[illegible]

instruction in the areas of mathematics and computer science, and to foster scholarship and service on the part of the faculty.

2. Program Goals

<u>GOAL 1</u>: To provide our students with a mastery of the fundamental concepts of Mathematics and/or Computer Science.

Objective 1.1: Students will complete a comprehensive major program. They will gain both depth and breadth in Mathematics and/or Computer Science.

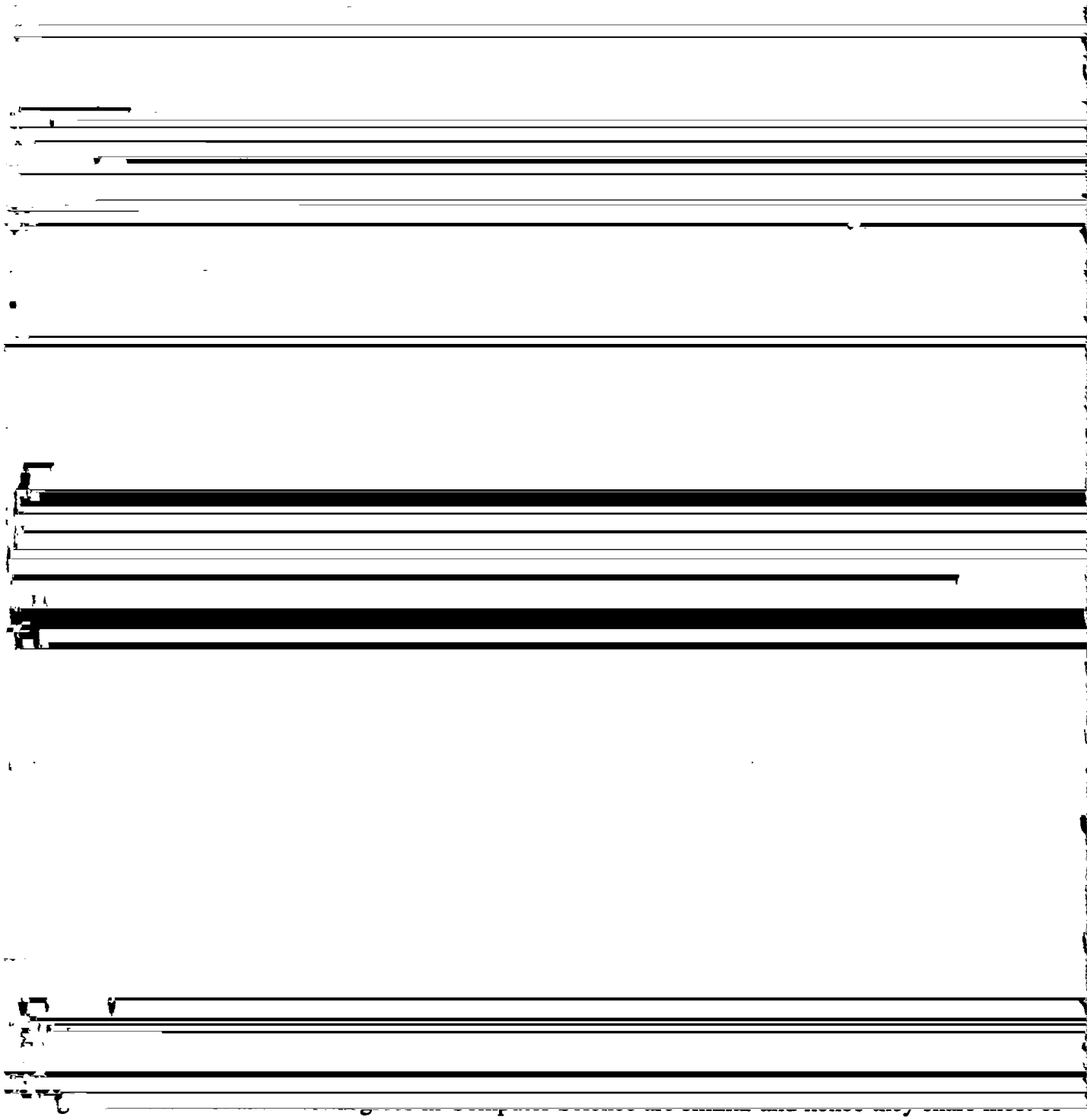
Objective 1.2: Students majoring in Mathematics and/or Computer Science will have the opportunity to take courses from faculty who have a continuing commitment to the quality of the

[illegible] program and who are experts in their respective fields.

