316, 317 Electronics I and Lab (4 cr)~~

~~EE 350 Signals and Systems Analysis (4 cr)~~

ECE 101 Foundations of Electrical and Computer Engineering (2 cr)

ECE 210, 211 Electrical Circuits I and Lab (4 cr)

ECE 212, 213 Electrical Circuits II and Lab (4 cr)

ECE 240, 241 Digital Logic and Logic Circuit Lab (4 cr)

ECE 310, 311 Fundamentals of Electronics and Lab (4 cr)

ECE 340, 341 Microcontrollers and Lab (4 cr)

ECE 350, 351 Signals and Systems I and Lab (4 cr)

ECE 440 Digital Systems Engineering (3 cr)

ECE 482, 483 CompE Senior Design I and II (6 cr)

Engl 317 Technical Writing (3 cr)

Math 170, 175 Analytic Geometry and Calculus I-II (8 cr)

Math 176 Discrete Mathematics (3 cr)

Math 310 Ordinary Differential Equations (3 cr)

Math 330 Linear Algebra (3 cr)

Phys 211, 212 Engineering Physics I-II (8 cr)

Stat 301 Probability and Statistics (3 cr)

AmSt 301 or Phil 103 (3 cr)

Econ 201, 202, or 272 (3-4 cr)

Science elective selected from Chem 111, Ent 211, Geol 111, MMBB 154/155, or Phys 213 (4 cr)

~~Humanities and social sciences electives, including at least (1) one upper division course that is the second course completed in that subject, or (2) a course that has another humanities social science course as a prerequisite (18 cr)~~

Humanities and social sciences electives to satisfy UI requirements listed in J-3

Technical electives selected from upper-division computer engineering, electrical engineering (except EE 441), and computer science courses (12 cr)

The minimum number of credits for the degree is 128, not counting Engl 101, Math 143, and other courses that might be required to remove deficiencies.

Students majoring in computer engineering must pass the EE certification examination as prerequisite to any upper-division course in computer and electrical engineering. A grade of C or better is required in each of the following courses before registration is permitted in upper-division computer science courses: CS 112, 113, 213, ~~CoE~~ CS 245, Math 170, 175, 176. A grade of C or better is required in each of the following courses before registration is permitted in upper-division engineering courses: ~~CoE 243, 244, EE~~ ECE 210, 212, 240, 241, Math 170, 175, 310, Phys 211, 212.

17. Change the curricular requirements of Electrical Engineering (B.S.E.E.) [**Effective:** Fall 2003]

Required course work includes the university requirements (see regulation J-3) and:

ECE 101 Foundations of Electrical and Computer Engineering (2 cr)

~~EE~~ ECE 210, 211 Electrical Circuits I and Lab (4 cr)

~~EE~~ ECE 212, 213 Electrical Circuits II and Lab (~~5~~ 4 cr)

~~EE 243 Digital Logic (3 cr)~~

~~EE 244 Logic Circuit Lab (1 cr)~~

ECE 240 Digital Logic (3 cr)

ECE 241 Logic Circuits Lab (1 cr)

~~EE~~ ECE 292 Sophomore Seminar (0 cr)

~~EE 316, 317 Electronics I and Lab (4 cr)~~

~~EE 318, 319 Electronics II and Lab (4 cr)~~

ECE 310 Fundamentals of Electronics (3 cr)

ECE 311 Fundamentals of Electronics Lab (1 cr)

~~EE~~ ECE 320 ~~Electric Machinery~~ Energy Systems I (~~5~~ 3 cr)

ECE 321 Energy Systems I Lab (1 cr)

