Neelam:

I am pleased to inform you that the proposal for an Information and Computation Assurance Option and an Individualized Option in the BS-CIS program were approved by the Council on Academic Affairs at its meeting on November 1, 2006. Professor Brian Winer, Chair of the Council, presented the proposal on your behalf.

No additional level of review/approval is necessary. This action will be included in the Council's next Annual Activities Report to the University Senate.

This message represents my formal communication with you about this proposal. Please keep a copy for your file(s) on the proposal and I will do the same for the file in the Office of Academic Affairs.

If you have any questions about this action, please contact Professor Winer or me.

Randy

W. Randy Smith
Vice Provost
January 25, 2006

Council on Academic Affairs  
W. Randy Smith, Vice Provost  
Office of Academic Affairs  
203 Bricker Hall, 190 N. Oval Mall

Dear members of the Council on Academic Affairs:

In November of 2005, the Department of Computer Science and Engineering proposed a minor revision to the Arts and Sciences B.S. – Computer and Information Science Major. This change will allow for a technical electives option which will allow students to focus on Information and Computer Assurance.

The proposal was presented to the College of Mathematical and Physical Sciences Curriculum Committee on November 30, 2005, and was approved unanimously. The proposal was then vetted by subcommittee C of the Arts and Sciences Committee on Curriculum and Instruction (ASC CCI) on December 9, 2005, and was unanimously endorsed at that meeting. It was presented at the January 20, 2006 ASC CCI meeting; the CCI recommended that the proposal move forward with its support. We respectfully recommend that the Council on Academic Affairs approve this revision.

For more information on this proposal, you can view the record on our website:  
http://artsandsciences.osu.edu/curofc/tracking.cfm?TrackingID=198

The contact person for this proposal is Neelam Soundarajan, Chair of Undergraduate Studies in the Department of Computer Science and Engineering. He can be reached at soundarajan.1@osu.edu.

Please let me know if you have any questions.

Sincerely,

Jennifer Lando  
Director

CC: Neelam Soundarajan

Attachment: Proposal for a revised Individualized Option in the BS-CIS Program
November 15, 2005

Prof. John Parson  
Chair, MPS Curriculum Committee

Dear Prof. Parson:

The CSE Undergraduate Studies Committee of the CSE Department, which I chair, discussed at two of its recent meetings, the introduction of a technical elective option focused on the topic of Information and Computation Assurance for our undergraduates. The members of the committee felt that importance of issues related to this topic makes such an option very worthwhile.

Based on our discussions, we developed the proposal for a new technical elective option, *Information and Computation Assurance*, for the BS-CIS program. The proposal was approved by the CSE faculty at its meeting of November 7.

The complete details of the proposal are attached. We request consideration of the proposal by the MPS Curriculum Committee as soon as possible. If you have any questions, please email me.

Thank you and best wishes.

Sincerely,

Neelam Soundarajan  
Chair, CSE Undergrad Studies Committee

cc: Prof. Bruce Weide, Chair, CSE Dept.
Attachments: Detailed proposal.
Proposal for an “Information and Computation Assurance” Option in the BS-CIS Program
Date: November 15, 2005.

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

Background: Over the last few years, issues related to information and computation assurance (ICA) have become increasingly important. These issues are related to privacy concerns of individuals, national security considerations, as well as private businesses concerned with protecting trade and other secrets. Partly in response to this, the CSE Department has developed two new courses, CSE 551 (“Information Assurance”), and CSE 694K (“Network Security”). Both of these have been popular with students. In addition, there are a number of courses offered by other units in the university available to students interested this topic; a list of these courses appears at the web site for the Center for Information System Security (see web site: http://www.cse.ohio-state.edu/caeiiae/).

The current proposal will allow BS-CIS students interested in ICA to follow a named technical elective option focused on this topic. It is true that current students are already able, using the Individualized Option to take essentially the same set of courses as being proposed for this new option. However, having a named option would make it a bit more attractive to students and others. For example, the NSA has a program that will fund centers devoted to these topics, but one of their requirements is that the university offer suitable undergraduate programs in the area.