Objective 1.3: Students will have access to faculty outside of class time for advising, course assistance, and other academic concerns.

the B.S. in Computer Science, the M.S. in Mathematics, and the M.S. in Computer Science. Please note that outcomes 1 and 2 cover skills and knowledge areas respectively and are specific to the degree program. Outcomes 3-7 cover more general areas of achievement and are common to all the degree programs.

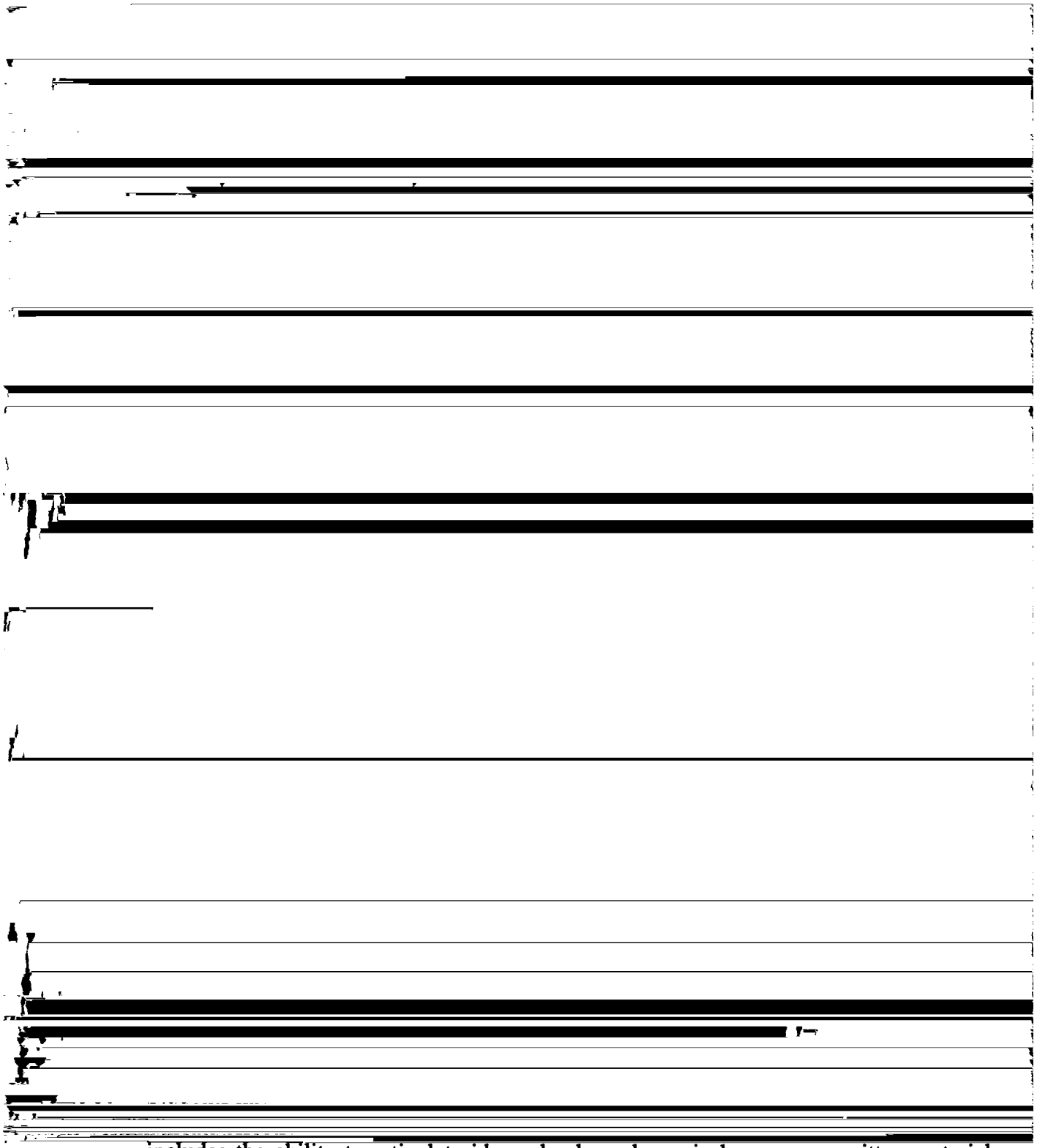
3.1 B.S. and M.S. in Computer Science



the same outcomes. The M.S. degree, however, is designed to extend the student's knowledge in a

Outcome 3: Students are able to work effectively as a team member. This includes contributing a fair share of work, encouraging others to participate, cooperating with team members, sharing information, and helping to reconcile differences among fellow team members.