[EE-ECE 330 Electromagnetic Theory \(4-3 cr\)](#)  
[ECE 331 Electromagnetics Lab\(1 cr\)](#)  
[ECE 340 Microcontrollers \(3 cr\)](#)  
[ECE 341 Microcontrollers Lab \(1 cr\)](#)  
[EE-ECE 350 Signals and Systems Analysis \(4-3cr\)](#)  
[ECE 351 Signals and System Lab \(1 cr\)](#)  
[EE-ECE 480-481 EE Senior Design I and II \(6 cr\)](#)  
[EE-ECE 491 Senior Seminar \(0 cr\)](#)  
 Chem 111 Principles of Chemistry I (4 cr)  
 CS 112 Introduction to Problem Solving and Programming (3 cr)  
~~Engr 105 Engineering Graphics or EE/CoE 101 Foundations of Electrical and Computer Engineering (2 cr)~~  
 Engr 210 Engineering Statics (3 cr)  
 Engr 220 Engineering Dynamics (3 cr)  
 Engr 360 Engineering Economy (3 cr)  
 Engl 317 Technical Writing (3 cr)  
[Free Elective \(2 cr\)](#)  
 Math 170, 175, 275 Analytic Geometry and Calculus (11 cr)  
 Math 310 Ordinary Differential Equations (3 cr)  
 Math 330 Linear Algebra (3 cr)  
 Phys 211, 212 Engineering Physics I-II (8 cr)  
 Stat 301 Probability and Statistics (3 cr)  
[AmSt 301 or Phil 103 \(3 cr\)](#)  
[Econ 201, 202, or 272\(3-4 cr\)](#)  
 Upper-division engineering science elective chosen from Engr 320, 335, 350, or CE 402 (3 cr)  
~~Humanities and social science electives, including at least (1) one upper division course that is the second course completed in that subject or (2) a course that has another humanities/social science course as a prerequisite (18 cr)~~  
[Humanities and social sciences electives to satisfy UI requirements listed in J-3](#)

Technical [electives taken from](#) upper-division Engineering, [Math, Physics, and Computer Science courses](#):- [at least 12 cr from EE courses, including 9 cr from three different bracketed groups as follows: EE \[411, 416\], \[421, 424\], \[435\], \[440, 441, 443\], \[450, 452, 476\], and \[470, 477\] \(18 cr\)](#) [Of these eighteen credits a minimum of twelve credits must be selected from electrical engineering courses including at least nine credits from the follow courses: ECE 410, 420, 430, 440, and 450. \(18 cr\)](#)

The minimum number of credits for the degree is ~~134~~[128](#), not counting Engl 101, Math 143, and other courses that might be required to remove deficiencies.

Students majoring in electrical engineering must earn and grade of P in ~~EE-ECE 292~~ and a grade of C or better in each of the following courses before registration is permitted in upper-division electrical engineering courses: Chem 111, CS 112, ~~EE-ECE 210, 211, 212, and 213,~~ Engr 105, 210, and 220, Math 170, 175, 275, and 310, and Phys 211, 212. ~~In addition to college requirements for admission to classes (see "Admission to Classes" under College of Engineering, Part 4), students majoring in electrical engineering or computer engineering must pass a qualifying examination as prerequisite to any upper division course in electrical engineering or computer engineering.~~ [Students majoring in electrical engineering or computer engineering must meet the college requirements for admission to classes \(see "Admission to Classes" under College of Engineering, part four\).](#)

## **FAMILY AND CONSUMER SCIENCES**

1. Change the description, prerequisites and credit conditions of the following course [**Effective:** Summer 2003]  
**FCS ~~ID~~423** Sewn Product Industry Tour (1 cr, [Max 3 cr](#)). Field site tours of sewn product industry firms representing the design/manufacturing, merchandising, and auxiliary services arms of the industry. Forty-five hrs of instruction/field experience: five hours class lecture, planning, and discussion; forty hours visiting companies (five 8-hour days). Variable field trip fee depending on actual cost. [Prereq: CTD major or perm.](#)
2. Add the following course [**Effective:** Summer 2003]

**FCS 210** Introduction to Early Childhood Education (2 cr) Provides an overview of the complexity of working with young children, including children with disabilities, and their families. The course includes introduction to history of early childhood education, supportive agencies, roles of professionals, contexts of typical and atypical child and family development, and curricular models.