Current curriculum: Currently, BS-CIS majors are required to choose, as their technical elective option, one of the following: Software Systems, Advanced Studies, Information Systems, or Individualized Option. Each of the first three of these requires the student to complete between 23 and 27 hours of courses, the exact number depending on the option. These are made up of a specified set of higher-level CSE courses the particular set of courses depending on the option, a specified set of non-CSE courses again depending on the option, and a set of elective hours, a certain number of which are required to be higher-level CSE courses. The Individualized Option requires students to complete 24 hours of courses with at least 15 of these being CSE courses, the actual set of courses being determined by the students interests and plans, and in close consultation with the faculty adviser.

Proposal: We propose that an Information and Computation Assurance Option be introduced as a new technical elective option in the BS-CIS program as follows:

1. Required Courses: 13 hours: CSE 551, 601, 677, 678, 694K.

2. Elective Courses: 12 hours; at least 3 hours must be CSE courses.
   The following non-CSE courses may be of special interest:
   AMIS 531, 627, 653, 658, 659; CRP/GEOG 607.

Process: Initial ideas for the option arose as a result of discussion among faculty interested in setting up a NSA-funded center on Information Security. These ideas were discussed at the October 26th and November 2nd meetings of the departmental Undergraduate Studies Committee. The BS-CIS student representative to the committee was a participant in these discussions. The minutes of the meetings were posted on electronic student and faculty newsgroups allowing both students and faculty to offer their comments. The proposal was arrived at following these discussions. At its meeting of November 2, the Undergraduate Studies Committee approved the proposal and recommended it to the full faculty for its consideration. The CSE faculty approved the proposal at its meeting of November 7.

Given the importance of the area, we request expeditious approval of the approval by the MPS Curriculum Committee so that it becomes available to students as soon as possible.
Technical Options — 23 - 27 cr-hrs
You must choose one of the four technical options below. Each of the first three options includes a set of **Required Courses** and a number of credit-hours of **Elective Courses**. The CSE courses that may be included in the latter are:
- Letter-graded courses at the 500-level and above, unless otherwise noted in the OSU Course Bulletin;
- Up to 1 hour of 459 (in addition to that required as part of the core);
- Up to 2 hours of 693 (individual study);
- Up to 3 hours of 7H53 (for honors students pursuing undergraduate research).
In each of the first three options below, at least 9 hours of the Elective Courses must be CSE courses as specified above. The remainder may be either CSE courses as specified above, or ISE 573, Math 568/571, 572, 575, 647, and 648. Note that only one of Math 568 or Math 571 may be counted.

*If you wish to count as an elective course one that does not meet the requirements of your chosen option, you must get prior approval from your faculty advisor.*

### Software Systems Option — 23 cr-hrs

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Elective Courses</th>
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<tbody>
<tr>
<td>757</td>
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<tr>
<td>676 or 677 or 775</td>
<td></td>
</tr>
<tr>
<td>662 or 581 or 756</td>
<td></td>
</tr>
<tr>
<td>or 758</td>
<td></td>
</tr>
<tr>
<td><strong>Total Required Courses:</strong> 9-10</td>
<td><strong>Total Elective Courses:</strong> 13-14</td>
</tr>
</tbody>
</table>

### Advanced Studies Option — 24 cr-hrs

<table>
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<tr>
<th>Required Courses</th>
<th>Elective Courses</th>
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</thead>
<tbody>
<tr>
<td>725 or 755 or 780</td>
<td></td>
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<tr>
<td>760 or 775</td>
<td></td>
</tr>
<tr>
<td>Math 568 or Math 571</td>
<td></td>
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<tr>
<td>or Math 647 or Math 648</td>
<td></td>
</tr>
<tr>
<td><strong>Total Required Courses:</strong> 9</td>
<td><strong>Total Elective Courses:</strong> min 15</td>
</tr>
</tbody>
</table>

### Information Systems Option — 26 cr-hrs

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Elective Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>616</td>
<td></td>
</tr>
<tr>
<td>671</td>
<td></td>
</tr>
<tr>
<td>AMIS 211 or AMIS 310</td>
<td></td>
</tr>
<tr>
<td>Bus-Mgt 630</td>
<td></td>
</tr>
<tr>
<td><strong>Total Required Courses:</strong> 16</td>
<td><strong>Total Elective Courses:</strong> min 10</td>
</tr>
</tbody>
</table>

Econ 200 must be taken as a Social Science GEC since it is a prerequisite for the Accounting course.