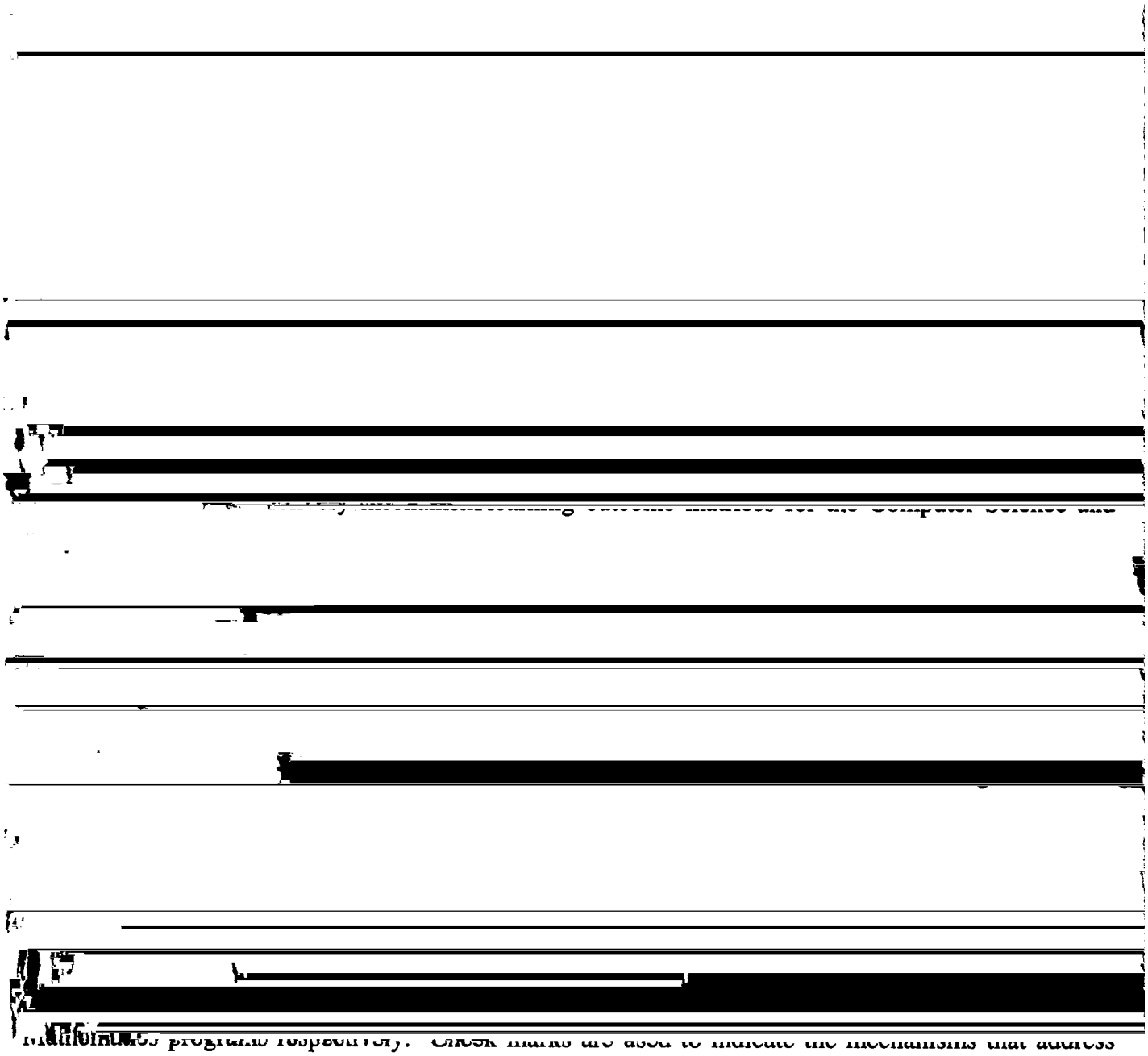
Outcome 4: Students have an understanding of their professional and ethical responsibilities and appreciate the impact of computer science solutions in the societal context.



includes the ability to articulate ideas clearly and concisely; prepare written materials

and the classical problems of algebra such as solving systems of polynomials and classical construction problems.

analysis.



each learning outcome. Current mechanisms include required course work within the major and without, the university writing skills test (WST), department colloquia, student clubs, and co-op and internship programs. Additional mechanisms may be added as necessary in order to achieve learning outcomes.

