

ABET  
Computing Accreditation Commission

**SELF-STUDY  
QUESTIONNAIRE FOR REVIEW  
of the  
COMPUTER SCIENCE PROGRAM**

submitted by

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**Sam Houston State University**

*Institution*

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**8/1/2008**

*Date*

to the  
**Computing Accreditation Commission**

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# Table of Contents

<b>I. OBJECTIVES AND ASSESSMENTS .....</b>	<b>4</b>
<b>A. OBJECTIVES .....</b>	<b>4</b>
<b>B. IMPLEMENTATION OF OBJECTIVES .....</b>	<b>6</b>
C. ASSESSMENTS .....	6
D. PROGRAM IMPROVEMENT .....	8
E. PROGRAM EVOLUTION .....	9
F. PROGRAM CURRENT STATUS .....	10
<b>II. STUDENT SUPPORT .....</b>	<b>12</b>
A. FREQUENCY OF COURSE OFFERINGS .....	12
B. INTERACTION WITH FACULTY .....	13
<b>C. STUDENT GUIDANCE .....</b>	<b>14</b>
D. STUDENT ADVISEMENT .....	14
E. ACCESS TO QUALIFIED ADVISING .....	15
F. MEETING THE REQUIREMENTS .....	15
<b>III. FACULTY .....</b>	<b>17</b>
<b>A. FACULTY SIZE .....</b>	<b>17</b>
<b>B. FACULTY WITH PRIMARY COMMITMENT .....</b>	<b>17</b>
<b>C. FACULTY OVERSIGHT .....</b>	<b>18</b>
<b>D. INTERESTS, QUALIFICATIONS, SCHOLARLY CONTRIBUTIONS .....</b>	<b>18</b>
<b>E. SCHOLARLY ACTIVITIES .....</b>	<b>19</b>
<b>F. SUPPORT FOR ADVISING .....</b>	<b>20</b>
<b>G. INFORMATION REGARDING FACULTY MEMBERS .....</b>	<b>20</b>
<b>IV. CURRICULUM .....</b>	<b>24</b>
<b>A. TITLE OF DEGREE PROGRAM .....</b>	<b>24</b>
<b>B. CREDIT HOUR DEFINITION .....</b>	<b>24</b>
<b>C. PREREQUISITE FLOW CHART .....</b>	<b>24</b>
<b>D. COURSE REQUIREMENTS OF CURRICULUM .....</b>	<b>24</b>
<b>E. COURSE DESCRIPTIONS .....</b>	<b>35</b>
<b>V. LABORATORIES AND COMPUTING FACILITIES .....</b>	<b>40</b>
A. COMPUTING FACILITIES .....	40
<b>B. STUDENT ACCESS .....</b>	<b>43</b>
<b>C. DOCUMENTATION .....</b>	<b>43</b>
<b>D. FACULTY ACCESS .....</b>	<b>43</b>
<b>E. SUPPORT PERSONNEL .....</b>	<b>44</b>
F. INSTRUCTIONAL ASSISTANCE .....	45
<b>VI. INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES .....</b>	<b>46</b>
A. FACULTY STABILITY .....	46
<b>B. FACULTY PROFESSIONAL ACTIVITIES .....</b>	<b>47</b>
<b>C. OFFICE SUPPORT .....</b>	<b>48</b>
<b>D. TIME FOR ADMINISTRATION .....</b>	<b>49</b>
<b>E. ADEQUACY OF RESOURCES .....</b>	<b>49</b>
<b>F. LEADERSHIP .....</b>	<b>49</b>
<b>G. LABORATORY AND COMPUTING RESOURCES .....</b>	<b>50</b>
<b>H. LIBRARY RESOURCES .....</b>	<b>50</b>
<b>I. CONTINUITY OF INSTITUTIONAL SUPPORT .....</b>	<b>51</b>
<b>VII. INSTITUTIONAL FACILITIES .....</b>	<b>53</b>
<b>A. LIBRARY .....</b>	<b>53</b>

<b>B. CLASSROOM EQUIPMENT</b> .....	54
<b>C. FACULTY OFFICES</b> .....	54
<b>APPENDIX I. INFORMATION RELATIVE TO THE ENTIRE INSTITUTION</b> .....	<b>55</b>
<b>A. GENERAL INFORMATION</b> .....	55
<b>B. TYPE OF CONTROL</b> .....	55
<b>C. REGIONAL OR INSTITUTIONAL ACCREDITATION</b> .....	55
<b>D. ENROLLMENT</b> .....	56
<b>E. FUNDING PROCESS</b> .....	56
<b>F. PROMOTION AND FACULTY TENURE</b> .....	56
<b>APPENDIX II. GENERAL INFORMATION ON THE UNIT RESPONSIBLE FOR THE COMPUTER SCIENCE PROGRAM</b> .....	<b>57</b>
<b>A. COMPUTER SCIENCE PROGRAM UNIT</b> .....	57
<b>B. ADMINISTRATIVE HEAD</b> .....	57
<b>C. ORGANIZATION CHART</b> .....	57
<b>E. COMPUTER-RELATED UNDERGRADUATE DEGREE PROGRAMS</b> .....	57
<b>APPENDIX III. FINANCES</b> .....	<b>59</b>
<b>A. FINANCES RELATED TO THE COMPUTER SCIENCE PROGRAM(S)</b> .....	59
<b>B. OPERATING AND COMPUTING EXPENDITURES</b> .....	60
<b>C. ADDITIONAL FUNDING</b> .....	60
<b>APPENDIX IV. COMPUTER SCIENCE PROGRAM PERSONNEL</b> .....	<b>61</b>
<b>A. TERM OF APPOINTMENT OF ADMINISTRATIVE HEAD</b> .....	61
<b>B. NUMBER OF PERSONNEL ASSOCIATED WITH PROGRAM</b> .....	61
<b>C. POLICIES</b> .....	61
<b>APPENDIX V. COMPUTER SCIENCE PROGRAM ENROLLMENT AND DEGREE DATA</b> .....	<b>63</b>
<b>APPENDIX VI. ADMISSION REQUIREMENTS</b> .....	<b>65</b>
<b>A. ADMISSION OF STUDENTS</b> .....	65

## Introduction

The *Criteria for Accrediting Computer Science Programs* are divided into seven major *Categories*, each *Criterion* containing a statement of *Intent* and *Standards*. An intent statement provides the underlying principles associated with a Criterion. In order for a program to be accredited, it must meet the intent statement of every Criterion.

Standards provide descriptions of how a program can minimally meet the statements of intent. The word “must” is used within each standard to convey the expectation that the condition of the standard will be satisfied in all cases. For a program to meet the intent of a Criterion, it must either satisfy all the standards associated with that Criterion or demonstrate an alternate approach to achieving the intent of the Criterion.

For each of the following seven sections, corresponding to each of the seven Categories of the *Criteria*, answer all of the questions associated with the standards. If one or more standards are not satisfied, it is incumbent upon the institution to demonstrate and document clearly and unequivocally how the intent is met in some alternate fashion.

If you are having more than one program evaluated, particularly if the programs are on separate campuses, the answers to these questions may vary from one program to another. If this is the case, please use separate copies of each section for each program, and clearly delineate which program is being described.

### I. Objectives and Assessments

*Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and used the results of the assessments to identify program improvements and to modify the program's objectives.*

*Standard I-1. The program must have documented, measurable objectives.*

*Standard I-2. The program's objectives must include expected outcomes for graduating students.*

#### A. Objectives

Please attach items that support or precede the measurable objectives, e.g.,

1. Mission statements from institution, college, department, program
2. Plans (institution, college, department, etc.)
3. All objectives including expected outcomes for graduates (itemize)
4. Process for assessments
5. Who is involved in assessment and improvement?
6. Data from assessments
7. Inputs from any supporting Office of Assessment

1. Indicate below or attach to this document the program's measurable objectives. These objectives must include expected outcomes for graduates.

Please see Appendices A and B. Department of Computer Science Goals and Student Learning Objectives. The document identifies for both the department, from an administrative viewpoint and for the program from a process and outcomes based viewpoint

- a) the goals and objectives identified for the degree program,
- b) the indicators used to collect data,
- c) the criteria used to measure success
- d) the findings associated with each criterion
- e) the actions taken or planned to be taken as a result.

2. Describe how the program's objectives align with your institution's mission.

The program objectives speak to four of the primary components of the university mission; providing quality education, an environment that encourages systematic enquiry, research and service. A copy of the University Mission and broad university goals is attached as Appendix C

Note: On the following page is a table that can be filled out with pertinent information relating to objectives, their measurement, and their effect on the implementation of program improvements.

**B. Implementation of Objectives**

Please complete the following table with as many objectives as needed.

Objective	How measured	When measured	Improvements Identified	Improvements Implemented
The goals, objectives, criteria for success, indicators used to measure, findings and actions for the department as an administrative unit are listed in Appendix A.				
The goals, objectives, criteria for success, indicators used to measure, findings and actions for the undergraduate degree program in Computer Science are listed in Appendix B.				

*Standard I-3. Data relative to the objectives must be routinely collected and documented, and used in program assessments.*

*Standard I-4. The extent to which each program objective is being met must be periodically assessed.*

*Standard I-5. The results of the program’s periodic assessment must be used to help identify opportunities for program improvement.*

**C. Assessments**

For each instrument used to assess the extent to which each of the objectives is being met by your program, provide the following information:

1. Frequency and timing of assessments
2. What data are collected (should include information on initial student placement and subsequent professional development)
3. How data are collected
4. From whom data are collected (should include students and computing professionals)
5. How assessment results are used and by whom

Attach copies of the actual documentation that was generated by your data collection and assessment process since the last accreditation visit, or for the past three years if this is the first visit. Include survey instruments, data summaries, analysis results, etc.

**Student Evaluation**

Each course taught within the department of Computer Science is subject to student evaluation. The assessment is performed during a two-week window defined by the university toward the end of each semester but not close to final exams.

Forms are distributed at the end of a regularly held class session with a student volunteer designated to return the forms to the departmental offices. Faculty are not allowed to remain in

the classroom during the evaluation process, nor see or otherwise interfere with the forms. The department secretary collects and packages the forms ready for offsite processing. The original forms, summary sheets and group sheets are return to the department within 6 weeks of processing.

The summary sheets are used as part of the formal faculty evaluation process and have a significant weight in promotion, tenure and merit calculations. The summary sheets are also used as a guide to performance modifications and improvements for the faculty. (see supporting Documents/Objectives and Assessment/Sample student Evaluation form)

The group sheets are used by the curriculum committee to establish quality control parameters for the curriculum cycle.

