COMPUTER SCIENCE UNDERGRADUATE PROGRAM
DEPARTMENT OF COMPUTER SCIENCE
TEXAS A&M UNIVERSITY

CURRICULUM. The curriculum in computer science is designed to prepare students to enter into the rapidly expanding computer field. It is based upon the IEEE Computer Society and Association for Computing Machinery recommendations for curricula and courses. A major in computer science at Texas A&M University includes a 12-hour supporting field in another department of the University. This allows students to design a course of study which takes advantage of opportunities offered by other departments within the colleges of the University.

The four-year undergraduate curriculum in computer science includes a sound preparation in science, mathematics, English, statistics and computing. Students select three senior electives from twelve courses. The most popular are offered in multiple sections and semesters. Elective courses are available in the areas of: languages and compilers; software systems; computer systems and architecture; artificial intelligence and cognitive modeling; graphics and robotics; and computational science and engineering. Graduate courses in these areas may be taken by advanced undergraduates.

FACILITIES. The Department of Computer Science has significant computer resources of its own, shares resources with other departments, and makes use of University systems. The department has 180 workstations available to students around the clock in instructional and open access laboratories and maintains numerous servers from Sun, Dell, and NetApp that are available to our students.   All students have access to several web servers and the department's multiprocessor computational servers. These include three multiprocessor Sun servers running Solaris and a multiprocessor Linux server running Red Hat Enterprise.   In addition, each student is allocated storage on the department's 10 TB file server. Wireless network access is provided throughout the department as is remote access via VPN.

UNIVERSITY AND AREA. Texas A&M University is located in the Bryan/College Station area.(pop. 137,000, 100 miles north of Houston. The Bryan/College Station area has been recognized as one of the leading growth areas in the nation. A growing industrial base, excellent housing, strong public school systems, and many recreational and entertainment activities characterize the area.

Texas A&M University, a land-grant, sea-grant, and space-grant university, was established in 1876 as the state's first public institution of higher education. The campus covers 5,142 acres and is within easy driving distance of the four largest cities in Texas. Enrollment is more than 44,000 students, and Texas A&M University has one of the largest enrollments in the nation in engineering, veterinary medicine as well as architecture and environmental design.

FINANCIAL AID. Presently, the Computer Science Department has no scholarship funds for supporting undergraduates. However there are many sources of support through the TAMU Financial Aid Office for students enrolled in Texas A&M University. In addition, university research projects often require the assistance of programmers, and many Computer Science students are hired to fill these jobs. The Computer Services Center hires some students as student operators, programmers, and analysts. Texas A&M University also has an active Co-operative Education Program with many openings for Computer Science students.

<u>**2007-2008 Academic year**</u>

The instructions contained in this packet are to be used as a guide in preparing the Departmental Computer Science Degree Plan Form for the Bachelor's Degree in Computer Science. After the student completes filling out the degree plan **FROM** the **Web Page (http://www.cs.tamu.edu/academics/undergraduate)**, it is to be submitted to the Computer Science Undergraduate Advisor for approval. When the degree plan is approved by the Undergraduate Advisor, it will be returned to the student via an email message and a copy will be placed in the Computer Science Undergraduate Student's file in the Advising Office.

An upper division evaluation form needs to be submitted by the student and approved by the undergraduate advisor **prior** to enrollment in upper division computer science courses. Students enrolling in upper division courses without CPSC/CECN designation will be removed from the courses. Computer Science courses at the 300 level or above are the designated upper level courses.

Degree audits are produced by the Registrar's Office after a student has 95 credit hours. Copies of this audit are available in the advisor's office, and the audits should be carefully reviewed by the student and his/her advisor, to determine one's progress toward a degree. A final audit will be mailed to the student the semester of anticipated graduation. Additionally, an audit can be done at any time upon request to the Registrar's Office for a fee of $1.00, or without charge at myrecord.tamu.edu.

Hours & Technical Electives

The total hours on the degree plan must be at least **128. If**, for example, the choice of supporting area includes required courses, then other courses must be chosen so that the hour total will be at least 128. These other courses can be in departments other than CPSC or the supporting area, but they should complement the student's degree plan and must be approved by the Undergraduate Advisor. **"Please note that the 128 total hours do not include a required foreign language. It is the student's responsibility to meet the University's foreign language requirement."**

Comments and Observations

Before visiting the Undergraduate Advisor about a degree plan, the student should make as many decisions as possible. One problem area is transfer credits, in that it is sometimes difficult to know which courses may be used. Efforts are made to allow 'reasonable' substitutions. A student **must** submit a copy of his/her transcript evaluation along with the degree plan form if credit for transferred courses is desired. To approve courses that transfer "By Title" to TAMU documentation of the courses content, such as a catalog description, will be required.

It is the student's responsibility to have a degree plan meet minimum requirements. Everyone involved will check, but if a graduating senior's degree plan is not acceptable (e.g. only 127 hours), the student will not graduate.