5. Performance Indicators

Performance indicators are measures of student achievement of learning outcomes. The indicators identified for the Mathematics and Computer Science programs include:

Indicator 1: Scores earned on course exams and homework assignments in courses that are identified as crucial to each degree program.
Indicator 2: Scores earned on research papers and team projects.
Indicator 3: Scores earned on oral presentations or levels of classroom discussion.

these concepts actively be put to use. In addition to providing assessment data for the department,

[redacted]

gateway courses provide valuable feedback to the students regarding their mastery of subject matter crucial to the major.

[redacted]

Comprehensive exams also serve as a gateway to graduation in that they must be passed successfully in order to complete the requirements for graduation. They are intended to evaluate a student's command of subject areas that have been identified as critical to the degree program. In addition,

[redacted]

link to industry and to supply possible contacts for employer information regarding our graduates from

[redacted]

use by the supervisors of all graduates.

6.1 B.S. in Computer Science

course text for CS 6260 by the Computer Science Graduate Curriculum Committee, and an agreement on the level of achievement required in CS 6260 and CS 6909 in order to receive a passing grade.

The M.S. in Computer Science specifies a **comprehensive exam** as a second option for fulfilling the second-year gateway. This exam consists of three two-hour sections, each covering one area of computer science. These areas are Computer Architecture and Operating Systems, Compilers and Programming Languages, and Data Structures, Analysis of Algorithms and Computational Complexity. Outcomes addressed: 2.1, 2.2, 2.4, 2.5, 2.6, 2.7.

Comprehensive exams meet the policy 1 guideline in that all students graduating with an M.S. in Computer Science must take and pass the exam, except for those students who pursue the departmental thesis option.

Comprehensive exams meet the policy 2 guideline in that they are already standardized as to content and percentages earned needed to fulfill the requirement. This standardization is ensured by the graduate curriculum committee. The information is made available to the students through provision of exam syllabi, listing topics to be covered on each exam, and supplying copies of recent exams.

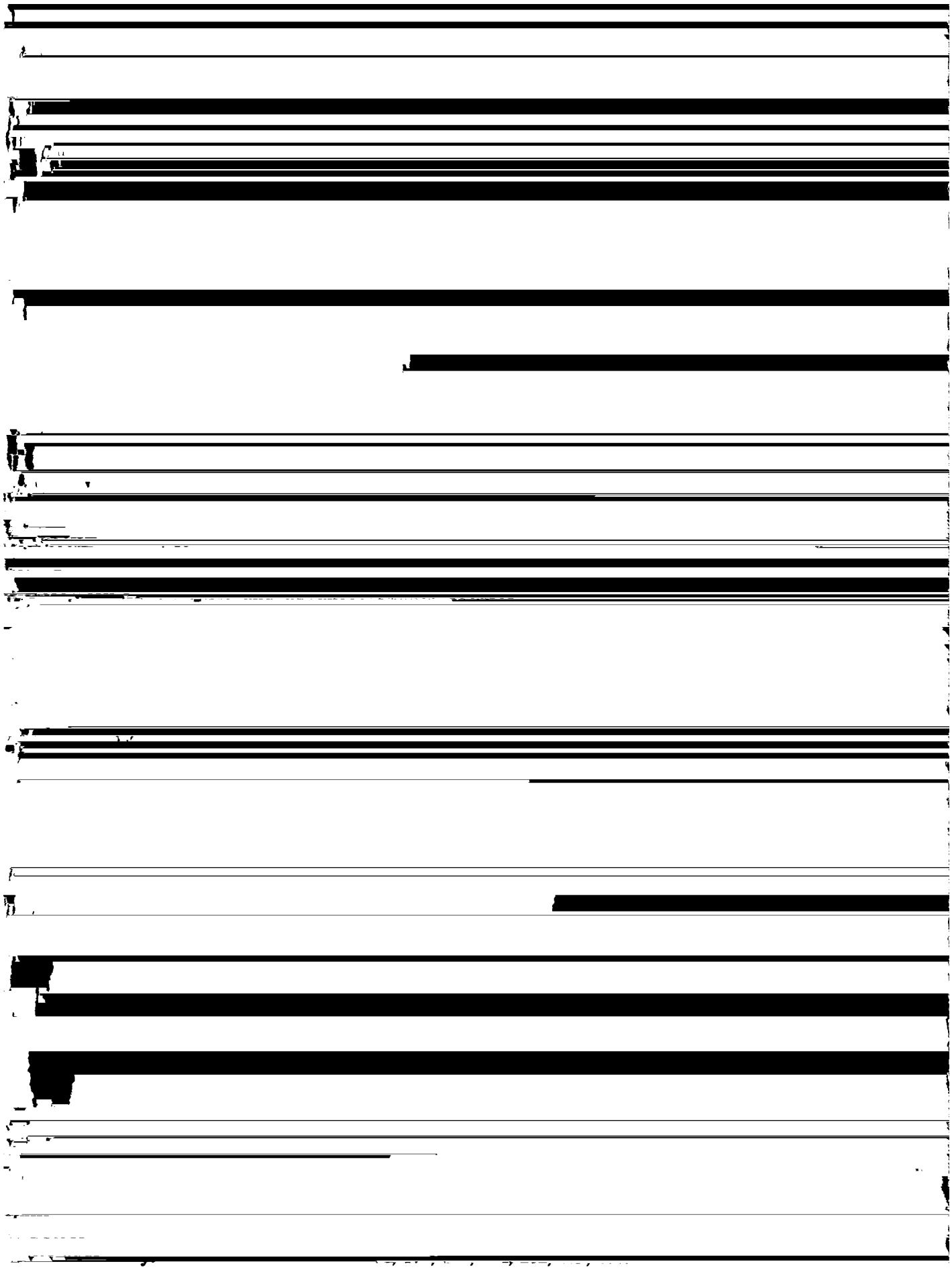
Table 3 shows the relation between assessment tools and the learning outcomes they are meant to evaluate for the Computer Science program.