### **Exit survey**

The exit survey is administered to all graduating seniors at the end of the fall, spring and summer semesters. The survey (see supporting documents/Objectives and assessment/Alumni Survey.doc) provides data on student perceptions of the program quality and its ability to fit students for professional careers.

The survey information provides data to the undergraduate curriculum committee for curriculum change.

### **Alumni Survey**

The alumni survey is administered to all alumni for whom the department has accurate contact information. The alumni graduating in odd number years are surveyed in one year, with the remaining alumni surveyed the following year, keeping the burden of survey response to an acceptable level.

The alumni survey gathers information on the perceived quality of the degree program by professionals with experience in the field and also identifies the employment status and seniority of alumni.

The results from the alumni survey are used by the undergraduate curriculum committee to inform the curriculum planning process.

### **Employer Survey**

The employer survey is administered to supervisors of new alumni who respond to the alumni survey. The employer survey is conducted annually.

The employer survey provides data concerning the suitability of the employees preparation in terms of the quality of technical and professional preparation, communication and teamwork skills.

The results form the employer survey informs the curriculum planning process.

*Standard I-6. The results of the program's assessments and the actions taken based on the results must be documented.*

#### **D. Program Improvement**

Describe your use of the results of the program's assessments to identify program improvements and modifications to objectives.

Include:

1. Any major program changes within the last five years
2. Any significant future program improvement plans based upon recent assessments

As part of the initial decision to undertake accreditation through ABET/CSC, the department conducted a significant, yearlong curriculum evaluation in 2005/6. The internal evaluation involved:

- a) A comparison of the curriculum at Sam Houston State University against the curriculum provided by ABET/CSC in the *Computing Accreditation Criteria 2005-2006*
- b) A cross checking of the *ACM 2001 Computing Curricula* knowledge units against the material offered in the computer science degree program at Sam Houston.
- c) A discussion of strengths and weaknesses of the program based on both the professional understanding of the faculty and an examination of local and competitor programs in the region.

As a result of this review the department made the following changes:

- 1) A moribund concentration in Information Technology was replaced with a track in Information Assurance and Security.
- 2) The number of hours in the major was increased from 39 hours to 41 hours through the addition of two lab hours in the CS1 and CS 2 courses (the local number is CS 146 and CS 147). This was implemented primarily to provide additional support in those two courses in an attempt to firstly make the course more practical and therefore more accessible to students, secondly, to improve retention through these courses which are widely considered by the students to be gatekeeper courses, and thirdly to provide a stronger platform for subsequent and more advanced coursework.
- 3) The addition of a Discrete Mathematics course to bring the mathematics content in the degree program to 15-17 hours.

As a result of the initial visit by the ABET/CAC visiting team in fall 2006 a number of additional changes were made to the curriculum including:

- a) The reposition of CS 482 Programming Languages as a core course for all Computer Science majors
- b) The restructuring of DF 492 Professional Ethics in Digital Forensics to a core course in the major. This increased the number of hours in the major from 41 hours to 44 hours.

In 2007 the Texas Higher Education Coordinating Board was tasked with ensuring that all degree programs should comprise no more credit hours than the minimum required by the

Southern Association of Colleges and Schools (SACS), effectively 120 hours. The response from the department of Computer Science was to remove the additional requirement of an external minor from the degree program. The rationale for this decision was

- a) That the degree program had close to two effective minors with the mathematics and science requirements
- b) That the removal of the minor would add flexibility to the degree program allowing student a greater opportunity to either add specialized course work in computer science or pursue a more eclectic set of interests outside their primary professional choice.

## E. Program Evolution

1. Describe in what respect, if at all, the philosophy and direction of the computer science program has changed at your institution during the last five years, or since the last accreditation visit, whichever is the more recent.

Until fall 2003, computer science was part of a larger computationally oriented department including Mathematics, Mathematics Education and Statistics. In past three years the department has begun the process of defining itself as a separate entity and identifying those areas of computer science to which we are best suited, in particular, focusing on software engineering and on information assurance and security.

It is becoming increasingly clear that there are a number of significant forces acting on the department at this time:

- 1) The national (or global) trend toward reduced demand in computer science programs appears to have reached its low point and interest and enrolment in the degree program is rising.
- 2) Security, and its implication in terms of professional placement and quality of work are becoming central issues.
- 3) The speed at which change occurs both technologically and in the computer science professions is increasing.
- 4) The university is attempting to make a transition from a primarily teaching institution to one where teaching and research occupy equal standing.

For this degree program, the implications are manifold. Our approach to teaching must include undergraduate student research, modeling professional practice, knowledge acquisition skills and much more beyond traditional didactic processes.

Our faculty, even the best qualified, must be in a constant state of retraining as new techniques, architectures, algorithms, concepts emerge. It is no longer possible to rest on knowledge hard earned. It is no longer possible for faculty to be generalist. The department is moving quickly toward a situation where faculty are expected to provide a specialty within the discipline.

Just as it is not possible for the faculty to be generalist in nature, so, our resources

and facilities cannot. It is vital that the department take administrative control of its resources rather than relying on a university wide computer services unit. Only by doing so can the appropriate changes can be made in a timely manner. General university equipment and services are no longer sufficient for departmental needs.

The department also needs to devote more effort, and more directed effort to determining the quality of the program. Comprehensive assessment provides our best option for ensuring ongoing quality control, and the emphasis on outcomes will help us ensure the long term viability of our graduates within the profession.

2. Describe any major developments and/or progress made in connection with the program in the last five years, or since the last accreditation visit, whichever is the more recent, that is not included in your response to Question I.C.

Not Applicable

#### **F. Program Current Status**

1. List the strengths of the unit offering the computer science program.

The major strength of the department is its faculty. They are qualified, productive, innovative, concerned about the students, and dedicated to fulfilling the mission of the department. They continually look for means to improve the instruction so that the students will have a comprehensive computer science education.

The department is fortunate to have high quality equipment at its disposal. The department operates a number of specialized laboratories and is well funded through the College of Arts and Sciences, through the Graduate Studies offices and directly from the Provosts office. The department is also fortunate to have obtained \$1.6 million in external funding in the last three years providing both research opportunities for faculty and state of the art equipment.

The department has the opportunity to expand its space resources to allow for designated research space for faculty and high quality office and research spaces for graduate teaching assistants.

2. List any weaknesses or limitations of the institution or unit offering the computer science program.

The primary weakness the department has is the faculty workload. All incoming faculty have a 9 hour workload per semester which is somewhat high. Especially for new faculty, it is difficult to carve out sufficient time to meet expectations for research and professional development at a time when those areas are increasing in their importance in terms of career progress, promotion and tenure.

There are faculty within the department who are carrying a 12 hour course load. These are senior faculty who were initially employed at a time when research was not considered important.

3. List any significant plans for future development of the program.

The department was able to recruit a new faculty member (an additional faculty line) this year. Another is expected for January 2009.

The department will continue to recruit additional faculty members, with the expectation that these new faculty will be able to support not only the core computer science curriculum, but also strengthen areas such as network security, needed for the new digital forensics program and the information assurance track.

The university is interested in the department pursuing a Ph.D. program in Digital Forensics Science with implementation in the next six to eight years. As part of that desire there appears to be a willingness on the part of the university administration to provide more faculty resources in anticipation of coordinating board approval. Such a move would significantly change the nature of the department and the workload of the faculty.

## II. Student Support

*Intent: Students can complete the program in a reasonable amount of time. Students have ample opportunity to interact with their instructors. Students are offered timely guidance and advice about the program's requirements and their career alternatives. Students who graduate the program meet all program requirements.*

*Standard II-1. Courses must be offered with sufficient frequency for students to complete the program in a timely manner.*

### Frequency of Course Offerings

1. List below the course numbers, titles, and semester hours of courses required for the major that are offered less frequently than once per year.

Dept Course #	Title of course	Semester hrs
All classes required for the Computer Science major are offered at least once a year.		

2. Explain how it is determined when they will be offered, e.g., rotation, odd-numbered years, or whatever.

Core courses are taught each semester. Courses in each concentration and elective courses are taught once a year with a view to balancing the course offerings with respect to student demand and faculty availability.
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3. List below the course numbers, titles, and semester hours of courses allowed for the major but not required (i.e., either free electives or lists of courses from which students must choose a certain number), that are offered less frequently than once per year.

Dept Course #	Title of course	Semester hrs
CS 438	Computer Graphics	3
CS 477	Simulation	3

4.Explain how it is determined when they will be offered, e.g., rotation, odd-numbered years, or whatever.

These courses are offered on a demand basis, often during the summer terms and subject to the availability of suitable faculty. Dr. Hartness is the most qualified to teach CS 477 and Dr. McGuire CS 482.

*Standard II-2. Computer science courses must be structured to ensure effective interaction between faculty/teaching assistants and students in lower division courses and between faculty and students in upper division courses.*

### **B. Interaction with Faculty**

1. Describe how you achieve effective interaction between students and faculty or teaching assistants in lower-division courses, particularly in large sections.

The department does not offer large sections in lower division courses. CS 146 (CS1), CS 147(CS2) and DF 138 Introduction to Information Assurance and Security are offered in sections with a maximum enrollment of 20. CS 146 and CS 147 are 3-hour lecture/2-hour lab courses with the instructor directly teaching the lab. Faculty are required to provide a minimum of 1 hour of office availability for each hour of instruction. None of my faculty restrict themselves to the minimum office time. Most faculty are available during normal business hours either in their office or in their research space when they are not in class.

The department provides graduate assistants to many of the faculty. The graduate assistants do not teach but often provide support in the lab or administrative and technical support in course preparation.

2. Describe how you achieve effective interaction between students and faculty in upper-division courses. Give detailed explanation and/or documentation how you do this for sections with more than thirty students, if applicable.

It is very rare for an upper division class to exceed 30 students. Upper division classes are taught with between 10 and 20 students with regular exception of CS 362 Data Structures, where the enrollment is generally 20-25. Again faculty have required office availability. Faculty also attend and participate in student organization activities, and field trips.

*Standard II-3. Guidance on how to complete the program must be available to all students.*

### **C. Student Guidance**

Describe what determines the requirements that a student will follow and how the student is informed of these requirements.

Students have access to the program degree requirements through a number of mechanisms. Saturday@SAM provides a day-long introduction to the university including an hour-long academic session where the requirements for the degree are explicated. The university catalog, both in on-line and paper formats are available to prospective and existing students alike. The department of Computer Science maintains a web site with information concerning degree specific requirements and appropriate contact information for students who have questions.

The degree requirements students follow are determined by the department undergraduate curriculum committee in conjunction with college level and university level committees.