### Individualized Option — 24 cr-hrs OR (15 CSE cr-hrs + approved minor)
Students pursuing this option are required to complete 15 hours of CSE courses and **one** of the following:
- 9 hours of CSE and non-CSE courses approved by the advisor; **OR**
- a minor program approved by the advisor.
The CSE courses included in the program must be from among those listed at the top of this page.
Students interested in this option are urged to consult with their advisor early in their program, so that they can get approval of the courses they propose to take including the non-CSE courses or the minor, whichever applies.
CSE 601: Social and Ethical Issues in Compu

description

Social, ethical, and legal issues facing computing professionals; ethical principles, discussion of case studies.

level, credits, class time distribution, prerequisites

<table>
<thead>
<tr>
<th>Level</th>
<th>Credits</th>
<th>Class Time Distribution</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG</td>
<td>1</td>
<td>1.5-hr cl</td>
<td>560</td>
</tr>
</tbody>
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quarters offered

- Wi, Sp

General Information, Exclusions, Cross-listings, etc.

Intended Learning Outcomes

- Be familiar with social implications of decisions and actions of computing professionals.
- Be familiar with the analysis of ethical issues facing computing professionals.
- Be familiar with writing papers involving legal, ethical, and professional computing.
- Be familiar with making oral presentations, participating in formal debates, and critically observing others' presentations and debates.
- Be exposed to legal issues facing computing professionals.

Texts and Other Course Materials

- Ethics and Computing (optional) - Kevin W. Bowyer
- How to Get Your Point Across in 30 Seconds or Less (optional) - Milo O.

Topics

<table>
<thead>
<tr>
<th>Number of Hours</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orientation, choice of topics, privacy</td>
</tr>
<tr>
<td>1</td>
<td>Presentation assignments, what makes a good presentation, copyright format, ACM code of ethics</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Privacy, censorship</td>
</tr>
<tr>
<td>1</td>
<td>National security and personal privacy</td>
</tr>
<tr>
<td>1</td>
<td>Intellectual property</td>
</tr>
<tr>
<td>1</td>
<td>General ethics, professional ethics</td>
</tr>
<tr>
<td>1</td>
<td>Ethics in work and business</td>
</tr>
<tr>
<td>1</td>
<td>How much artificial intelligence is possible?</td>
</tr>
<tr>
<td>1</td>
<td>Anticipating technological change</td>
</tr>
<tr>
<td>1</td>
<td>Digital democracy, Internet governance</td>
</tr>
</tbody>
</table>

**Representative Lab Assignments**

**Grades**

<table>
<thead>
<tr>
<th>Class participation</th>
<th>34%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>33%</td>
</tr>
<tr>
<td>Final</td>
<td>33%</td>
</tr>
</tbody>
</table>

**Relationship to ABET Criterion 3**

a b c d e f g h i j k

*** *** * *

detail

**Relationship to CSE Program Outcomes/Objectives**

1a 1b 1c 2a 2b 2c 3a 3b 4a 4b 5a 5b 5c

*** *** * *

detail

Course Coordinator: Ken Supowit
CSE 551: Introduction to Information Security

Description

Introduction to security of digital information including: threats, regulations, management, attack detection and response, cryptography, forensics, and testing and certification.

Level, Credits, Class Time Distribution, Prerequisites

<table>
<thead>
<tr>
<th>Level</th>
<th>Credits</th>
<th>Class Time Distribution</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>3</td>
<td>3 cl</td>
<td>314 or 321 or 502 or AMIS 531 or equivalent second writing course; or permission of inst</td>
</tr>
</tbody>
</table>

Quarters Offered

- Wi

General Information, Exclusions, Cross-listings, etc.

Intended Learning Outcomes

- Master information security governance, and related legal and regulatory framework.
- Master understanding of external and internal information security threats to an organization.
- Be familiar with the structure of policies, standards and guidelines.
- Be familiar with information security awareness and its importance.
- Be familiar with how threats to an organization are discovered, analyzed, and dealt with.

