During the next hour....

• General transfer information
• Issues common to Engineering/CIS/Science majors
• Class sequencing (the prerequisite chain!)
• Resources
• Preparing for transfer in
  – Engineering
  – CIS
  – Physical Sciences
  – Biological Sciences

Please ask questions along the way!
General Transfer Information

To transfer, you need 60 transferable units including
- Big 4: Engl 100, Critical Thinking, Speech (for CSU), Math
- If possible, get these done before your last semester at CSM
- Major prep (IMPORTANT!)
- General education (CSU-GE, IGETC*) *not for some UC engineering

For Fall 20xx transfer
- Complete applications in Oct/Nov 20xx-1
- Classes taken through Spring 20xx are considered in the admission process
- Consider a Guaranteed Transfer Contract (Sept 20xx-1); check the details now.

Be realistic with loads
- No more than 3 major classes per term
  (fewer if you work > 20 hours per week)
Transfer units & lower division requirements

- All coursework at community colleges → no upper limit on units before transfer
- The courses you take before transfer will be used to satisfy lower division requirements.
- No more than 70 units are awarded upon transfer. This is a good thing!
- If you do not complete the required lower division general education classes before transfer, you will have to do so after transfer (along with the upper division requirements).
  Some UCs recommend this.
- In a few cases, courses may fulfill an upper division requirement; you will have to take an alternate upper division course upon transfer. (MATH 270, 275; CHEM 231, 232; ENGR 260)

Common Issues

- Engineering/CIS/Science majors have lots of
  - Lower division major prep
  - Interconnected courses (prerequisite chains)
  - Labs
- Many majors/schools are competitive
- To get through efficiently
  - Don’t postpone major classes
  - Take a math class (nearly) every semester
  - Pay attention to the specific requirements of the majors/schools you are considering; consider guaranteed transfer contracts
  - Balance your load
Sequencing of Major Classes, Part 1

Resources

- [www.assist.org](http://www.assist.org)
- Transfer school website
  (especially for Cal Poly San Luis Obispo; [http://admissions.calpoly.edu/apply/transfer_sc](http://admissions.calpoly.edu/apply/transfer_sc))
- SB1440 transfer degrees
  [http://collegeofsanmateo.edu/transfer/sb1440.asp](http://collegeofsanmateo.edu/transfer/sb1440.asp)
- CSU-GE and IGETC patterns
  [http://collegeofsanmateo.edu/forms/counseling.asp](http://collegeofsanmateo.edu/forms/counseling.asp)
- Transfer Center events
  [http://collegeofsanmateo.edu/transfer/](http://collegeofsanmateo.edu/transfer/)
- Transfer school open house / preview days
Engineering Majors

- Entry level degree in engineering is a bachelor degree; you should prepare to transfer.
- You must specify a specific engineering major when you apply to transfer.
- Choice of major may affect choice of classes starting at calculus.
- Consider getting AS degrees (engineering, physics, math) along the way.
Major preparation

- Math (5 classes starting with Math 251)
- Science
  - 3 physics classes (Phys 270 is a “selective” at UCB)
  - 1 or 2 chemistry classes
  - maybe biology
- Engineering (1 to 5 classes)
- Programming (1 to 3 classes)
- General education
  - UCB, UCD require fewer classes than IGETC
  - Some other UCs recommend keeping a few GE courses for after transfer

Sequencing of Major Classes
Common to Most Engineering Majors

Math 222
Precalculus

Math 251
Calculus

Math 252
Calculus

Math 253
Calculus

Math 270
Linear Algebra

Math 275
Differential Equations

Physics 150 (maybe)

Physics 250

Physics 260

Physics 270

Chem 192 (maybe)

Chem 210

Chem 220 (maybe)

ENGR 215 (has Math 251 as prerequisite) or
CIS 254
CIS 255
Or
CIS 278

CIS 256 (maybe)
Or
CIS 279 (maybe)
Typical Courses for Mechanical Engineering

Math 251 Calculus
Physics 250
Math 252 Calculus
Physics 260
Math 253 Calculus
Physics 270
Math 270 Linear Algebra
Math 275 Differential Equations
Math 275 Differential Equations

Physics 150 (maybe*)
Chem 210
Chem 220 (maybe)

Math 270 Linear Algebra
Physics 260
Physics 270

Chem 210
Chem 220 (maybe)

Math 251 Calculus
Physics 150 (maybe *)
Math 252 Calculus
Physics 260
Math 253 Calculus
Physics 270
Math 270 Linear Algebra
Math 275 Differential Equations
Math 275 Differential Equations

ENGR 215 (has Math 251 prerequisite) (Fall) or
CIS 254
CIS 255
CIS 256 (maybe) or
CIS 278
CIS 279 (maybe)

Engineering 210, graphics (Spring) (prereq: Math 130)
Engineering 100, intro (Fall) Summer! (prereq: Math 130)

*Take physics placement test to see if Physics 150 is needed. Contact physics instructors to schedule the test.

Computer Engineering & Related Majors

Focus on hardware, signals
Focus on software, information

Electrical Engineering
Computer Engineering
Computer Science
Software Engineering, Information Science

Engineering/CIS/Science Focus Group, L_Demsetz
Sequencing of Major Classes for Physics and Chem Majors
Biological Sciences

- Lots of departments
- Major prep usually requires one physics sequence:
  - Physics 210, 220 (trig-based)
  - Physics 210/211, 220/221 (calculus supplement)
  - Physics 250, 260 (calculus-based)
- Major prep usually requires two semesters of calculus
  - Math 241, 242 (applied)
  - Math 251, 252 (but need Math 253 as co-req for Phys 260)
- Major prep usually requires up to four semesters of chemistry
  - Chem 210, 220, 231, 232
- Major prep usually requires four semesters of biology
  - Biol 110, 210, 220, 230
  - or
  - Biol 110, 240, 250, 260