During the final year of study, students make a formal declaration of major. This process results in the registrar's office solidifying the requirements and identifying outstanding requirements for graduation. In the final semester of study, the registrar's office flags all graduating seniors with outstanding requirements.

*Standard II-4. Students must have access to qualified advising when they need to make course decisions and career choices.*

### **D. Student Advisement**

Describe your system of advisement for students on how to complete the program. Indicate how you ensure that such advisement is available to all students.

Students are allocated an advisor with the department once they indicate their desire to declare Computer Science as their major or minor. Entering fresher or transfer students have mandatory semester advisement meetings scheduled with their advisor until they have demonstrated their capability through achieving a cumulative GPA of 2.5. Students under mandatory advisement are not able to register for courses in subsequent semester without meeting with their academic advisor.

## **E. Access to Qualified Advising**

When students need to make course decisions and career choices, what is their procedure for obtaining advising? Do they have adequate access to qualified professionals when necessary?

After a student has earned 90 credit hours, he or she is again under mandatory advisement so that students can receive quality advice in the semesters leading to graduation. This provides the student with a clear picture of the remaining requirements for graduation. It also provides the advising faculty member and the department with a picture of the needs of its more senior students and aids in scheduling for the coming semesters.

Each member of the tenured/tenure track faculty, except for those tenure track faculty new to the department, is assigned a group of student advisees for whom they are responsible. Students are free to visit both informally and formally with their advisor for enrollment and career advice.

In addition, the department chair maintains an open door policy towards student advising providing backup when faculty are unavailable, particularly during the summer months.

The university provides an advising and mentoring service to all students, utilizing volunteer faculty. Dr. Burris, the ranking faculty member within the department volunteers his services to provided centrally located access to advising for students.

Dr. Ken Hartness, Assistant Professor of Computer Science coordinates the advising process within the department and is the liaison for the registrar's office, ensuring that degree plans, advisement and on-line and print publications are aligned and correct.

*Standard II-5. There must be established standards and procedures to ensure that graduates meet the requirements of the program.*

## **F. Meeting the Requirements**

Describe your standards and procedures for ensuring that graduates have met all of the requirements of the program.

One year prior to graduation students file a 'Declaration of Major' form with the registrar's office, identifying themselves as Computer Science majors with a specific concentration. The advisement coordinator, the Computer Science Department Chair and the chair of the department offering the Minor/Second major review this form.

The declaration of major form is sent to the registrar's office resulting in a definitive degree plan identifying all general education, major, minor and degree specific requirements for that student, from which a list of remaining requirements can easily be extracted.

In consultation with the advisor, the student generates a plan to complete the remaining requirements, providing a road map to graduation.

Requests for deviations for the course requirements arise from time to time and are handled at the department chair level through the following strategies:

- Provision of an independent/directed study course supervised by an appropriate faculty member in the content area required. These are offered on a voluntary basis by faculty.
- Identification of an alternate course, perhaps at another institution, that at least meets the technical and content requirements.

In the students' final semester, the registrar's office flags all graduating seniors who do not appear to be able to meet the requirements for graduation based on their current enrollment. A telephone or face-to-face consultation with the department chair is scheduled for each student on this list resulting in a resolution of the requirements or delayed graduation until requirements are met.

### III. Faculty

*Intent: Faculty members are current and active in the discipline and have the necessary technical breadth and depth to support a modern computer science program. There are enough faculty members to provide continuity and stability, to cover the curriculum reasonably, and to allow an appropriate mix of teaching and scholarly activity.*

If different programs have different faculty members, please identify which faculty members are associated with which program(s), and the percentage of time allotted, if they are associated with more than one.

*Standard III-1. There must be enough full-time faculty members with primary commitment to the program to provide continuity and stability.*

#### A. Faculty Size

The purpose of this section is to determine whether you have sufficient faculty to offer courses often enough for students to complete the program in a timely manner.

In Section II you gave the course numbers of courses required for the major which are offered less frequently than once per year, and those allowed for the major but not required, and explained how it is determined when they will be offered. Explain (if applicable) any difficulties you have offering required or optional courses frequently enough, particularly as they might be affected by faculty size.

Not Applicable
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#### B. Faculty with Primary Commitment

1. Indicate the number of faculty with primary commitment to the program, that is, who regularly teach courses in the computer science segment of the program: \_\_\_\_\_.

The purpose of the next question is to ascertain the continuity and stability provided by the faculty with primary commitment to the program.

2. Please list below the number (FTE) of faculty with primary commitment to the program in each academic rank, broken down within rank by tenure status.

	Full Professor	Associate Professor	Assistant Professor	Instructor or Lecturer	Other Faculty
Tenured	2	3			
Untenured			4	1	1

*Standard III-2. Full-time faculty members must oversee all course work.*

*Standard III-3. Full-time faculty members must cover most of the total classroom instruction.*

### **C. Faculty Oversight**

Full-time faculty must oversee all computer science course work allowed towards the major. That means each course must be either taught or coordinated by a full-time faculty member with primary commitment to the program. For those courses with sections not taught by full-time faculty during the last or current academic year, list the course numbers below and the name of the full-time faculty coordinator. (The last academic year is the academic year prior to the year in which this report is prepared.)

Dept Course #	Full-time Faculty Coordinator
Not applicable. All Computer Science course work is taught by full time faculty.	

*Standard III-4. The interests and qualifications of the faculty members must be sufficient to teach the courses and to plan and modify the courses and curriculum.*

*Standard III-5. All faculty members must remain current in the discipline.*

*Standard III-6. All faculty members must have a level of competence that would normally be obtained through graduate work in computer science.*

*Standard III-7. Some full-time faculty members must have a PhD in Computer Science.*

### **D. Interests, Qualifications, and Scholarly Contributions**

The *Criteria* states that the interests, qualifications, and scholarly contributions of the faculty must be sufficient to teach the courses, plan and modify the courses and curriculum, and to remain abreast of current developments in computer science. This information should be contained in the faculty vitas attached to this report and need not be repeated here. A sample vita questionnaire is attached in Section G below. Although it is not necessary to follow this format, it is important that whatever format is followed contain all the information asked for. And, to make things easier for the visiting team, please see that all faculty vitas are in the same format, whichever format is used.

This is an appropriate place to insert a description of general departmental or institutional activities that promote faculty currency, if such exist.

The faculty teaching load is being systematically adjusted from a 4-4 to 3-3 across the university to encourage greater activity in research and the maintenance of professional currency. Only two of the faculty remain on a 4-4 contract with all incoming new faculty automatically assigned to a 3-3 load.

The department actively and financially supports research, conference activity and print publication by all faculty. In 2007/8 there were 22 conference attendances by tenured, tenure track and instructor rank faculty with each attendance being fully funded by the department though its Operations and management budget. The department chair has as a primary goal, both the increase in funding allocated to conference attendance and the support of research resources to encourage a more active research environment.

Students are encouraged in upper division courses, where possible and appropriate, to engage in research that has on a regular basis, provided material for conference presentations.

Faculty are encouraged to engage in active learning processes and innovative in the classroom, supported through university and regionally sponsored training and through acquisition of technology tools for use in the classroom.

The Computer Services unit offers training in all aspects of computer-based course supplementation and distance education to support improvement in teaching quality.

*Standard III-8. All full-time faculty members must have sufficient time for scholarly activities and professional development.*

### **E. Scholarly Activities**

Describe the means for ensuring that all full-time faculty members have sufficient time for scholarly activities and professional development.

The university is moving toward a 3 course per semester teaching load (from a 4 course load).

The intention is that each faculty member will have a .75 teaching load and a .25 research load.

All incoming tenure track/tenured faculty are assigned to a 3-3 load. Existing tenured/tenure track faculty are be moved from a 4-4 load to a 3-3 load in order of their appointment, with the most recent appointments being moved first.

In the department of computer science, two faculty remain on a 4-4 load, both of whom has elected to remain on that load.

The university provides opportunities for additional release time to faculty engaged in research funded internally by the Office of Research and Special Programs (ORSP) with 11 grants ranging from \$5000 to \$18,000 per year available on a competitive basis.

Faculty are eligible to 'buy out' an percentage of their teaching load through externally obtained grants. In the department of Computer Science this has resulted in between 0.5 and 1.0 positions being bought out on an annual basis for the last three years as well as full time paid research opportunities for two faculty during the summer.

The university offers a competitive sabbatical program for faculty who have taught in excess of seven years (effectively all tenured faculty). This sabbatical is for full pay for one semester or for half pay for a year. This sabbatical mechanism promotes research and writing activities.

*Standard III-9. Advising duties must be a recognized part of faculty members' workloads.*

#### **F. Support for Advising**

Advising duties must be a recognized part of faculty members' workloads, which means that faculty with large numbers of advisees must be granted released time. Explain your advising system and how the time for these duties is credited.

All tenured/ tenure track faculty, with the exception of those in their first year of service with the university are part of the advisement team. Dr. Ken Hartness coordinates advisement, liaison with the registrar's office and degree plan management for the department.

The number of advisees per faculty member averages around 20-30, of which approximately 50% are scheduled for mandatory advisement on a semester basis (new student or GPA < 2.5). As a result, effective advisement is possible without placing undue time pressure on faculty.

Each faculty member maintains regular posted office hours and provides an opportunity for advisement appointments during the most active advisement periods.

#### **G. Information Regarding Faculty Members**

On separate pages, please furnish the following information for all faculty members that teach courses allowed for the major, including those who have administrative positions in the department (chair, associate chair, etc.). Use the form given below as guidance. This form need not be followed exactly, but all requested information should be supplied. Please use a common format for all vitas. Please limit information to no more than three pages per person, if at all possible. Please place the form(s) for administrator(s) first, followed by the others in alphabetical order.

1. Name, current academic rank, and tenure status

2. Date of original appointment to this faculty, followed by dates and ranks of advancement

3. Degrees with fields, institutions, and dates

Degree	Field	Institution	Date

4. If you do not have a formal degree in computer science, describe any course work you may have taken, or other ways in which you have achieved competence in computer science; there is no necessity to repeat information here which is contained in later sections of this document.

5. Conferences, workshops, and professional development programs in which you have participated in the last 5 years to improve teaching and professional competence in computer science

6. Other related computing experience including teaching, industrial, governmental, etc. (Where, when, description and scope of duties)



11. Other assigned duties performed during the academic year, with average hours per week. Indicate which, if any, carry extra compensation. If you are course coordinator for courses taught by other than full-time faculty, please indicate here which courses.

12. Number of students for which you serve as academic advisor: \_\_\_\_\_

13. Estimate the percentage of your time devoted to scholarly and/or research activities: \_\_\_\_\_%. Please give a brief description of your major research and scholarly activities:

14. If you are not a full-time faculty member, state what percentage of full-time you work: \_\_\_\_\_%. Percentage of this time allocated to the computer science program being evaluated: \_\_\_\_\_%.

