Computer Science, Computer Game Design, Technology and Information Management
Summer Orientation 2015

Start Making Connections Now!
• Turn to the person next to you
• Name
• Where you’re from
• Your residential college
• Your favorite video game or movie
• Plans for the rest of summer
Presentation Overview

• Introductions
• Overview of Computer Science, Computer Game Design, and Technology and Information Management Majors
• Major Requirements and Qualifications
• Academic Advising & Support
• Getting Started: What to Take in Fall 2015
• What’s Next
• Questions & Answers
Introductions: BSOE Undergraduate Advising and Student Affairs Staff

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Overview of Computer Science, Computer Game Design, and Technology and Information Management Majors

- majors
- Computer Science vs Computer Engineering vs Technology and Information Management
- career paths
- research and internships
- getting started
Computer Science Majors

- More or less same lower division requirements
- Computer Science BS
  - 12 upper division courses (4 electives, 8 required)
  - physics or chemistry
- Computer Science BA
  - 8 upper division courses
    - 1 required, 3 from core cs, 2 cs electives, 2 tech electives
- Computer Science: Computer Game Design BS
  - 14 upper division courses
    - 6 required core, 5 game engineering, 3 senior design
- Computer Engineering 15 upper division courses
CS vs CE vs EE vs TIM

- Computer Science – mostly about software and algorithms
- Computer Engineering – a mix but more about the hardware
- Electrical Engineering – all about the hardware
- Technology and Information Management – more about the business
CS is collaborative!

Meeting of a project team at Google
CS is creative!

- CS is NOT just code
- Code is technical, but it’s also creative!

Introducing Leah Buechley

Before College: Interested in art and design, liked math.

In College: Studied fine arts, then computer science.

Now: Creates clothes that light up.
The Human Genome Project and the field of bioinformatics have revolutionized what is possible in forensics, health care, science, criminal justice and other fields through the creation of the DNA database.
Student Interests + CS = Innovative Careers!

Find out what you love to do and do that. It’s that simple.

~ Dr. A. L. Garcia
CS Careers

- Software developer
  - **Tessa – Google**
- Web apps
- Mobile apps
- Enterprise systems
- Embedded systems
- Entertainment
- Health care
- Assistive technology
- Banking
- Retail
- ...
Science + CS = Something for everyone

- Bioinformatics
- Computational biology
- Genome informatics
- Cheminformatics

Pictured above: Human chromosomes on a black background, from the National Human Genome Research Institute
Humanities/Social Science + CS =

- Motion graphic design
- Animation (2D & 3D)
- Computer graphics
- Computational linguistics
- Speech recognition software
- Human computer interaction

Pictured above: Digital art collage created by students at the Texas School for the Deaf in Austin, TX

Photo: Texas School for the Deaf
Education + CS =

- Educational technology
- Instructional design
- Assistive technology
- Electronic learning/ e-learning/online learning
- Distance education
- Educational animation

Pictured above: Assistive speech generating devices for language learners and disabled learners

Photo: Spectronicsinoz
Business + CS = Technology and Information Management (TIM)

- Management information systems (MIS)
- Computer information systems (CIS)
- Database administrator
- Network administrator
- IT Portfolio Management
Technology and Information Management (TIM) focuses on the integration of engineering, computer science, information technology, and business management for two purposes:

1. the technology of management

2. the management of technology.
The TIM program should be compelling to students with interests in these areas:

- Business
- Information Technology
- Computing
What can I do with a degree in Technology and Information Management?

- Information Technology (Intel, Seagate, Cisco, Apple, Google, Xantrion)
  - Information systems/technology engineer
  - Business systems developer
  - Enterprise software developer
  - Data Engineer/Scientist

- Management of Technology (Intel, Seagate, Cisco, Apple, small start-ups)
  - Business analyst
  - Product development engineer/manager
  - Supply Chain manager/analyst
  - Project Manager

- Graduate studies in Engineering and Business
eventually leading to executive positions

- Chief Information Officer (CIO)
- Chief Technical Officer (CTO)
- Chief Operations Officer (COO)
- Chief Executive Officer (CEO)

(as well as academic positions in leading universities)
TIM students actively engage in Silicon Valley Internships.