Texts and Other Course Materials

## Topics

<table>
<thead>
<tr>
<th>Number of Hours</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Primer: information security and network basics; information security initiatives and how they impact business and industry</td>
</tr>
<tr>
<td>3</td>
<td>Threats; internal threats: employees, contractors, third parties; external threats: criminals, corporate espionage, hackers, cyber warfare, terrorism; psychology of computer criminals and info-terrorism and associated ethical issues</td>
</tr>
<tr>
<td>6</td>
<td>Governance, policies, standards, and guidelines; architecture; awareness</td>
</tr>
<tr>
<td>10</td>
<td>Risk management, vulnerability assessment and intrusion detection; malicious code protection; content filtering; internet DMZ and related components; incident response; application security</td>
</tr>
<tr>
<td>3</td>
<td>Cryptography; forensics</td>
</tr>
<tr>
<td>3</td>
<td>Information security directions; technical training and certification; what’s next</td>
</tr>
<tr>
<td>2</td>
<td>Review and exam</td>
</tr>
</tbody>
</table>

## Representative Lab Assignments
- None

## Grades

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>15%</td>
</tr>
<tr>
<td>Paper and presentation</td>
<td>15%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm exam</td>
<td>20%</td>
</tr>
<tr>
<td>Final exam</td>
<td>40%</td>
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</tbody>
</table>

## Relationship to ABET Criterion 3

\[
\begin{array}{cccccccc}
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[detail]

## Relationship to CSE Program Outcomes/Objectives

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4\text{a} & 4\text{b} & 5\text{a} & 5\text{b} & 5\text{c} & \end{array}
\]
Course Coordinator: Dong Xuan

Department of Computer Science and Engineering
395 Dreese Laboratories
2015 Neil Avenue
Columbus, OH 43210-1277
If you have trouble accessing this page, contact webmaster
CSE 694K: Network Security

Description

An introduction to network security; security threats, services, protocols, veriﬁcation design, architectures, technologies, testing, advances; elements of cryptographic network systems and applications.

Level, Credits, Class Time Distribution, Prerequisites

<table>
<thead>
<tr>
<th>Level</th>
<th>Credits</th>
<th>Class Time Distribution</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG</td>
<td>3</td>
<td></td>
<td>CIS 677 or permission of instructor</td>
</tr>
</tbody>
</table>

Quarters Offered

- Sp

General Information, Exclusions, Cross-listings, etc.

Intended Learning Outcomes

- Master some protocols for security services.
- Be familiar with fundamentals of cryptography.
- Be familiar with network security threats and countermeasures.
- Be familiar with network security designs using available secure solution (PGP, SSL, IPSec, and firewalls).
- Be familiar with advanced security issues and technologies (such as DDoS detection and containment, anonymous communications, and security protocol testing, veriﬁcation and design).
- Be exposed to original research in network security.

Texts and Other Course Materials

- *Network Security - Private Communication in a Public World, Prentice*
### Topics

<table>
<thead>
<tr>
<th>Number of Hours</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Security principles and security threats: (1) Security services: privacy, confidentiality, authentication, integrity, availability, non-repudiation, access control, etc (2) Security threats: traffic analysis, IP spoofing, service, routing attacks, information leakage, remote arbitrary execution, viruses, etc. (3) Social, ethical, policy and legal issues we will teach and will not teach</td>
</tr>
<tr>
<td>3</td>
<td>Elements of cryptography: (1) Classic ciphers, modern ciphers and ciphers and one-way functions (2) Secret key (symmetric): DES/AES public key (asymmetric): RSA</td>
</tr>
<tr>
<td>6</td>
<td>Advanced security issues and technologies: (1) Large scale attacks Internet and their defense (2) DDoS attack and its defense: types of DDoS attacks, trace-back and attack containment (3) Active worm (4) Anonymous communication (5) Wireless security</td>
</tr>
<tr>
<td>3</td>
<td>Security with constrained resources: case studies in sensor networks</td>
</tr>
<tr>
<td>1</td>
<td>Exam</td>
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</table>

### Representative Lab Assignments

- Implementation of a key exchange protocol in wireless sensor networks
- Modification of a protocol for Logical Grid Routing
- Implementation of the strong hop-by-hop integrity protocol

### Grades

<table>
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<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework assignments</td>
<td>20%</td>
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<td>Lab exercises</td>
<td>25%</td>
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<td>Midterm exam</td>
<td>30%</td>
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<tr>
<td>Research project</td>
<td>25%</td>
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ISBN 0-13-061466-1 - Charlie Kaufman, Radia Perlman and Mike Specine

http://www.cse.ohio-state.edu/cgi-bin/syllabus-view.cgi?cgi_state=view;SYLLABUS_ID=... 12/2/2005
Relationship to ABET Criterion 3

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Relationship to CSE Program Outcomes/Objectives

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</tbody>
</table>

detail

course Coordinator: Anish Arora

Department of Computer Science and Engineering
395 Dreese Laboratories
2015 Neil Avenue
Columbus, OH 43210-1277
If you have trouble accessing this page, contact webmaster
June 10, 2005

W. Randy Smith
Vice Provost
Office of Academic Affairs
203 Bricker Hall
190 N. Oval Mall

Dear Randy:

In April of 2005, the Department of Computer Science and Engineering proposed a minor revision to the Arts and Sciences B.S. – Computer and Information Science Major. This change will allow for an individualized option which will allow students to complete coursework outside of the department or complete a minor in consultation with a faculty advisor.