## IV. Curriculum

*Intent: The curriculum is consistent with the program's documented objectives. It combines technical requirements with general education requirements and electives to prepare students for a professional career in the computer field, for further study in computer science, and for functioning in modern society. The technical requirements include up-to-date coverage of basic and advanced topics in computer science as well as an emphasis on science and mathematics.*

(Curriculum standards are specified in terms of semester hours of study. Thirty semester hours generally constitutes one year of full-time study and is equivalent to 45 quarter-hours. A course or a specific part of a course can only be applied toward one standard.)

### A. Title of Degree Program

Give the title of the degree program under review, as specified on the transcript and diploma.

Transcript:	Computer Science
Diploma:	Computing Science *request to change to Computer Science has been submitted pending approval from the Texas Higher Education Coordinating Board

### B. Credit Hour Definition

One semester hour normally means one hour of lecture or three hours of laboratory per week. One academic year normally represents from twenty-eight to thirty weeks of classes, exclusive of final examinations. Please describe below if your definitions differ from these.

One semester credit hour means one hour of lecture or two hours of laboratory per week. An academic year represents thirty weeks of classes exclusive of final examinations.
--

### C. Prerequisite Flow Chart

Attach a flow chart showing the prerequisite structure of computer science courses required or allowed towards the major.

### D. Course Requirements of Curriculum (term by term and year by year)

1. Required and elective courses. In the tables on the following pages, list the courses in the order in which they are normally taken in the curriculum, classified in the appropriate categories. The data should clearly indicate how the program meets the Intent of the Curriculum Category of the *Criteria for Accrediting Computer Science Programs*. These tables are designed for a semester calendar; they may be easily altered for a quarter calendar.

2. Required courses. List courses by department abbreviation (Math, Chem, CS, etc.), number, title, and number of semester hours. Apportion the semester hours for each course by category.

3. Elective courses. Designate these courses “elective.” If an elective is restricted to a particular category, then tabulate the semester hours in that category and indicate the category in the listing, e.g. “elective—science.” In addition, be sure that you have supplied information elsewhere in this document indicating how you ensure that students take the course in the specified category (e. g. advisement, graduation check sheets, etc.). For free electives (i.e., those not restricted to a particular category), list the semester hours under the heading “Other.” Use footnotes for any listings that require further elaboration.

4. Individual courses may be split between or among curriculum areas if the course content justifies the split. For example, a discrete mathematics course may have some of its semester hours under mathematics and some under computer science. In such cases, assign semester hours to categories in multiples of one-half semester hour.

Year Semester	Course (Dept., Number, Title)	Category (semester hours)					
		Computer Science Core	Computer Science Advanced.	Mathematics	Science	General Education	Other
First Semester Freshman Year	CS 146 Introduction to Programming and Algorithms	4					
	MTH 142 Calculus I			4			
	ENG 164					3	
	HIS 163					3	
	KIN 215					1	
Second Semester Freshman Year	CS 147 Programming Algorithms	4					
	CS 272 Computer Organization I	3					
	MTH 143 Calculus II			4			
	ENG 165 English II					3	
	HIS 163 US History from 1876					3	
First Semester Sophomore Year	CS 278 Special Topics Programming						3
	CS 333 Computer Organization II		3				
	Natural Science I				4		
	Vis/Perf Arts					3	
	Pol 2xx					3	
Second Semester Sophomore Year	CS 334 Databases	3					
	Natural Science II				4		
	MTH 295 Discrete Mathematics			3			
	ENG Literature					3	
	HIS 164					3	
<b>SUBTOTALS</b>		14	3	11	8	24	3

Year Semester	Course (Dept., Number, Title)	Category (semester hours)					
		Computer Science Core	Computer Science Advanced	Mathematics	Science	General Education	Other
First Semester  Junior Year	CS 362 Data Structure	3					
	Adv CS Elective		3				
	CS 430 Language Translators		3				
	Cultural Studies					3	
	Natural Science III				4		
Second Semester  Junior Year	CS 431 Operating Systems		3				
	Adv CS elective		3				
	Natural Science IV				4		
	STA 379 Statistical Models in Practice			3			
	Elective						3
First Semester  Senior Year	CS 482 Programming Languages	3					
	Adv MTH elective			3			
	Soc/Behav. Science					3	
	Elective						6
Second Semester  Senior Year	CS 437 Software Engineering	3					
	DF 492 Ethics	3					
	Adv CS Elective		3				
	Elective						3
	Pol 261 Principles of American Government					3	
<b>SUBTOTALS</b>		12	15	6	8	9	12
<b>TOTALS</b>		26	18	17	16	33	15

**\*note: this layout is for the CS (Computer Science track) The catalog lists the course requirements and sequences for the Information Systems and Information Assurance and Security Track.**

## General

*Standard IV-1. The curriculum must include at least 40 semester hours of up-to-date study in computer science topics.*

1. If it is not obvious from the above tables that the curriculum includes at least 40 semester hours (60 quarter hours) of computer science topics, please explain.

Not applicable

*Standard IV-2. The curriculum must contain at least 30 semester hours of study in mathematics and science as specified below under Mathematics and Science.*

2. If it is not obvious from the above tables that the curriculum includes at least 30 semester hours (45 quarter hours) of study in mathematics and science, please explain.

Not Applicable

*Standard IV-3. The curriculum must include at least 30 semester hours of study in humanities, social sciences, arts and other disciplines that serve to broaden the background of the student.*

3. If it is not obvious from the above tables that the curriculum includes at least 30 semester hours (45 quarter hours) of study in humanities, social sciences, arts, and other disciplines that serve to broaden the background of the student, please explain.

Not Applicable

*Standard IV-4. The curriculum must be consistent with the documented objectives of the program.*

Describe the consistency between the documented objectives of the program and the curriculum. How does the curriculum contribute to the achievement of the documented objectives?

The objectives identified by the department of computer science are derived from four principle goals. Graduates with a bachelor's degree in Computer Science will:

- Have a strong technical foundation in the computational sciences including computer science, mathematics and natural science
- Have specialized competencies that support their employment in computer related fields
- Have and understanding of and sensitivity to professional ethical issues
- Have an appreciation for their undergraduate education that encourages the development of lifelong learning habits.

Each of these general goals is exemplified through fourteen measurable objectives related to:

- Knowledge of mathematics, science, computing and network systems
- Abstraction
- Software engineering principles
- Professional functionality
- Graduate school preparation
- Specialized skills
- Communication
- Ethical principles and conflict management
- Social impact
- Faculty interaction
- Educational appreciation.

The curriculum supports these objectives directly through specific course work in the core computer science curriculum, the course work in the students' selected concentration, the degree specific requirements in both mathematics and science and through the university's' general education requirements.

The department supports these objectives indirectly through approaches to teaching that include team work, public speaking, undergraduate research and the interaction of faculty with students in formal and informal settings.

## **Computer Science**

*Standard IV-5. All students must take a broad-based core of fundamental computer science material consisting of at least 16 semester hours.*

4. If it is not obvious from the above tables that the curriculum includes a broad-based core of fundamental computer science material consisting of at least 16 semester hours (24 quarter hours), please explain.

Not Applicable

*Standard IV-6. The core materials must provide basic coverage of algorithms, data structures, software design, concepts of programming languages and computer organization and architecture.*

5. The core materials must provide basic coverage of the following five areas. Please indicate below the approximate number of semester hours in the core devoted to each topic. (This material can be gathered from your course descriptions, but it will ease the job for the visiting team if you do this in advance.)

Area	Semester hours	Area	Semester hours
Algorithms	6 (CS 146 and part of CS 147)	Data structures	5 (part of CS 147 and CS 462)
Software Design	3 (CS 437)	Concepts of Programming Languages	3 (CS 482)
Computer Organization and Architecture	3 (CS 272 and for CS track students CS 333)		

*Standard IV-7. Theoretical foundations, problem analysis, and solution design must be stressed within the program's core materials.*

6. The following areas must be stressed within the program's core materials. Indicate the course numbers of courses embodying a significant portion of these areas.

Area	Courses (Dept., Number)
Theoretical Foundations	CS 146, 147, 333, 362, 430, 431, 482
Problem Analysis	CS 146, 147, 272, 278, 362, 431, 437
Solution Design	CS 146, 147, 278, 362, 431, 437

*Standard IV-8. Students must be exposed to a variety of programming languages and systems and must become proficient in at least one higher-level language.*

7. To what programming languages and operating systems are students exposed?

**Programming Language (As a MINIMUM, students have at least one semester in each of three languages)**

Java C++ VB (.Net environment) ADA COBOL IBM Assembly Language Overview of others including Lisp, Prolog etc. in CS 482 Programming Languages.

**Operating Systems**

Windows (multiple variants), OS X, Linux (multiple variants)

8. In what higher-level language(s) do students become proficient?

Defining proficient as requiring a minimum of two 3- or 4- hour courses plus regular use in additional courses.

JAVA

COBOL (IS track)

ADA (CS track)

*Standard IV-9. All students must take at least 16 semester hours of advanced course work in computer science that provides breadth and builds on the core to provide depth.*

9. If it is not obvious from the tables above that students take at least 16 semester hours (24 quarter hours) of advanced computer science, please explain.

Student are required to take a minimum of 21 upper division hours in Computer Science

10. List below the advanced areas in which your students may study. Make clear by the use of “and”, “or”, and parentheses which areas are required and which may be chosen from (e. g., A and two of (B or C or D)).

**Core {**

CS 334 Databases and CS 362 Data Structures and CS 437 Software Engineering and CS 482 Programming Languages and DF 492 Ethics

{

AND {

**CS track {**

CS 333 Computer Organization II and CS 430 Language Translators and CS 431

Operating Systems }

**OR**

**IS track{**

CS 336 Database Management Systems and CS 463 Networks II }  
**OR**  
**IAS Track {**  
DF 391 Cryptography and DF 491 Information Security  
}

**Mathematics and Science**

Standard IV-10. The curriculum must include at least 15 semester hours of mathematics.

11. If it is not obvious from the tables above that students take at least 15 semester hours (23 quarter hours) of mathematics beyond pre-calculus, please explain.

Not Applicable

*Standard IV-11. Course work in mathematics must include discrete mathematics, differential and integral calculus, and probability and statistics.*

12. If it is not obvious from course titles in the above tables, then explain below which required courses contain discrete mathematics, differential and integral calculus, and probability and statistics.

Not applicable

*Standard IV-12. The curriculum must include at least 12 semester hours of science.*

13. If it is not obvious from the tables above that students take at least 12 semester hours (18 quarter hours) of science, please explain.