Computer Science Courses

Twenty-seven (27) hours are required as follows: **CPSC 121-4, 181-1, 221-4, 312-4, 313-4, 314-3, 315-3, 481-1, and 484-. These courses must each be passed with a grade of at least "C".**

Supporting Fields

(A)   Complete an official university recognized minor in an **AREA APPROVED BY A CS ADVISOR.** The student will be required to complete the courses mandated by the department offering the **MINOR** which will likely require **15+ credits** to complete. **NOT ALL OFFICIAL MINORS** can be used to complete the supporting field requirement.

-OR-

(B)   Complete the 12 hour supporting area requirement on your degree plan. The **CS ADVISOR MUST APPROVE THE SUBJECT AREA AND THE COURSES SELECTED.** The minor must include 300 and 400 level courses and may be selected from the physical sciences, engineering, mathematics, business or liberal arts.

Note: An official minor (A) will be noted on your **Transcript**, the 12 hour supporting area (B) will not. Taking the first 12 credits of an official minor does not automatically satisfy the 12 hour requirement in (B).

The following are guidelines for satisfying the supporting area (B) for the most frequently selected departments:

MATH

Complete the required MATH sequence shown on the degree plan with MATH 308 as the elective. Select one of the following: (MATH 304--MATH 311--MATH 222). Nine (9) hours to be selected from (CPSC 442 or any 400 level MATH class (NO MATH 403, NO MATH 417 if choosing CPSC 442)).

BUSINESS

Only two options are available through the College of Business:
   A.   The official COB Minor (Students must take 15 credits, Do NOT take INFO 209). Extra class can be used for "General Elective."
   B.   Information Systems Classes (12 credits required).

   NOTE: See handouts on the Business option. Pre-reqs listed and policy of needing forces for some INFO classes are the Info department's regulations and must be followed.

Mathematics and Statistics

Fourteen hours of Mathematics and three hours of Statistics are required. The courses listed inside the box must each be passed with a grade of at least "C". The elective mathematics course must be either MATH 304 or 308. The choice of a supporting area often dictates this elective.

NOTE: MATH 151 has a prerequisite of algebra, trigonometry and analytical geometry. If MATH 150, 102, 103, or 104 are taken to meet these requirements, they may not be used for credit on the degree plan's requirement of 130 hours.

Science Courses

16 hours of science coursework are required; choose from any two of the following four options.
Only ONE option B may be used to satisfy this requirement.

1. Chemistry: CHEM 101/111 and 102/112

2. Physics: PHYS 218 and 208

3. Life Sciences:

   i. Option A: BIOL 111 and BIOL 112

   ii. Option B: any two of: BIOL 111, BIOL 101, BIOL 107

4. Earth Sciences:

   i. Option A: GEOL 101 and GEOL 106

   ii. Option B: any two of: GEOG 203, ATMO 201/202, RENR 205/215

Computer Science Upper-Level Track System (See Classes & Rules pg 2)

General Elective Course

Three (3) hours of general electives are required and should be chosen from the approved list from the Academic Advisors.

DIRECTED ELECTIVES

Humanities Elective Course

ENGR 482 (PHIL 482) is a required course. (You must take a writing intensive section of this class.)

Visual and Performing Arts

Three (3) hours of visual and performing arts electives must be selected from the list of College of Engineering directed electives for visual and performing arts - please refer to Page 18 of the undergraduate catalog.

Social Science Elective Course

Three (3) hours of social science electives are required which must be selected from the list of College of Engineering directed electives for social science courses - please refer to Page 18 of the undergraduate catalog.

Cultural and International Diversity Courses:

Six hours (two courses) of cultural and international diversity are required. The list of courses that satisfy this requirement can be found on page 19 of the catalog. There are some courses on this list that also satisfy the social science (eg. Engl 251) or visual and perf. Arts (eg. Arts 150) requirements. If you select such courses you may satisfy two requirements with a single course. The total of 128 hours for this degree is based on the assumption that students will choose courses that satisfy two requirements to avoid the additional six hours of course work.

CITIZENSHIP

History Courses

Six (6) hours of American history are required of which three hours may be in Texas history and three semester hours in American history, or the entire six hours may be in American history. Students in ROTC may substitute 6-hours of advanced military science courses for 3-hours of American history.

Political Science Courses

Six (6) credit hours of political science are required which should include **POLS 206-3** and **207-3**. Students in ROTC may substitute 6-hours of advanced military science courses for POLS 207.

Physical Education Courses

Two (2) hours of KINE courses are required. One (1) hour of **KINE 198 -- Health and Fitness** (these courses may be taken pass fail or for a grade); and one (1) hour of **KINE 199 -- Activity** (these courses must be taken pass/fail).

English, Speech and Writing Courses

Six (6) hours of English, Speech and Writing courses are required which includes **ENGL 104-3** and one of **ENGL 210-3, 301-3**, **SCOM 203-3, or 205-3**. Students transferring into the program having already taken other English courses may be allowed to use them as approved by the Undergraduate Advisor. English 104 must be passed with a grade of at least "C".

Foreign Language Requirement

Proficiency in a foreign language is also required to graduate from Texas A&M University. This requirement can be met by:

Completing two units (two full years) of high school course work in the same foreign language.

Completing two semesters (one full year) of course work at the college level in the same foreign language, or

Demonstrating proficiency in a foreign language by examination. See catalog for additional requirements under graduation requirements and Foreign Language.