The proposal was presented to the College of Mathematical and Physical Sciences Curriculum Committee in May of 2005, and was approved unanimously. The proposal was then vetted by subcommittee C of the Arts and Sciences Committee on Curriculum and Instruction (ASC CCI) in May 2005, and was unanimously endorsed at that meeting. It was presented at the June 8, 2005 ASC CCI meeting; the CCI recommended that the proposal move forward with its support. We respectfully recommend that the Council on Academic Affairs approve this revision.

The contact person for this proposal is Neelam Soundarajan, Chair of Undergraduate Studies in the Department of Computer Science and Engineering. He can be reached at soundarajan.1@osu.edu.

Please let me know if you have any questions.

Sincerely,

Jennifer Lando
Director

CC: Neelam Soundarajan

Attachment: Proposal for a revised Individualized Option in the BS-CIS Program
April 28, 2005

Prof. John Parson
Chair, MPS Curriculum Committee

Dear Prof. Parson:

The Undergraduate Studies Committee of the CSE Department, which I chair, discussed at several of its recent meetings, some possible changes in the technical elective options for the BS-CIS program. The changes we considered were intended to address concerns that various constituents have raised over the last few years concerning the need for an option that would address the needs of students interested in particular new areas and applications of computing such as scientific visualization, computational linguistics, etc. Our goal was to develop an option that would allow a student to choose, in consultation with the faculty advisor, a combination of CSE and possibly some non-CSE courses focusing on the particular area or application that the student was interested in. Another of our goals was to encourage BS-CIS majors to consider doing a minor in an appropriate discipline since we believe that, in the coming years, students who complete such a minor are likely to find many more opportunities available to them than students who only complete a major in Computer Science.

Based on our discussions, we developed the proposal for a new individualized option for the BS-CIS program. In essence, the option would consist of 15 hours of CSE courses; plus either 9 additional hours of CSE and non-CSE courses from one or more other appropriate disciplines or completion of an appropriate minor program. The entire option program, including the minor if the student chooses to complete a minor, would have to be developed in close consultation with the student's faculty advisor. The proposal was approved by the CSE faculty at its meeting of April 25.

The complete details of the proposal are attached. We request consideration of the proposal by the MPS Curriculum Committee as soon as possible. If you have any questions, please email me.

Thank you and best wishes.

Sincerely,

Neelam Soundarajan
Chair, Undergrad Studies Committee, CSE Dept.

cc: Prof. Stu Zweben, Chair, CSE Dept.

Attachment: Detailed proposal.
Proposal for a revised Individualized Option in the BS-CIS Program
Date: April 28, 2005.

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

Background: During the last few years, computing has evolved in many new directions. This is especially illustrated by the many new and varied applications of computing, ranging from data mining and analysis techniques applied to large volumes of bioinformatics data, to visualization of scientific data to make complex physical systems easier to understand, to the many different projects in such varied areas as literature and art history involving innovative uses of new computing technologies. The primary goal of the current proposal is to make it possible for BS-CIS majors who may have a special interest in one of these new directions of computing and its applications, to pursue a technical elective program that is tailored to their particular interests. The proposed option (which will replace a currently existing, and similarly named, option) will allow the student to develop, in close consultation with his or her faculty advisor, an elective program consisting of suitable advanced CSE courses as well as suitable non-CSE courses as appropriate. Another goal of the proposal is to encourage BS-CIS majors to consider doing a minor in another discipline.

Current curriculum: Currently, BS-CIS majors are required to choose, as their technical elective option, one of the following: Software Systems, Advanced Studies, Scientific Computing, Information Systems, or Individualized Option. These options require students to complete between 23 and 27 hours of courses. In the first four of these options, the hours are made up of a specified set of higher-level CSE courses the particular set of courses depending on the option, a specified set of non-CSE courses again depending on the option, and a set of elective hours, a certain number of which are required to be higher-level CSE courses. The individualized option requires students to complete 25 hours of which 16 hours are required to be higher-level CSE courses and 9 hours are required to be in a related field. Software Systems is the most popular option followed by Information Systems. A small number of students pursue the Advanced Studies option, mainly those interested in continuing with graduate studies after completing their BS-CIS program. The remaining two options have relatively few students pursuing them.