Not Applicable. Computer Science students are required to take 16 hours of science, 8 hours in each of two natural science disciplines.

*Standard IV-13. Course work in science must include the equivalent of a two-semester sequence in a laboratory science for science or engineering majors.*

14. If it is not obvious from the tables above and from course descriptions and/or your catalog that the science requirement includes a full year (two-semester or three-quarter) sequence in a laboratory science for science and engineering majors, please explain.

Not Applicable. Computer science students take two two-semester lab oriented course sequences.

*Standard IV-14. Science course work additional to that specified in Standard IV-13 must be in science courses or courses that enhance the student's ability to apply the scientific method.*

**Additional Areas of Study**

15. If it is not obvious from the tables above and from course descriptions and/or your catalog that the remainder of the science requirement is met with science courses or courses that enhance the student’s abilities in the application of the scientific method, please explain. (Mathematics, statistics, and courses normally considered part of the computer science discipline should not be included here).

Not Applicable

*Standard IV-15. The oral communications skills of the student must be developed and applied in the program.*

*Standard IV-16. The written communications skills of the student must be developed and applied in the program.*

16. Each student’s oral and written communications skills must be developed and applied in the program, i.e., in courses required for the major. This information should be included in course descriptions; please give course numbers below.

Communications skills	Developed in	Applied in
Oral	CS 334, DF 391, CS 278	CS 437, CS 430
Written	CS 146, CS 147, CS 334 CS 336  CS 336 Information Systems Design and Management, CS	CS 463CS 437, CS 470 (AI), CS 482

	362 Data Structures, CS 463, Networks II and CS 437 Software Engineering are identified by the department as 'writing enhanced' courses. Students are required to take a minimum of two writing enhanced courses within the discipline to satisfy university requirements.	
--	--	--

*Standard IV-17. There must be sufficient coverage of social and ethical implications of computing to give students an understanding of a broad range of issues in this area.*

17. Social and ethical implications of computing must be covered in the program. This information should be included in course descriptions; please give course numbers below.

	Covered in Course(s) (Dept., Number)
Social and Ethical Implications	DF 492 Ethics

### E. Course Descriptions

1. For each required or elective computer science course that can be counted in the curriculum being reviewed for accreditation, include a two-page or three-page course outline at this point in the Self-Study. If your documentation does not exactly follow this format, be sure that all of the requested information (if applicable) is present, and please in any case adhere to a common format for all course descriptions.

Note that the outline format calls for information on the content of the course in the areas of algorithms, data structures, software design, concepts of programming languages, computer organization and architecture. This is not intended to suggest that every course must have some coverage of each of these topics. For a given course, please include the information from a listed area only if the course has significant content in that specific area.

#### COURSE DESCRIPTION

Dept., Number		Course Title	A list of all the course offered by the computer science department, in the format designated below can be found in appendix E.
Semester hours		Course Coordinator	

		URL (if any):	
--	--	---------------	--

Current Catalog Description

--

Textbook

--

References

--

Course Goals

--

Prerequisites by Topic

--

Major Topics Covered in the Course

--

Laboratory projects (specify number of weeks on each)

--

Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms			Data Structures		
Software Design			Prog. Languages		
Comp. Arch.					

**Oral and Written Communications**

Every student is required to submit at least \_\_\_\_\_ written reports (not including exams, tests, quizzes, or commented programs) of typically \_\_\_\_\_ pages and to make \_\_\_\_\_ oral presentations of typically \_\_\_\_\_ minute’s duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.

**Social and Ethical Issues**

Please list the topics that address the social and ethical implications of computing covered in all course sections. Estimate the class time spent on each topic. In what ways are the students in this course graded on their understanding of these topics (e.g., test questions, essays, oral presentations, and so forth)?

--

**Theoretical Content**

Please list the types of theoretical material covered, and estimate the time devoted to such coverage.

--

## Problem Analysis

Please describe the analysis experiences common to all course sections.

## Solution Design

Please describe the design experiences common to all course sections.

2. **Course display for the visit.** The course outline for each required or elective computer science course must also be included in a display of course materials that is available for study at all times during the evaluation visit. The course material display must include at least the following for each course that can be counted in the computer science segment of the curriculum being evaluated.

- Course name and number, number of credits, meeting times, etc.
- Textbook and other required material (e.g. manuals, reference booklets, standards and documents)
- Instructor's name and contacts
- Syllabus/schedule (*provide hardcopy and URL if only available on-line*)
- Introductory pages that include course objectives, pedagogical approach, assessment methods (and how these relate to the program objectives if appropriate)
- Course policies
- Introductory sheet that indicates course locations or sites that show evidence of writing, presentations, ethics etc. as appropriate
- Assignments and projects, tests, exams and important handouts
- Student work (examples of graded high/medium/low quality work as well as tests/exams etc.)
- Any feedback mechanisms/examples to students that might be on-line
- Any substantive electronically posted communication, threaded discussion, or teamwork etc.
- Course evaluations (measures of success that include, for example, the results of student surveys and the achievements of students in current or subsequent courses)
- Proposed or changes as a result of formative surveys

If a course is taught wholly on-line by a non-resident faculty member then data about that faculty member must be included in the Self-Study or provided in separate documents for credentialing purposes. In addition, for wholly on-line courses or a complete degree program, the results of an electronic CAC survey to that group of students regarding their experiences in the program (comparative to the usual on-site class visit) should be made available to the visiting team.

If available, please provide the location of URL's on a CAC-visit Website or site containing a set of URL links that would allow an evaluator to retrieve specific data directly (if not provided in hardcopy) as indicated above. These should be available before the time of the visit.

Note: In addition to the display materials, it would be very helpful to the visiting team if all assessment documentation could be available in the same location as the display materials. It is also very helpful if the display room contains computers with network connections.

## V. Laboratories and Computing Facilities

*Intent: Laboratories and computing facilities are available, accessible, and adequately supported to enable students to complete their course work and to support faculty teaching needs and scholarly activities.*

In Section VI you will be asked to describe the planning and acquisition processes for laboratory equipment. Please do not repeat any of that information here; simply refer to that section, if necessary, to avoid duplication.

### A. Computing Facilities

1. Describe the computing facilities used by students in the program. Indicate the types of software available in each category. Specify any limitations that impact the quality of the educational experience.

Institutional computing facilities:

#### **Laboratories**

Computer Services has 14 computer labs across campus, manned by more than 60 lab assistants. These labs are equipped with CD-ROM's, CD-burners, scanners, printers, USB ports for access with flash/pin drives, and other peripheral items. These computer labs are available to enrolled students, faculty, and staff.

Two labs provide 24-hour access. Computer science has preferred access to three computer labs on campus for use in scheduled class sessions seating a total of 120 students.

All faculty have access to computer equipment in their office, renewed on a three year rotation.

#### **Network**

The university provides wired and wireless network access across campus and to the Internet. Wired networking is supported through a distributed server structure with Gigabit inter-server communication over fiber. The university provides an OC-12 line for Internet access with opportunities for departments to request dedicated pipes.

The wireless network supports both anonymous access to the Internet and VPN access to the university intranet.

The university provides remote access for students and faculty to the university intranet and all campus computer services.

All dorm rooms on campus are wired for access to the university network. All classroom used by computer science have wired network access at the front of the classroom and wireless access for student computer use.

#### **Support**

Institutional support for computer facilities is effected in a number of ways. In laboratories, a trained lab assistant is available at all time. The university runs 24/7/365 telephone support to the campus community. The university also provides in situ trouble shooting through a centralized work order and response system.

#### **Software**

The university provides a wide range of applications for both general and specialized use including IDE's ( e.g. .NET, Borland) compilers, interpreters, office applications, etc. Computer Services tests validates and installs additional software on request from the department and no cost.

The university provides remote access to both the application suites and to student and faculty

resources remotely. As a result, students are able to use the same resources off campus and on. The university is a Redhat Linux distribution mirror and provides ISO distributions on demand.

#### Program computing facilities:

The Department of Computer Science is a co-owner of one 85-node computer lab located in White hall. This is a new facility (less than a year old).

The department operates a network lab (20 nodes) targeted to the CS234/CS463 sequence. This is a separately managed facility not available to the wider university community.

The department operates a Network Security Lab (16 nodes divided into four distinct networks)

The department operates a data recovery laboratory (16 nodes together with hardware and software tools for data recovery, content analysis and digital forensics).

The department operates a 40-node Dell blade server for use in parallel computing forensics and graphics processing course. The department offers time on this facility to other groups across campus, in particular to the Mathematics department and to the Physics department. The blade server can be partitioned for specialized purposes provide facilities for remote and automated imaging and reconfiguration of the nodes in the network security and data recovery labs.

The department maintains two 40-node, mobile computing labs, for use on and off campus. Each lab is contained within a rolling cart with power connection for recharging the nodes when not in use. Each node consists of a 3GHz laptop with wireless capability, 1GB internal memory and 80GB internal drive.

The department is in the process of establishing two new facilities, a clean room for data recovery and a separate facility for computer construction, deconstruction and troubleshooting.

The department also has an array of heterogeneous equipment, laptops, pda's mass storage devices, and other handheld devices etc. for use in specialized classes.

The department owns a variety of hardware and software tools for information assurance and security.

#### Other computing facilities:

The university supports the Texas Research Institute for Environment Studies, with significant analytical, GIS and Virtual Reality and 3-D immersion facilities.

The university is a member of NetNet, a statewide community of universities providing support and access to distance education facilities. Once Distance Education facility, containing interactive TV facilities through NetNet is available in the Computer Science department office and classroom

facility.

2. Describe the computing facilities planning, acquisition, and maintenance processes and their adequacy. Include discussion of these topics for university-wide computing facilities available to all students (if used by your majors), your own laboratories and equipment (if applicable), and facilities controlled by other departments and/or schools (if used by your majors).

The department operates a consultative process for establishing acquisition and maintenance requirements for our computer facilities. Faculty are requested to provide information regarding their needs at the beginning of the spring semester each year. The request includes university facilities, software and hardware for both classroom and office use.

The requests are then costed and prioritized at the departmental level. This prioritized list then forms the basis for a capital equipment request to the Dean of Arts and Sciences.

The Capital Equipment allocation is issued in the fall semester of the following year. The department chair is responsible for the application of those funds to the priority list with some discretion as priorities and costs might change in the interim.

The department receives an operations and Management budget which is used to provide some support on small cost items to supplement

3. Discuss how you assess the adequacy of your laboratory and computing support.

At the tactical level the adequacy of facilities is assessed in a relatively informal manner. Department meeting agendas typically include an item on equipment requests or facilities. On an ad hoc basis, the departmental office receives comments concerning the adequacy (most often inadequacy) of facilities and handles those comments appropriately.