## **FOREIGN LANGUAGES AND LITERATURES**

1. Add the following courses [**Effective:** Summer 2003]
  - **Germ 303** German for Professional Life (3 cr) Emphasis on practical language usage and skills appropriate to the professional workplace. Prereq: Germ 202. Germ 301 or 302 recommended.
  - **Germ 304** 20<sup>th</sup> Century German Culture and Society (3 cr). German society, political culture, and the arts in the 20<sup>th</sup> century. Prereq or coreq: Germ 202
  - **Germ 305** Germany in the New Europe (3 cr) Contemporary social and political institutions in German-speaking Europe; reading and discussion on topics of current interest in Germany and the European Union. Prereq: Germ 202
  - **Germ 306** Introduction to German Literature (3 cr) Introduction to the study of German literature; representative texts from various genres and periods. Prereq: Germ 202
  - **Germ 440** German Media through the Internet (3 cr) For advanced Students. Reading and discussion from contemporary media in the German-language Internet; focus on topics of current cultural interest. Prereq: Germ 301 or 302 and Germ 305 or 306.
2. Change the credits and co-requisites of the following course [**Effective:** Summer 2003]
 

**Germ 103** (s) German Language Lab (1 cr, max-42). Practice in listening comprehension and conversational skills. Graded P/F. Coreq: elementary ~~or intermediate~~ German (Germ 101-102, ~~201-202~~).
3. Change the title, number and class meeting information of the following course [**Effective:** Summer 2003]
 

**Germ ~~321302~~ German Conversation-Advanced German Speaking and Writing** (3 cr). Emphasis on developing proficiency in speaking and writing; discussion on topics of cultural interest. Prereq: Germ 202. (Alt/yrs, Fall only)
4. Change the title, number, description and class meeting information for the following course [**Effective:** Summer 2003]
 

**Germ ~~322301~~ Advanced German Grammar ~~and Composition~~** (3 cr). ~~Emphasis on writing skills and various kinds of writing~~; Selective review of German grammar and usage; practice in writing. Prereq: Germ 202. (Alt/yrs, Fall only)
5. Change the title, credits, description, prerequisites and class meeting information of the following course [**Effective:** Summer 2003]
 

**Germ 420** (s) ~~Readings in German Literature~~ Topics in German Culture and Literature (3 cr, max-96). For advanced students; focus on literary/cultural period, theme, genre, or work ~~of a single~~ by one or more authors. Prereq: Germ ~~327301~~ or 328302, and Germ 306, or perm. (Alt/yrs, Spring Only)
6. Drop the following courses [**Effective:** Summer 2003]
 

**Germ 325-326** German Culture and Institutions (3 cr)  
**Recommended Substitution:** Germ 304 or Germ 305

**Germ 327-328** Survey of German Literature (3 cr).  
**Recommended Substitution:** Germ 306
7. Drop the following dormant course [**Effective:** Summer 2003]
 

**Germ 431-432** Topics in German Language and Culture (3 cr)  
**Recommended Substitution:** Germ 430
8. Change the curricular requirements of: German Minor [**Effective:** Summer 2003]
 

**GERMAN MINOR**  
 Germ 101-102 Elementary German I-II (8 cr)

Germ 201-202 Intermediate German I-II (8 cr)

[Germ 301 Advanced German Grammar or Germ 302 Advanced German Speaking and Writing \(3 cr\)](#)

[Germ 321 German Conversation or Germ 322 German Grammar and Composition \(3 cr\)](#)

Upper-division courses in German (not including lab-based and lit in translation courses) (6 cr)

### **INTERNATIONAL STUDIES**

1. Add the following courses [**Effective:** Spring 2004]
  - **IS 320 Model United Nations – Spring** (2 cr, max 8) Advanced preparation for IS 310 members selected to attend the National MUN Conference in New York; emphasis on a particular country and region through study of political, social, and economic indicators, policy goals, and bloc negotiations. Prereq: IS 310. (Spring only)
  - **IS 495 International Studies Senior Seminar** (3 cr) Capstone course required of all International Studies majors in their senior year. Focuses on incorporating interdisciplinary training in global, regional, and issue emphases through oral and written presentations. Prereq: Sr standing, Intl. studies major or perm.
2. Add the following course [**Effective:** Fall 2003]  
**IS 310 Model United Nations – Fall** (3 cr, max 12) Overview of principle UN agencies and current UN activities; emphasis on written and oral presentations through resolution and position paper writing, negotiations, and Model UN simulations. (Fall only)

