

Proposed Changes in the BA-CIS and BS-CIS Programs

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Prepared by: N. Soundarajan, Chair, CSE Undergraduate Studies Committee.

Background

The university recently approved changes in the GEC requirements for all BA and BS degree programs in Arts and Sciences. During Autumn '07, the CSE faculty discussed ways to change the BA-CIS and BS-CIS programs to make them consistent with the new GEC requirements and to consider any other desirable changes.

In particular, the faculty wanted to make suitable changes in the BS-CIS program to make the Computer Science portion of the program comparable to the CS portion of the BS-CSE degree (in the College of Engineering). Currently, the BS-CIS program is somewhat weaker than the BS-CSE program since BS-CIS students are not required to take a *capstone design course* which students in the BS-CSE program are required to take. This makes BS-CIS students rather less attractive than BS-CSE students to employers since the capstone design course provides considerable practical experience in building large computing applications and also develops such important skills as team-working and communication abilities. Further, BS-CIS students are not required to take CSE 601, the one credit course on Social and Ethical Issues in Computing, which BS-CSE students are required to take. We feel this is a weakness, given the importance of such matters as privacy issues and copyright protection.

Students in the BA-CIS program are also not required to take either CSE 601 or a capstone design course. These students typically do not have the technical background to take any of the capstone design courses but faculty felt that CSE 601 is especially relevant to BA-CIS students and should be required of students in this program.

Summary of changes

BS-CIS program: The GEC requirements for the BS-CIS program are revised to be consistent with the new university requirements; students will be required to take a capstone design course; and they will be required to take CSE 601. In terms of the total number of hours in the program, the net result is that the the minimum number of credit hours for the degree will be reduced from 191 hours currently to 181 hours under the revised program. (A four-year “bingo-sheet” for the revised program is presented on page 6.)

BA-CIS program: The GEC requirements are revised to be consistent with the new university requirements; students will be required to take CSE 601; the number of elective hours will be reduced by one credit hour. In terms of the total number of hours in the program, the net result is that the the minimum number of credit hours for the degree will be reduced from 191 hours currently to 181 hours under the revised program.

The details of these changes appear on pages 3–4 of this document.

Additional changes

Some changes are also being proposed in the technical electives portion of the BS-CIS program. The main changes are the inclusion, with the addition described above of a capstone design course requirement for all BS-CIS students, of a *suggested* capstone design course in each option; the inclusion of specific *tracks* in the *Individualized* option; the removal, given its very low popularity, of the *Advanced Studies* as an option and the addition of a corresponding track in the *Individualized* option; and the removal of BusMgmt 630 as a required course in the *Information Systems* option. The new *Business Information Systems* track in the *Individualized* option should be attractive to students interested in business information systems.

These changes are described on page 5.

Process/Recommendation

These changes were discussed extensively at a number of UGSC meetings during October and November. A student representative from the CIS program was part of these discussions. The committee approved all of the changes and recommended them to the CSE faculty for its approval. The faculty discussed the proposal at its meeting of November 19, 2007 and approved all of the proposed changes.

BA-CIS

Summary of changes

The main changes are in the GEC requirements. The only changes in the major are the addition of CSE 601 as a required course, and the reduction of electives by 1 hour.

Net result: Program size reduced by 10 hrs.

Details of new program

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GEC (100 hrs):

Engl 110, Second writing:	10 hrs
Math & data analysis:	10 hrs
Math 151, Stat 245	
Nat. Sc.@1	15 hrs
Foreign language through 104@2	20 hrs
Soc. Sc.@3	10 hrs
Arts & Hum.@4	10 hrs
Historical study@5	10 hrs
Issues of contemp. world	5 hrs
Two additional courses from	10 hrs
Nat.Sc./Soc.Sc./Arts & Hum.	

@1: must include one 2-course sequence in biological or physical sc;
at least one course from each of bio. and phy. sc.

@2: some/all of these hours may be EM hours;

@3: two courses selected from two of the following three categories:
Individuals and groups; Organizations & Politics; Human,
Natural, and Economic resources.

@4: at least five hours from the Literature category; and
at least five hours from the second from Visual/Perf. Arts (VPA);

@5: This *doesn't* have to be a sequence.

Major (81 hours):

Core: CSE 221, 222, 321, 360, 560, 601, 670: 25 hrs

Electives: 19 hrs

chosen from any 500-level CSE course or above,
not including CSE 502, with approval of faculty
advisor.

Additional major requirements: 37 hrs

Math 152, 153, 366; CSE 459.xx;
approved related field (intro course: 5 hrs,
above intro level: 10 hrs);

General elec. in major: 8 hrs
(courses CSE, Math, or related field)

Total for degree: 181 hrs

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BS-CIS

Summary of changes

Changes with respect to the GEC as specified by ASC. Major is revised (to make it technically more comparable to the BS-CSE program) as follows: require CSE 601, and a capstone design course; the number of hours in each option (including capstone design course) will be 28 hours.
Net result: Program size reduced by 10 hrs.