At the strategic level, the department collects data through its assessment processes from graduating seniors (senior exit survey) and from alumni (alumni survey) including views concerning the adequacy of laboratory facilities and the quality of access to those facilities.

In the last round of assessment data analysis this has resulted in the department providing wireless network access and power in two of its four teaching rooms, planning the refurbishment of the remaining two classrooms as lab/classrooms with computer systems available to each student, and the acquisition of a 40 station computer laboratory exclusively for use by computer science students.

4. Please attach any equipment replacement plans to this report.

*Standard V-1. Each student must have adequate and reasonable access to the systems needed for each course.*

## **B. Student Access**

State the hours the various facilities are open. State whether students have access from dormitories or off campus by direct access, modem, etc., and describe this access quantitatively.

Most university lab facilities are open from 8 a.m. to 9 p.m. Two labs are open 24/7/365. Departmental lab facilities are generally open from 8 am. To 5 pm. The facilities in White Hall (Network Security, Data Recovery lab and an 80 station lab) are available from 8 am to 9 pm Monday through Thursday and 8 am to 5 pm. Fridays.  
Students have remote access to university resources via the Internet 24/7/365. The university operates Blackboard facilities for class-based resource access, assignment submission and test taking.

*Standard V-2. Documentation for hardware and software must be readily accessible to faculty and students.*

## **C. Documentation**

Describe documentation for hardware and software systems available to students and faculty in the computer science program. Explain how students and faculty have adequate and timely access to the documentation.

Students and faculty have access to on-line software documentation as part of the installed resources on the university network. There are no procedures for providing paper documentation. The department has not really considered this an issue up to this point.

*Standard V-3. All faculty members must have access to adequate computing facilities for class preparation and for scholarly activities.*

## **D. Faculty Access**

Describe the computing facilities available to faculty for class preparation and for scholarly activities. Include specifics regarding resources in faculty offices.

All faculty are provided, through university Computer Services and through start up funds provided by the Dean of Arts and Sciences, with a desktop machine with the specifications determined by the faculty member. In addition the faculty member may also request peripheral devices to support their work including printers, scanners, cameras, pda's and any other specialized equipment requested by the faculty. The office system is upgraded on a three year rotating basis as defined and required under university computer policy.

All faculty are provided with a laptop through the Computer Science department with the specifications determined by the faculty member. Laptops are replaced on nominal three-year rotation subject to funding limitations.

Each faculty office has both wired(100MB/s) and wireless network (802.11g) availability.

Faculty have secure remote access to all university systems through SAMWeb and through remote.shsu.edu including access to university licensed software.

*Standard V-4. There must be adequate support personnel to install and maintain the laboratories and computing facilities.*

## **E. Support Personnel**

1. What support personnel are available to install, maintain, and manage departmental hardware, software, and networks?

Computer Services provides direct same-day support to faculty office equipment through an automated work order system and telephone support through the university Computer Services helpdesk.

Computer Services is also responsible for the repair and maintenance of all university computer facilities, including the general access labs used by the department.

The department employs a Network Administrator whose primary responsibility is to maintain departmentally owned facilities including the network, network security and data recovery labs.

2. Describe any limitations due to this level of support?

Faculty and students have a high level of expectation when it comes to access to facilities. Same day turnaround on maintenance of office systems is generally perceived as acceptable. However, maintenance on labs may often take days, or require closure of labs during maintenance operations, which can be perceived as disruptive by faculty.

The primary limitation however, is funding. There are occasions where replacement is indicated but funds are simply not available. The Network Administrator at times has more work to do than is possible.

3. Are any faculty members expected to provide hardware, network, or software support? If so, describe this expectation including how such expectations are addressed in evaluation, tenure, promotion, and merit pay decisions, and indicate what, if any, released time is awarded for this effort.

Faculty are not expected to provide support services and are under no obligation to do so. However it is not uncommon for faculty to receive such requests, and when they are received from our students in particular, faculty often provide some help.  
The university and the department do not consider such support in the promotion, tenure, or merit decision-making process except and insofar as it impacts positive perceptions of collegiality.  
Faculty are not provided with release time to provide such support services.

*Standard V-5. Instructional assistance must be provided for the laboratories and computing facilities.*

#### **F. Instructional Assistance**

Describe the nature and extent of instructional assistance available to students in the laboratories.

Computer Services provides technical laboratory support for all university owned laboratory facilities used by students.  
The department of Computer Science provides graduate Teaching Assistant instructional support in departmentally owned laboratories. The department also provides 40 hours per week of mentoring services through graduate Teaching Assistants specifically for CS1 and CS 2 students,

## **VI. Institutional Support and Financial Resources**

*Intent: The institution's support for the program and the financial resources available to the program are sufficient to provide an environment in which the program can achieve its objectives. Support and resources are sufficient to provide assurance that an accredited program will retain its strength throughout the period of accreditation.*

*Standard VI-1. Support for faculty must be sufficient to enable the program to attract and retain high-quality faculty capable of supporting the program's objectives.*

*Standard VI-2. There must be sufficient support and financial resources to allow all faculty members to attend national technical meetings with sufficient frequency to maintain competence as teachers and scholars.*

*Standard VI-3. There must be support and recognition of scholarly activities.*

### **A. Faculty Stability**

1. Evidence of the long-term stability of a program is provided by its ability to both attract and retain high quality faculty. Describe how your program does this. Some topics the description might address are sabbatical and other leave programs, salaries, benefits, teaching loads, support for and recognition of scholarly activity (including financial support for attendance at professional meetings), departmental and institutional ambiance, etc.

The department of computer science is committed to procuring and retaining high quality teachers and scholars. The department attempts to provide an attractive overall package for potential faculty through:

1. Nationally advertising positions. The department is committed to extending the background and skill sets of its faculty by drawing from diverse groups.
2. Environmental monitoring to establish competitive salary and benefits levels. Typical starting salaries for a new Ph.D. are in the \$55 - \$65 K range depending on specialty. The university offers opportunity for market-based adjustments to salary to redress any inequities.
3. Reduces teaching load to provide opportunity and time for scholarly activity. Faculty are required to teach 3 courses per semester. This load can be reduced through the application of grant funds. The department encourages and promoted grantsmanship and is supported in that through the Research and Sponsored Programs unit, providing writing workshops, identification of grant sources etc.
4. Recognition of scholarly activities through a systematic and consistently applied merit and promotion and tenure scheme. All faculty are required to be effective teachers. However 40% of the merit evaluation weight is applied to consideration of scholarly activity. The department has well defined policy and procedures governing the development of faculty research programs and specific

targets for faculty to ensure that ambiguities in the process are minimized.

5. Support for, and encouragement of scholarly activity through **full** funding annually, of at least one (and often more) conference attendance for presentation of work. The department allocates around \$20,000 annually for faculty travel from a variety of sources including O&M, Indirect Cost recovery funds and grant funds. Funds are also available from a range of other sources including, the Dean's office. The Graduate Studies office, the International Programs office and Central administration. Resources from these sources represents about \$2,000 annually.

6. Provide opportunities for leadership within the department, the university and in professional organizations. The department supports through funding, professional organization officer activities and encourages faculty to seek such positions.

2. Give counts of the total number of faculty and the number of resignations, retirements, and new hires for each of the last five years. Indicate whether there are significant problems attracting and retaining faculty, and if so, the causes.

Year	Total Faculty	Resignations	Retirements	New Hires
2003-2004	7	0	0	
2004-2005	8	0	0	1
2005-2006	8	1	0	
2006 - 2007	8	0	0	1
2007 - 2008	9	0	0	1

## B. Faculty Professional Activities

Summarize the professional activities of your faculty, attendance at meetings, university and professional honors won by individuals, etc. Just summarize here; details should appear in individual faculty vitas.

### **Faculty Conference Activities**

11 conference presentation

ACM conferences (SIGCSE, ITICSE, SIGSAC)

CCSC Conferences and officer positions held

ACET conferences and officer positions held

IPSI (Integrated and Synergistic conference group)

INFOSECCD conference

Infragard (infrastructure protection organization)

HTCIA (High Tech Crime Investigators Association)

Alliance of Universities for Democracy conference and officer position held.

### **Faculty Grantsmanship**

1 successful grant in 2004/6 (\$979,000)

1 successful grant in 2005/6 (\$197,000)

1 successful grant in 2006/7 (\$388,000)

5 faculty involved in 8 successful National grants in the past 6 years totaling over \$3 million.

**Faculty publication**

9 refereed articles in 2007

1 book

1 Book chapter

**Faculty Awards**

David Burris – Excellence in Teach 2000.

**Contract and Consulting Activities (2007/8)**

1 Consulting contracts

A full description of the creative activities for calendar year 2007/8 are provided in the supporting documents folder (creative accomplishments.doc

*Standard VI-4. There must be office support consistent with the type of program, level of scholarly activity, and needs of the faculty members.*

**C. Office Support**

Describe the level and adequacy of office support. The description should address secretarial support, office equipment, and the total group supported by this equipment and staff.

The department of Computer of Computer Science provides administrative support though two offices, the main departmental office and the Digital Forensics center offices.

The departmental offices include:

1. full time secretary
2. part time student workers.

The responsibilities and facilities offered by the central office include:

- Full administrative support for the department chair.
- Full B/W copying and color printing facilities, consumable resources available during normal office hours. The printing and copying facilities are networked and can be accessed remotely from the faculty offices.
- B/W scanning and copying facilities in the faculty lounge available any time.
- Equipment and consumable procurement.
- Typing and report generation support
- Information acquisition
- Student support for registration, degree plan management
- Scheduling
- Facilities oversight

The digital forensic office provides

- 1 full time secretary (funded through grants)
- 1 part time student worker (funded through department student worker funds)

The responsibilities and facilities offered by the digital forensics office include:

- Full B/W copying and color printing facilities, consumable resources available during normal office hours. The printing and copying facilities are networked and can be accessed remotely from the faculty offices.
- B/W scanning and copying facilities in the faculty lounge available any time.
- Equipment and consumable procurement.

- Typing and report generation support
- Information acquisition.
- Website maintenance
- Facilities oversight.

*Standard VI-5. Adequate time must be assigned for the administration of the program.*

#### **D. Time for Administration**

Describe the adequacy of the time assigned for the administration of the program.

The department chair has a teaching load of 5 courses per academic year. The academic year is a 12-month year that includes both summer sessions. This is equivalent to a 1-course release per semester and a half time release during the summer. All faculty serve on one or more departmental committees. Faculty also perform substantial college and university committee work.