None of these options provides a perfect fit for students interested in such areas as, say, scientific visualization or, computational linguistics. The one that comes closest is of course the current individualized option. But even that option fails if the student’s interests are such that the most appropriate courses are all CSE courses since the option requires the student to take 9 hours of courses in a related field. Further, in the case of students who do wish to take courses in another field, none of the options, including the individualized option, encourages the student to consider completing a minor in the other field since ASC rules do not permit any hours that are part of the minor to be “double-counted” in the major. This is unfortunate since we believe that, in the coming years, students who complete such a minor are likely to find many more opportunities available to them than students who only complete a major in Computer Science.

The current proposal is a revision of the existing individualized option to better match the students’ needs and, at the same time, to make it more coherent. An alternative approach would have been to develop new technical options corresponding to the new areas but the sheer number of possible areas, with additional ones arriving on the scene on a regular basis, makes this approach impractical. The revised individualized option being proposed also encourages BS-CIS students to consider pursuing a minor program in an area in which computing principles or technologies are likely to have a significant impact.
Proposal: The proposal consists of two parts:

a. Drop the Scientific Computing Option as a technical elective option for the BS-CIS program.

b. Revise the Individualized Option in the BS-CIS program as follows. Students in this option must complete one of the following:

1. 24 elective hours of which at least 15 must be CSE courses, the other 9 may be CSE courses or appropriate courses from one or more other disciplines. All the CSE courses must meet the same requirements that elective CSE courses in the other options must meet. The student must develop a coherent program in close consultation with his/her advisor, and must get approval of the program from the advisor and from the Undergraduate Studies Committee at least four quarters before graduation.

2. 15 elective hours of CSE courses and a minor approved by the advisor. All the CSE courses must meet the same requirements that elective CSE courses in the other options must meet. The student must develop a coherent program, including the minor, in close consultation with his/her advisor, and must get approval of the program from the advisor and from the Undergraduate Studies Committee at least four quarters before graduation.

Alternative (2), in effect, allows the student to treat the minor as meeting part of the requirement of the major while satisfying the ASC constraint that hours cannot be double counted between the major program and a minor. These changes will make the individualized option more attractive than is the current individualized option. At the same time, the requirement that the courses in the option be designed in close consultation with the faculty advisor to form a coherent whole will improve the technical quality of the student’s program.

Once the student has, in consultation with the advisor, designed the technical elective option he or she wishes to pursue, the student will complete a form specifying the details of the option, the advisor will sign it indicating approval, and the completed form will be submitted to the CSE Advising Office for approval by the Undergraduate Studies Committee. The committee approval will ensure that the intent of the individualized option is met. Over time, the Advising Office will maintain a file of previously approved Individualized Option programs for the benefit of future students who may have similar interests.

Dropping the scientific computing option (part (a) of the proposal) is appropriate for two reasons. First, very few students have followed this option in the last several years. Second, if a student wishes to follow this option as it exists now, it would, in fact, be acceptable under the revised individualized option.

Process: The initial ideas for the changes proposed arose in the form of ideas for new specific technical elective options such as scientific visualization, computational linguistics, etc. Over time it became clear that what was really needed was an option that could be tailored to the interests of individual students. These ideas were discussed in several meetings of the departmental Undergraduate Studies Committee over several months. The BS-CIS student representative to the committee was a participant in these discussions. The minutes of the meetings were posted on the electronic student and faculty newsgroups allowing both students and faculty to offer their comments. During this period, we also had informal discussions with Dean John Wanzer about the question of treating the completion of an appropriate minor program as meeting part of the requirements of the major. The proposal described above was arrived at following these discussions. At its meeting of April 15, the Undergraduate Studies Committee approved the proposal and recommended it to the faculty for its approval. The CSE faculty approved the proposal at its meeting of April 25.

Given the added flexibility that the revised individualized option will provide to BS-CIS majors to tailor their technical elective programs to suit their interests, and the encouragement it will offer to students to pursue minor programs, we request expeditious approval by the ACS Curriculum Committee of the proposal so that it can go into effect in Autumn 2005.