6.3 B.S. in Mathematics

The B.S. in Mathematics will be assessed using gateway courses and the exit, alumni, and employer surveys listed above. The gateway courses identified for the B.S. in Mathematics are:

MATH 2304 - Calculus III
This course provides a gateway at the **sophomore** level. MATH 2304 focuses on basic and advanced integrals and derivatives, and sequences and series. The course incorporates concepts from MATH 1304 and 1305. Outcomes addressed: 1.1, 2.1.

MATH 3100 - Linear Algebra



[redacted]

Status: A new exit survey was discussed and approved by the undergraduate curriculum committees of Mathematics and Computer Science. Students are provided with the exit survey when they apply for graduation.

Action items:

1. Methods to improve return rate of exit surveys must be identified.
2. An analysis procedure for returned surveys must be developed.

Tool 4: Alumni survey

Status: An alumni survey has been discussed by the undergraduate curriculum committees, but an approved form has not been produced.

Action items:

1. The curriculum committees of Mathematics and Computer Science must create and approve an alumni survey.
2. A resource for alumni address information must be identified to ensure the highest rate of distribution.
3. An analysis procedure for returned surveys must be developed.

Tool 5: Employer survey

Status: An employer survey has been discussed by the undergraduate curriculum committees but an approved form has not been produced.

Action items:

