Computer Engineering

Alexander A. Balandin
Associate Professor
Department of Electrical Engineering
University of California – Riverside

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Group Advising Meeting
University of California

UC Riverside

Bourns College of Engineering

Department of Electrical Engineering

Department of Computer Science and Engineering

Other campuses: Berkeley
San Diego
Los Angeles
Irvine
Santa Cruz
Davis
Santa Barbara
San Francisco
Merced

Undergraduate Advisor at EE Department:
Alexander Balandin
Matt Barth

Major/Program: Computer Engineering

Undergraduate Advisor at CSE Department:
Marek Chrobak
Computer Engineering Program at UCR

Research university benefits
  Faculty are leaders in their fields
  Exposure to real research problems

Graduate getting jobs at top companies
  Computer Engineers are always in demand

Graduates getting admitted to best graduate schools
  Consider graduate program
  You can get paid for getting PhD degree

Summer projects
  Talk to faculty, visit their web-site, look for outside sources of support

Senior design projects
Preparing for Future Career

Graduate study is fun
You get paid for getting PhD (or MS) degree
This is mostly about research not taking courses
You future career will greatly benefit from it even if you do different stuff
GPA and letters are important
Letters of reference
Summer jobs
Career and Placement services
Start searching at the beginning of Senior year

IEEE and other professional memberships
CE degree is good for many careers: medical school, management, military, public service, etc.


Computer Engineering Major

• Lower Division (67 units)
  a) Math 9ABC, 10AB, 46
  b) CS 10, 12, 14, 61
  c) PHYS 40ABC
  d) 1 course in Chemistry
  e) English 1SC

• Upper Division (83 units minimum)
  a) Math 112, 113, Stat 155
  b) CS/EE 120AB, one course from CS122A, EE128
  c) CS141, 161, 180, one course from CS153, 160
  d) EE100AB, 110AB, 141
  e) CS179 or EE175AB
  f) 4 technical electives (see catalogue for list)
Choice of Technical Electives (Focus Areas)

At least one coherent sequence of two courses:

- Computer architecture: CS122AB, 161, 162
- Digital design/interface: CS121, 122AB, 168, EE102, 128
- Computer communications: CS160, 164, 177, EE115, 150
- Information/signal processing: CS130, 150, 166, 170, 171, EE146, 152
- Computer systems engineering: CS160, 163, 164, 166, 181, 152
- Control and automation: CS122AB, EE105, 128, 132, 144, 151
Prerequisite Structure

- Math9A → Math9B → Math10A → Math113
- Math9A → Math9C → Math46
- Math9B → Math112
- Math10A → Math10B
- CS10
- CS12
- CS14
- CS153/160
- CS161
- CS/EE120A
- CS/EE120B
- CS122A or EE128
- EE110A
- EE110B
- EE141
- EE175AB
- CS/EE120A
- CS/EE120B
- CS122A or EE128
- EE110A
- EE110B
- EE141
- EE175AB
- EE1A+L
- EE1B
- EE100A
- EE100B
- Senior standing

: C- or better required
: can be taken concurrently
How to Choose Your Electives?

• Identify your area of interest. How?
  • Are there topics in the courses you took that you enjoyed more than other?
  • Talk to faculty, other students.
  • What areas of study are best for employment?
• Choose the electives early. They are not offered each quarter, so careful planning is critical.
• You can do a project (CS193 or 179) as an elective
• You can take graduate courses as electives (if you have good GPA)
• It’s possible to take courses at other UC schools
Individual Project CS193

If you have interest in a particular area, consider taking CS193 (Design Project):
  • Counts as a technical elective (up to 4 units)
  • Flexible hours
  • Available every quarter
  • You do what you enjoy
  • Looks good on resume

How to register for CS193? You need to find a faculty sponsor. Talk to the faculty in your interest area and ask if they have any projects available.
What’s the difference between CS193 and CS179?

CS179:
- Required (can be taken once as elective)
- Offered in specific areas: databases, operating systems, compilers, networks, …
- Typically group projects, rigorously structured

CS193:
- Individual project
- You choose faculty and area
- Not required
Coursework Planning

- Plan all your coursework: detailed plan 1 year ahead, tentative later
- Arrange course transfers a.s.a.p.
- Pay attention to prerequisites. Plan cs10-12-14-141 and Math 9ABC-46-EE1AB-110AB-141 first, as early as possible, and then plan other coursework around it.
- Prerequisites are strictly enforced.
- Try not to take more than 2 programming/lab courses at a time
- **YOU** are responsible for meeting the requirements and scheduling your coursework
Internships

• Benefits: academic credit, contacts, job experience, possible recommendations

• What you need to do to get a credit for an internship:
  • Find a faculty sponsor and sign-up for CS194
  • Find an internship
  • If you don’t your own contacts, contact the Career Center.
Study Habits

- Allocate the hours: rule of thumb: 3-4 hours per week per unit. So 12 units = 36-48 hours, 16 units = 48-64 hours ...
- Be organized. Schedule your week. Put time aside for fun and social life. When working, avoid silly distractions (video games, web surfing)
- Part-time jobs
  - If you need to work, try to get something related to your field
  - Maybe part-time status?
- Don’t aim for C’s – aim for A’s!
- Don’t study just for the grade – study to learn
- Take the initiative:
  - Keep track of your progress.
  - Stay ahead, read before lecture.
  - Attend office hours. Can't make it? Make an appointment.
  - Attend study groups.
A Word on Academic Dishonesty

We receive numerous complaints from alumni and students about cheating on homeworks and tests. We must protect those that do their work.

Zero-tolerance policy on plagiarism:
  • We aggressively look for cheating
  • Graders and TA’s are trained how to detect cheating
  • Dozens of F’s and disciplinary actions every quarter

If you have difficulties:
  • get help: talk to the instructor, TA, counselor, Learning Center
  • re-examine your schedule (reduce your load?)

If you have doubts:
  – ask the instructor what’s allowed
  – YOU are responsible for resolving any ambiguities
EE175 A/B: Senior Design Course

EE175 A/B: two-quarter, eight-unit “capstone” course: serves as a culmination of the students’ learning experience in Electrical Engineering

Focus Areas and Professors:

- Nano Materials Devices and Circuits (NMDC): J.L. Liu
- Intelligent Systems (IS): M. Barth
- Controls and Robotics (CR): P. Liang
- Communications and Signal Processing (CSP): Y. Hua
Conclusions

• Changes in the Undergraduate Committee
  • A.A. Balandin and G. Beni are on sabbatical
  • M. Barth is interim Undergraduate Advisor
  • J.L. Liu and A. Roy-Chowdhury are in charge of student petitions

Please send comments to the Undergraduate Advisor
Alexander Balandin at alexb@ee.ucr.edu