Some Examples:

- Cisco
- Seagate
- Plantronics
- Other small and medium size companies
Research and Internships: How to Get Involved

- Fall is the time to shop for summer internships
- Read the weekly newsletter
- Seek out faculty
- Go to career fairs and company “meet and greets” (Google, Microsoft, eBay, Adobe, HP, Cruzio, and many lesser known names)

- [http://cs.soe.ucsc.edu/research](http://cs.soe.ucsc.edu/research)
- [http://tm.soe.ucsc.edu/research](http://tm.soe.ucsc.edu/research)
Two Types of Academic Advising

- Major/Department Advising
  - BSOE Peer Advisers
  - Professional Staff Advisers
  - Faculty Advising

- College Advising
BSOE Undergraduate Advising & Student Affairs Services

- 225 Baskin Engineering Building (West End of Building)
- Drop-off and/or pick-up forms
- Ask general questions
- Get assistance with academic plans
- Monday through Friday
  - 9:00-11:30 am
    - Make appointments with staff for afternoon
  - 1:30-4:00 pm
    - Meet with Staff Advisers

**Advising Workshops**: Consult Schedule

**Email**: advising@soe.ucsc.edu
Important Undergraduate Advising Office Resources

- BSOE Undergraduate Advising website: "ua.soe.ucsc.edu"
- BSOE Undergraduate weekly e-newsletter
- BSOE Advising Workshops
  - Major Qualifications
  - Major Declaration
What to take in the Fall

- Sign up for 3 Courses (Math+Major+College/GE course)

- 1. Math
  - In order to enroll into a Math course, must have completed Math placement, or have AP credit, or college level credit.

  - No Placement Exam yet? Exams completed during summer orientation will be posted by August 3rd.

  - **Do not take the following Math series courses:** Math 11A, AMS 11A or 15A, or Econ 11A

- 2. Major course
  - Specific course will depend on major, and in some cases math preparation.
  - Please refer to “What classes do I take in Fall?” handout

- 3. College Core course or a General Education (GE) course
Getting Started: Computer Science and Game Design

- **Fall**
  - Math
  - CS 10 or 5J or 12A/L
  - Core or GE

- **Winter**
  - Math
  - CS 5J or 12A/L or 11 or 12B/M
  - GE or Core

- **Spring**
  - Math
  - CS 11 or 12B/M or CE12 or CE16
  - GE
Getting Started: Technology and Information Management

Plan One

- **Fall**
  - Math
  - Econ 10A
  - Core or GE
- **Winter**
  - Math
  - Econ 1
  - GE or Core
- **Spring**
  - Math
  - TIM 50
  - GE

Plan Two

- **Fall**
  - Math
  - CMPS 5J or CMPS 10
  - Core or GE
- **Winter**
  - Math
  - CMPS 11 or CMPS 5J
  - GE or Core
- **Spring**
  - Math
  - Econ 1
  - GE

*These are just templates. There is a lot of variety and flexibility with TIM major plans. We recommend that you attend a major planning workshop in the fall for assistance with a plan.*
Enrollment for Fall 2015

- Please refer to “What classes do I take in Fall?” handout to assist with choosing courses
- What do I do if a course I want to take is full?
  - Sign up for the wait-list on Monday, August 10th at 3:00pm
    - Website with more information: [https://ua.soe.ucsc.edu/wait-list-info](https://ua.soe.ucsc.edu/wait-list-info)
- Enroll in back-up courses
- Be flexible!
  - Most courses will be offered again in Winter quarter
What’s Next?

Today:
- Questions and Answers
- Enroll in Fall Classes

Summer:
- Spend some time reviewing the BSOE website
  http://ua.soe.ucsc.edu
- Brush up on math skills
- Check out UCSC Career Center website and resources
- Regularly check (or redirect) your SlugMail!

Fall:
- BSOE Fall Orientation, Tuesday, September 22, 2015
  9:00am – 12:00pm, Media Theater/BSOE
  - Department/Major Break-out Sessions with Faculty
  - BSOE Fall Welcome Event~ Engineering Courtyard
Questions??