*Standard VI-6. Upper levels of administration must provide the program with the resources and atmosphere to function effectively with the rest of the institution.*

#### **E. Adequacy of Resources**

Describe the adequacy of the resources and the atmosphere provided by the upper administration for the program to function effectively with the rest of the institution.

The university, within the bounds of fiscal restraint, has supported and continues to support the department and its activities, providing adequate financial, physical and intellectual resources to effectively manage the program.

#### **F. Leadership**

Positive and constructive leadership at the college/school level and within the program's department are especially important to the program's quality. Evaluate this leadership and the interaction between these levels of administration.

There is frequent communication between the Chair and the Dean, both one-on-one and through a regularly scheduled department chair's meeting. The department has twice-monthly department meetings open to all faculty. The chair is generally available to both students and faculty.

*Standard VI-7. Resources must be provided to acquire and maintain laboratory facilities that meet the needs of the program.*

### **G. Laboratory and Computing Resources**

Briefly describe the resources available for the program to acquire and maintain laboratory facilities. Include information on how the institution determines the adequacy of these resources.

The department has access to five funding sources for the maintenance and procurement of laboratory facilities.

1. Capital equipment. Allocated annually. Typical allocations are \$35,000 - \$45,000 pa. In 207/8 the allocation was \$77,000
2. Grant funds. Procured ad hoc. These funds have provided in excess of \$1,500,000 in the last 5 years.
3. Designated tuition. Collected each semester, approximately \$70,000 per year
4. Indirect Cost recovery. Funds allocated back to the department from grants received in previous years and under the control of individual faculty. Typically \$4,000 - \$6000 annually.
5. Centrally allocated resources. Allocated Ad hoc. Recent acquisitions include \$40,000 in support of the 40-node blade server currently in use and located in White Hall (2006), \$25,000 to provide a 20 node mobile lab (2007) and \$15,000 to provide equipment for the lab/classroom in AB1 211. (2008).

There is no formal process to determine the adequacy of these resources. There is a formal process for the request for Capital equipment funds (described above). In addition the Dean of Arts and Sciences, the Associate Vice President for Graduate studies and the Provost have maintained an open door policy toward the chair of the department and have been proactive in requesting applications from the department for specific funding requests.

*Standard VI-8. Resources must be provided to support library and related information retrieval facilities that meet the needs of the program.*

### **H. Library Resources**

Briefly describe the resources available for the support of the library and related information retrieval facilities. Include information on how the institution determines the adequacy of these resources.

The Library has a wide-ranging collection of books and periodicals that currently support Computer Science and Information Assurance and Security. The following is a selected list of resources which currently support both programs: The Digital Library Core Package (43 journal titles) of the Association of Computing Machinery (ACM), the IEEE Computer Society Digital Library (22 peer reviewed journals), the SAFARI electronic reference collection for programming and IT professionals; EBSCO's Academic Search Premier full text access to academic journals with links to many of the Library's electronic journal subscriptions; Westlaw Campus electronic access to cases from state and federal courts; Lexis-Nexis Academic Universe electronic access to law reviews and court cases; Criminal Justice Periodical Index full text access to criminal justice topics.

As Computer Science, and in particular information assurance are relative volatile areas, the library is willing to carefully monitor potential resources for publications in the field and will order appropriate monographs. The Library has identified three journals for procurement for the information assurance side the program: Computer Fraud and Security (\$933), Digital Investigation: International Journal of Digital Forensics and Incident Response (\$650), Computer Law and Security (\$1,049). The Library's student use fee is used to purchase titles as necessary. Interlibrary loan and document delivery is monitored to identify additional journals and monographs that need to be added to the collection.

All Texas state institutions and many private universities participate in TexShare, a cooperative resource sharing program which permits borrowers in good standing at their home institution to obtain books on-site at participating institutions. TexShare also provides access to a core collection of 48 electronic databases; the majority of these databases contain full-text. Sam Houston State University is also a member of AMIGOS and OCLC, which enable the Library to provide students and faculty with an array of information resources through interlibrary loan. The members of The Texas State University System developed a cooperative program to provide ScienceDirect, an electronic resource that provides access to scholarly journals in the sciences and behavioral sciences. The Library also provides access to Kulwer Online through agreement with independent colleges and universities in Texas; this database provides journals in the sciences and the behavioral sciences. These types of consortial arrangements expand access to scholarly journals.

The library periodically requests information for the department and from individual faculty for potential acquisitions in the content area.. At the time of preparation of this self study, there has not been an instance of the library being unable or unwilling to procure library resources at whatever level the department requests.

The library offers ongoing training for both students and faculty in the use of traditional and electronic resources including reference management.

Standard VI-9. There must be evidence that the institutional support and financial resources will remain in place throughout the period of accreditation.

### **I. Continuity of Institutional Support**

Discuss and show evidence of continuity of institutional support for the program in the past, and problems that have existed or are anticipated in this area, if any.

The university has demonstrated its commitment to the department of Computer Science and to the undergraduate program in a number of ways. First, recognizing the growth in importance (though not through 9/11 and the .com bust of 2002 in student demand) of computer science the university separated computer science from mathematics and statistics creating a separate department. This has led to an elevated presence within the university and to the wider community.

The university funds, within the financial limit imposed by budgetary constraints, the department adequately. In particular, the university is willing to provide the funds to procure faculty at realistic salaries and provides start up funds to meet the research and scholarly activities of those faculty.

In a period of relative curriculum retrenchment, the university has encouraged the development of new concentrations (IAS) and new graduate programs (Digital Forensics). The university continues to press for additional programmatic developments including a M.S. in Information Assurance and Security (beginning fall 2008) and a Ph.D. in Digital Forensic Science (documentation preparation starting fall 2008).

The number of full time faculty has increased over the past 3 years as has the number and seniority of administrative staff. While O&M levels have not risen in recent years (across the university) access to other funding sources has dramatically increased since 2003

## VII. Institutional Facilities

*Intent: Institutional facilities, including the library, other electronic information retrieval systems, computer networks, classrooms, and offices, are adequate to support the objectives of the program.*

*Standard VII-1. The library that serves the computer science program must be adequately staffed with professional librarians and support personnel.*

### A. Library

#### 1. Library Staffing.

Assess the staffing of the library (or libraries) that serves the computer science program. Is the number of professional librarians and support personnel adequate to support the program?

Supply documentation if possible.

The library is well staffed with competent professional Librarians. The department has a designated librarian, Mrs. Janice Lange, who provides research, acquisition and data services to the department.

*Standard VII-2. The library's technical collection must include up-to-date textbooks, reference works, and publications of professional and research organizations such as the ACM and the IEEE Computer Society.*

#### 2. Library Technical Collection

Assess the adequacy of the library's technical collection and of the budget for subscriptions, as well as new acquisitions. The library must contain up-to-date textbooks, reference works, and publications of professional and research organizations, such as the ACM and the IEEE Computer Society. It should also contain representative trade journals. Supply documentation, if possible. Assess the process by which faculty may request the library to order books or subscriptions.

The Library is well positioned to meet the library and research needs of the computer science program. The Library subscribes to both the ACM and IEEE digital libraries with full text capabilities. As a result, and including all the ACM and IEEE journals the library has on-line access to 311 journals associated with computer science.

*Standard VII-3. Systems for locating and obtaining electronic information must be available.*

### 3. Library Electronic Access

Assess the library's systems for locating and obtaining electronic information.

The Library provides electronic access via the Internet for all electronic databases and indices, the regular catalog and inter library loan. The interface into the library systems is coherent and well structured.

*Standard VII-4. Classrooms must be adequately equipped for the courses taught.*

#### **B. Classroom Equipment**

Describe the equipment typically available in classrooms where you teach your courses. Assess its adequacy for the purpose.

All classrooms are equipped with manageable lighting, network access, white and/or chalk boards, fixed or mobile computer projection systems. Three classrooms have 'elmo' projectors.

Two classrooms have power for lap top computer built into the student's desks. All classrooms have access to the university computer network through a collection of wireless hubs.

*Standard VII-5. Faculty offices must be adequate to enable faculty members to meet their responsibilities to students and for their professional needs.*

#### **C. Faculty Offices**

Discuss and assess the adequacy of faculty offices.

Faculty offices are more than adequate in terms of light, space, furniture and communication. Most faculty offices have an external window and have sufficient security to ensure privacy on information.

## Appendix I. Information Relative to the Entire Institution

### A. General Information

Institution	Sam Houston State University
Department	
Street	
City	Huntsville
State	Texas
Zip	77341
URL	http://www.shsu.edu

Name and Title of Chief Executive Officer of Campus (President, Chancellor, etc.)

James F. Gaertner	President
(Name)	(Title)

### B. Type of Control

Private, non-profit	
Private, other	
Federal	
State	X
Municipal	
Other (specify)	
Affiliation, if private	

Check more than one, if necessary. If the above classifications do not properly apply to the institution, please describe its type of control.

Sam Houston State University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award bachelor's and masters's degrees, and certain doctoral degrees. SACS accreditation was reaffirmed in 1999, and continues through 2009.
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### C. Regional or Institutional Accreditation

Name the organizations by which the institution is now accredited, give dates of most recent accreditation. Attach a copy of the most recent accreditation action by any organization accrediting the institution or any of its computer-related programs.

[Empty box]

**D. Enrollment**

Total enrollment for the entire institution (FTE)	
Total faculty for the entire institution (FTE)	

**E. Funding Process**

Describe the process for allocating institutional funds to the computer science program.

The university allocates resources to each college based on a submission of need from Each Dean. The resources are allocated by the Dean to department based on historical information and requests by department chairs. Each year, the department chair identifies, with input from the faculty, the primary unit objectives for that year and prepares a request for institutional funds (O&M, Capital Equipment and Travel) based on those objectives.

**F. Promotion and Faculty Tenure**

Summarize the promotion and tenure system and the system for merit salary adjustments. (Give an overview of actual practice; do not reproduce an entire section from the faculty handbook.)

The Faculty Handbook describes in detail the procedures for promotion and tenure. Tenure decisions are made after no more than six years; during the probationary period, each candidate is given an annual review. The first and third year reviews are considered milestones. Candidates are rated in three areas: teaching, scholarship, and service. Tenure and promotion to associate professor are linked. To be awarded tenure and promoted to associate professor, they must demonstrate excellence in teaching, with the potential for excellent in scholarship. In addition, the probationary faculty member must demonstrate a commitment to service at the department, college, and university levels and a positive sense of collegiality and professionalism. Candidates for promotion must be approved by a majority of the members of the department at a rank equal to or superior to the new rank. Promotion and tenure recommendations are reviewed by the Department Chair, the Dean of the College, the Provost, the President, and the Board of Regents of the Texas State University System. Authority to grant tenure and promotion rests with the President, subject to the approval of the Board of Regents. Merit adjustments are determined through the Faculty Evaluation System (FES). This system includes the Chair’s Rating of Teaching Effectiveness (FES 1) and the Student’s Rating of Teaching Effectiveness (FES 2) as well as the faculty member’s reports on scholarly achievement, professional development, and service (FES 3,4,and5). These forms are weighted and ranked to determine the appropriate merit awards, subject to state funding levels.