### **MECHANICAL ENGINEERING**

1. Change the title, description and class meeting information of the following course [**Effective:** Summer 2003]  
**ME 410** ~~Production Engineering~~ [Principles of Lean Manufacturing](#) (3 cr). ~~Planning, analysis, and control of production systems; decision models; techniques for productivity enhancement; quality control.~~ [Principles of lean manufacturing are introduced that provide a systematic process for identifying and eliminating non-value activities \(waste\) in production processes. Students learn these principles through a series of workshops, lectures, and hands-on simulations of lean principles. Three hours of lec and six hours of outside work per week.](#) Prereq: Sr standing in an engineering discipline or perm.
2. Change the number of the following course [**Effective:** Summer 2003]  
**ME ~~304~~415** Materials Selection and Processing for Mechanical Design (3 cr).
3. Add the following course [**Effective:** Summer 2003]  
**ME 411** Advanced Lean Manufacturing (3 cr) Principles of lean manufacturing are applied in a systematic way for identifying and elimination non-value activities (waste) introduction processes. Students learn how to identify the value stream in a company and techniques for engineering continuous improvement. These techniques are learned through a series of workshops, lectures, readings, and on-site industrial projects. Three hours of lec and six hours of outside work a week. Prereq: ME 410 or perm.
4. Change the curricular requirements of Mechanical Engineering (B.S.M.E.) [**Effective:** Summer 2003]  
Required course work includes the university requirements (see regulation J-3) and:....  
  
Technical electives selected from ME ~~304~~, 409, 410, [411](#), 412, 413, [415](#), [416](#), 420, 422, 425, 433, 441, 443, 444, 451, 461, 463, 472, 473, 481 (9 cr) \*  
Mechanics or materials science technical elective selected from ME [415](#), [416](#), 425, 441, 461, 463, 473 (3 cr)....

### **MUSIC**

Add the following course [**Effective:** Summer 2003]

**MusH 201** History of Rock and Roll (3 cr) A study of the history and culture of rock music. May not be counted as a required music history elective for music majors.

### **PLANT, SOIL AND ENTOMOLOGICAL SCIENCES**

1. Add the following course [**Effective:** Summer 2003]

PLSc **201 Principles of Horticulture** (3 cr) An introduction to the production and management of edible and ornamental horticultural crops and the maintenance of plants and turf in urban landscapes. Two lec and two hours of lab a wk; two field trips. Prereq or Coreq: PLSc 102

2. Drop the following course [**Effective:** Summer 2003]  
PLSc **J446 Plant Breeding** (3 cr). WSU CropS 546.

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## FOR THE FACULTY'S INFORMATION

### Correction to General Curriculum Report 221:

#### Changes to Cooperative Courses Approved Since Last General Curriculum Report:

(ID = taught only at UI; WS = taught only at WSU, LC = taught only at LCSC; ID&WS = can be taught at both UI & WSU; ID&LC = can be taught at both UI & LCSC)

1. Adding Cooperative Status: Fish **ID524 Fish Disease Diagnostics and Control** (2 cr). [WSU VM 541P](#). Introduction and training in diagnostic techniques and control methodologies for common fish diseases: review of the cellular mechanisms for disease defense in fish. (Alt/yr; fall only)
2. Adding Cooperative Status: FST **ID489 Food Product Development** (3 cr). [WSU FSHN 489](#). Course serves as a capstone experience for food science seniors, and will require the application of food chemistry, food processing/engineering, and microbiology course knowledge in formulating a new food product. Prereq: FST 303, 416, and 460, or perm.
3. Adding Cooperative Status: FST **WSID303 Food Processing** (3 cr). WSU FSHN 303. Specialized techniques and practices of food processing and marketing. Field trip reqd. Recommended preparation: MMBB 250, Chem 275 and 276.
4. Adding Cooperative Status: WLF **ID540 Conservation Genetics** (3 cr). Basic principles of population genetics and phylogenetics and their applications to the field of conservation genetics and natural resource management; case studies and examples from current literature; topics include genetic diversity, inbreeding, population structure, gene flow, genetic drift, molecular phylogenetics, and hybridization. (Alt/yr; fall only)