Details of new program

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GEC (100 hrs):

Engl 110, Second writing:	10 hrs
Quantitative/Logical Analysis:	10 hrs
Math 151, Math 152	
Foreign language through 104@1	20 hrs
Nat. Sc.:	20 hrs
Phys 111/112 or 131/132;	
two additional sc. courses, at least	
one must be biological;	
Soc. Sc.@2	10 hrs
Arts & Hum.@3	10 hrs
Historical study	10 hrs
Additional breadth	10 hrs

 Math 153, 366; 2 hrs. of Stat 427

 (these courses are "prerequisites" for the major but may be taken after the student has been admitted to the major.

 Students also have the option of taking other courses as specified by the college to meet the "additional breadth" requirement; but they would they would still have to take these courses.)

@1: some or all of these hours may be EM hours;

@2: two courses selected from two of the following three categories:
 Individuals and groups; Organizations & Politics; Human, Natural, and Economic resources.

@3: at least five hours from the Literature category; and
 at least five hours from the second from Visual/Perf. Arts (VPA);

@4: This *doesn't* have to be a sequence.

Major (81 hrs):

Core:	46 hrs
221, 222, 321, 360, 459, 541, 560,	
601, 625, 655, 660, 670, 675.02, 680	
Tech Option including capstone course (minimum):	28 hrs
Additional math	7 hrs
Math 566, 1 hr. of Stat 427, Stat 428	

Total for degree: 181 hrs

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BS-CIS technical elective options

(Note: Proposed changes are marked with “*”).

1. Information and Computation Assurance (28 hours):

Required: CSE 551, 651, 677, 678, capstone course: 16 hours;

Suggested capstone course: CSE 762 (*).

Electives: 12 hours; at least 3 of the 12 hours must be CSE;

the remaining 9 may be CSE or non-CSE or combination of the two.

2. Software Systems (28 hours):

Required: CSE 551, 677, 757 (*); capstone course: 13 hours;

Suggested capstone course: CSE 758 (*).

Electives: 15 hours; at least 10 of the 15 hours must be CSE.

Advanced Studies: Drop this option.

3. Information Systems (28 hours):

Required: CSE 616, 671; AMIS 211/310; capstone course: 16 hours;

(*omit: Bus Mgt 630 (4 hrs)*)

Suggested capstone course: CSE 772 (*).

Electives: 12 hours; at least 8 of the 12 hours must be CSE courses.

4. Individualized (28 hours):

Required: 18 hours of CSE courses including a capstone course;

Electives: 10 hours of CSE+non-CSE courses approved by advisor;

OR a minor program approved by advisor.

Students in this option may want to consider following one of the tracks listed below.

Tracks (*):

Graphics/Animation: Reqd: CSE 581;

Suggested capstone course: CSE 682 or 786;

Other recommended courses: CSE 681, 694A, 781, 782, 784; 786/682;

For students pursuing a minor, recommended minor(s):

Studio Art; Industrial, Interior & Visual Comm. Design.

AI: Reqd: CSE 630;

Suggested capstone course: CSE 786 or 731;

Other recommended courses: CSE 612, 634, 730, 732, 733, 735, 779, 731/786;

For students pursuing a minor, recommended minor(s):

Linguistics; Psychology.

Advanced Studies:

Reqd: One of CSE 725/755/780; one of 760/775; one of Math 568/571/647/648 (or similar);

For students pursuing a minor, recommended minor(s):

Mathematics.

Business Information Systems:

Reqd: CSE 616, 671; Business Minor;

Suggested capstone course: CSE 772.

Possible 4-year Curriculum for BS-CIS Students

Year	Autumn	Winter	Spring
1	Math 151 Engl 100 GEC: 5 Total: 15 hrs	Math 152 CSE 221 GEC: 5 Total: 14 hrs	Math 153 CSE 222 2nd Writing Total: 14 hrs
2	CSE 321 Math 366 Phys 111/131 CSE 360 Total: 16 hrs	CSE 541 CSE 459 GEC: 10 Total: 14 hrs	CSE 560 CSE 601 Phys 112/132 GEC: 5 Total: 16 hrs
3	CSE 625 Stat 427 CSE 670 GEC: 5 Total: 14 hrs	CSE 655 CSE 675.02 Math 566 GEC: 5 Total: 16 hrs	Stat 428 CSE 680 GEC: 10 Total: 16 hrs
4	Tech elec: 12 CSE 660 Total: 15 hrs	Tech elec: 12 GEC: 5 Total: 17 hrs	Capst. Des.: 4 GEC: 10 Total: 14 hrs