**Appendix II. General Information on the Unit Responsible for the Computer Science Program**

If you are having more than one program evaluated, particularly if the programs are on separate campuses, the answers to these questions may vary from one program to another. If this is the case, please use separate copies of this section for each program, and clearly delineate which program is being described.

**A. Computer Science Program Unit**

Name	Department of Computer Science
URL	www.cs.shsu.edu

If the computer science program unit is not a department reporting to an administrative officer (e.g., Dean of College of Arts and Sciences) who in turn reports to president, provost, or equivalent executive officer, describe the unit.

Not applicable
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**B. Administrative Head of Computer Science Program Unit**

Dr. Peter A. Cooper	Professor of Computer Science, Department Chair.
(Name)	(Title)

**C. Organization Chart**

Attach an organization chart showing how the unit fits into the administrative structure of the institution.

**D. Computer-Related Undergraduate Degree Programs**

List all undergraduate computer-related degree programs offered by the institution, beginning with the program(s) being evaluated.

Program Title	Years Required	Degree Awarded	Administrative Unit	If accredited, by whom
Computer Science	4	B.S.	Computer Science	ABET
Management Information Systems	4	B.S.	Management & Marketing	


Are these programs adequately differentiated in all university information? Explain how.

Yes,  
The degrees appear under different colleges, have different class and prerequisite structure and are administered by different units.

### Appendix III. Finances

#### A. Finances Related to the Computer Science Program(s)

For the computer science program, indicate below the funds expended during the fiscal year immediately preceding the visit <sup>1</sup>.

	Institutional Funds	Non-recurring or Outside Funds
Administrative Salaries		
Faculty Salaries	\$1,026,609	
Non-teaching Professionals' Salaries <sup>2</sup>		
Support Personnel Salaries & Wages	\$34,704	
Secretarial		
Technician	\$18,708	
Other (specify)		
Graduate Students	\$59,076	
Operating Expenditures (Excluding research operations and travel)	\$19,500	
Capital Equipment Expenditure: (Including value of allocated time for teaching and research):		
Teaching	\$77,300	
Research	\$15,000	
Computer Expenditures: (total, including value of allocated computer time for teaching and research)		
Hardware		
Software		
Allocated time		
Travel Expenditures (non-research funds)	\$21,000	
Scholarship Awards (if administered by the Computer Science Program Unit)	\$4,600	
Library (if administered by Computer Science Program Unit)		
Research (if separately budgeted)		
Other (specify)		
<b>Total</b>	<b>\$1,276,495</b>	

<sup>1</sup> It is understood that some of the data may have to be estimated to cover the entire fiscal year. In such case, unless the differences are insignificant, an updated report should be provided for the evaluation team at the time of the visit.

<sup>2</sup> Non-teaching professionals would include research professors, faculty members on paid sabbatical leave, post-doctoral research associates, and other degreed professionals.

**B. Operating and Computing Expenditures for the Five Fiscal Years Immediately Preceding that Reported in III A**

1. Operating expenses for the computer science program unit.

Fiscal Year	2007/8	2006/7	2005/6	2004/5	2003/4
Institutional Funds	79,500	10,000	7,500	7,536	N/A
Outside Funds					

2. Computer hardware/software capital expenditures (excluding equipment used primarily for research) for the computer science program unit.

Fiscal Year	2007/8	2006/7	2005/6	2004/5	2003/
Institutional Funds	92,000	39,000	33,000	43,000	N/A
Outside Funds					

**C. Additional Funding**

If additional funds, other than those listed in Table A above, are available to faculty to support scholarly activities such as travel to technical meetings, e.g., consulting support, give the number of faculty for whom this type of support is appropriate and an estimate of the amount of support available.

<p>Grant funded Support                  2001/2 - \$249,000 – 2 faculty (Cooper, Gonzalez)                  2002/3- \$253,000 – 3 faculty (Cooper, McGuire, Gonzalez)                  2004/5 - \$989,477 – 2 faculty (Cooper, Murff)                  2005/6 - \$197,000 – 3 faculty (Cooper, Murff, Smith)</p>
--

**Appendix IV. Computer Science Program Personnel and Policies Towards Consulting, Professional Development, and Recruiting**

**A. Term of Appointment of Administrative Head**

9 month \_\_\_\_\_ 12 Month X Other (specify) \_\_\_\_\_

**B. Number of Personnel Associated with Program**

	Full-time Number	Part Time		Total FTE
		Number	FTE	
Faculty	8			8
Non-teaching Professionals				
Administrative				
Computer Lab Personnel: Professionals	1	0	0	1
Technicians				
Secretarial, Accounting, etc.	1.5	0	0	1.5
Graduate Teaching Assistants		9	4.5	4.5
Graduate Research Assistants				
Graduate Students				
Undergraduate Students				

**C. Policies**

Provide a brief description to give an overview.

1. Describe policy toward private consulting work, sponsored research projects, and extra compensation.

2. State the standard teaching, administrative, research, and other loads on the faculty, in general terms.

**Teaching Load:** 3 courses per semester (75%)  
**Administrative load:** Not specified, although there is an expectation that faculty will have some committee load. As faculty gain experience and promotion, more committee work and a higher campus and professional profile are expected. The department has one faculty member with a 25%

reduction in load to accommodate a role as the University Articulation Coordinator  
**Research Load: 25%**

3. Describe policies and procedures for recruiting faculty for the computer science program. Describe any barriers to hiring the appropriate faculty.

The department has designated positions. As faculty resign or retire, those positions are available for reallocation back to the department by the Dean.

The department chair, once authorized by the Dean is free to advertise and recruit.

A search committee is established from among the tenured faculty to identify likely candidates.

Up to three candidates are brought on campus for interview. The committee recommends the offer of a contract through the chair to the Dean who then makes an appointment.

Current barriers to hiring are:

1. Location – not everyone wants to live in this area
2. Dearth of qualified faculty applying.

## Appendix V. Computer Science Program Enrollment and Degree Data

If you are having more than one program evaluated, particularly if the programs are on separate campuses, the answers to these questions may vary from one program to another. If this is the case, please use separate copies of this section for each program, and clearly delineate which program is being described.

Give below enrollment figures for the first term of the current and five previous academic years and the number of undergraduate and graduate degrees conferred. (The current year is the year in which this report is being prepared.) List data beginning with the most recent year first. If part-time students are involved, give the number as FTE/actual number, e.g., 10/40.

### Institution as a Whole

AY	Enrollment					Total UG	Total Grad	Degree		
	1st	2nd	3rd	4th	5th			BS	MS	PhD
2002/3	3026	2636	2541	3019	1869	11222	1869	2163	396	20
2003/4	3102	2651	2619	3132	1956	11504	1956	2092	408	22
2004/5	3441	2644	2835	3377	2074	12297	2074	2151	535	18
2005/6	3720	2975	3019	3479	2164	13193	2164	2256	553	29
2006/7	3802	3159	3153	3664	2182	13778	2182	1931	383	25
2007/8	3743	3201	3345	3861	2304	14150	2304	2015	483	13

Unit offering Computer Science Program(s)—give total enrollment even if not all students are in the program for which accreditation is requested.

AY	Enrollment					Total UG	Total Grad	Degree		
	1st	2nd	3rd	4th	5th			BS	MS	PhD
2002/3	78	43	22	55	27	201	27	32	9	
2003/4	57	44	35	33	28	169	28	14	7	
2004/5	68	30	41	44	23	183	23	20	11	
2005/6	66	32	37	38	26	173	26	18	6	
2006/7	67	33	33	46	37	169	37	20	5	
2007/8	67	37	34	33	43	171	45	13	12	

If the unit offering the Computer Science Program(s) offers more than one degree, please complete an additional table for each program for which accreditation is requested:

Program	
---------	--

AY	Enrollment					Total UG	Total Grad	Degree		
	1st	2nd	3rd	4th	5th			BS	MS	PhD

## Appendix VI. Admission Requirements

### A. Admission of Students

1. Describe the criteria and procedures used for admitting students to the computer science program(s).

A beginning freshman student who graduated from an accredited high school must take the ACT Composite or SAT I (critical reading + math). A beginning freshman student must submit all of the following documentation:

Completed Texas Common Application or the SHSU Undergraduate Admissions Application with nonrefundable application fee

Official copy of ACT Composite or SAT I (critical reading + math)

Official copy of high school transcript showing class rank (if applicable). Upon graduation from high school, applicant must provide a final official high school transcript with final class rank, date of graduation, and graduation plan.

Admission requirements include the following:

Top 10%, no minimum score on ACT Composite or SAT I (critical reading + math).

11-25%, a minimum score of 17 on ACT Composite or a minimum score of 850 on SAT I (critical reading + math)

2nd quartile, a minimum score of 19 on ACT Composite or a minimum score of 930 on SAT I (critical reading + math).

3rd quartile, a minimum score of 22 on ACT Composite or 1030 on SAT I (critical reading + math).

4th quartile, a minimum score of 25 on ACT Composite or 1140 on SAT I (critical reading + math).

2. Describe procedures, including the evaluation of transfer credits, for students admitted to the program as transfer students.

a. From within the institution

Students complete a 'Change of Major' form and submit the form to the registrar's office. This form requires both an advisor and a department chair signature, providing a contact point at which advising can be applied.

b. From another institution

Transcripts from transfer students from other institutions are evaluated by the admissions office based on established articulation agreements.

(see <http://www.shsu.edu/catalog/admission2.html>)

3. Explain the policy of the institution in admitting students with conditions and state how the conditions must be made up.

The university provides mechanisms for supporting

1. Student unable to meet THEA requirements (developmental mathematics reading and writing courses with restrictions on regular course enrolment)

2. Students with Disabilities. The university provides support staff and modified environments on an individual need basis.

3. Student with academic difficulties. Probationary periods, mandatory advisement, restricted scheduling through the Dean's office.

4. Describe the general policy and methods of the unit offering computer science program(s) in regard to admission with advanced standing.

Students with advanced standing from high school are evaluated at the admissions office with a check at the departmental office. Students may also take the CLEP test for CS 1.

5. Describe any special admission requirements for entry into the "upper division" in the computer science program(s).

Not applicable