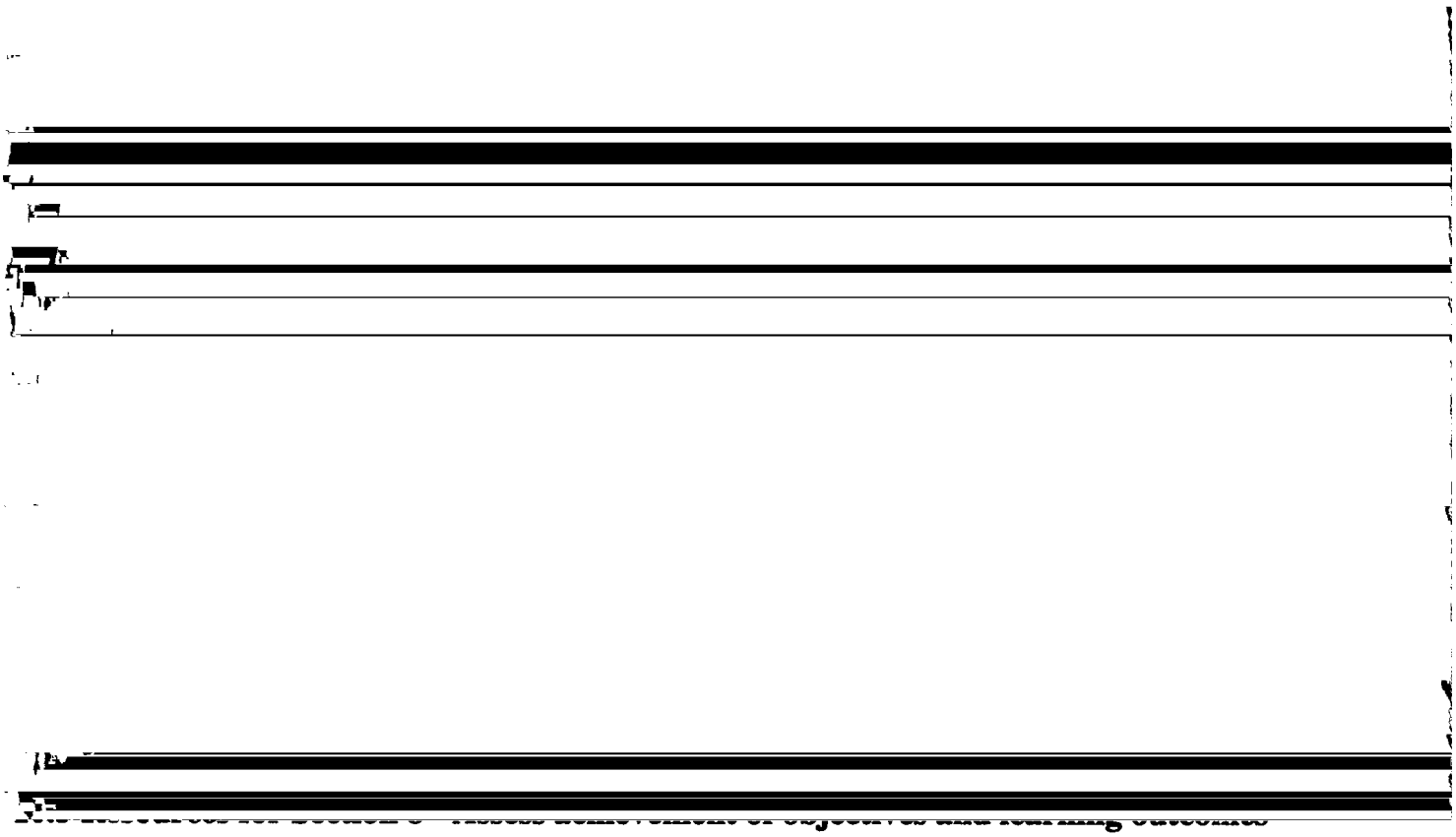
1. The curriculum committees of Mathematics and Computer Science must create and approve an employer survey.
2. A resource for employer address information must be identified to ensure the highest rate of distribution.

The Department foresees modifications to student learning outcomes, changes in delivery mechanisms, and revisions to performance indicators. It expects this may require release time for faculty member(s) in addition to work by the respective Graduate and Undergraduate Committees

10.3 Resources for Section 6 - Assessment Tools

[redacted]

section 6, only tool 2 is completely implemented for our department. Tools 3-5 need to be developed. While we are teaching courses that can be used as gateway courses (tool 1), the standardization of



We propose that the assessment coordinator and staff first assemble reports on the results of administering our assessment tools using the databases formulated (see section 10.6). The coordinator should present the results to the faculty for discussion and evaluation, and assemble the faculty input into a resulting evaluation report.

10.6 Resources for Section 9 - Identify problems and develop goals and strategies for improving delivery of learning outcomes

The evaluation report discussed in section 10.7 should be discussed by a faculty representative taskforce for the development of future goals and strategies for improving this assessment plan. Part of this work will be the estimation of the resources necessary. Faculty representatives should be granted release time for these tasks, and also be assisted by the assessment coordinator and staff.

[redacted]

e. CS 3120										X						X
f. CS 3240	X	X	X		X		X								X	X
g. CS 3430									X							
h. CS 4560			X	X	X		X		X						X	X
Graduate Coursework																
1. Admission requirements	X	X	X		X	X	X		X							
2. Degree requirements																
a. CS 6000												X		X	X		X
b. CS 6260				X	X		X				X	X					
c. CS 6560			X						X			X					
d. Theory breadth				X			X				X	X					X
e. Architecture breadth									X			X					X
f. Systems breadth	X							X				X				X	X
3. Capstone Experience																	
a. CS 6909 Thesis	X				X										X	X	X
b. Comprehensive exams				X			X		X	X	X	X					X
4. Department colloquia												X					X
5. Student clubs													X	X	X	X	
6. Internship programs	X												X		X	X	

Table 1: Delivery mechanisms for Computer Science program.

[redacted]

4. Student clubs																X	X	X	X	
5. Internship programs																X	X	X	X	X

Table 2: Delivery mechanisms for Mathematics program.

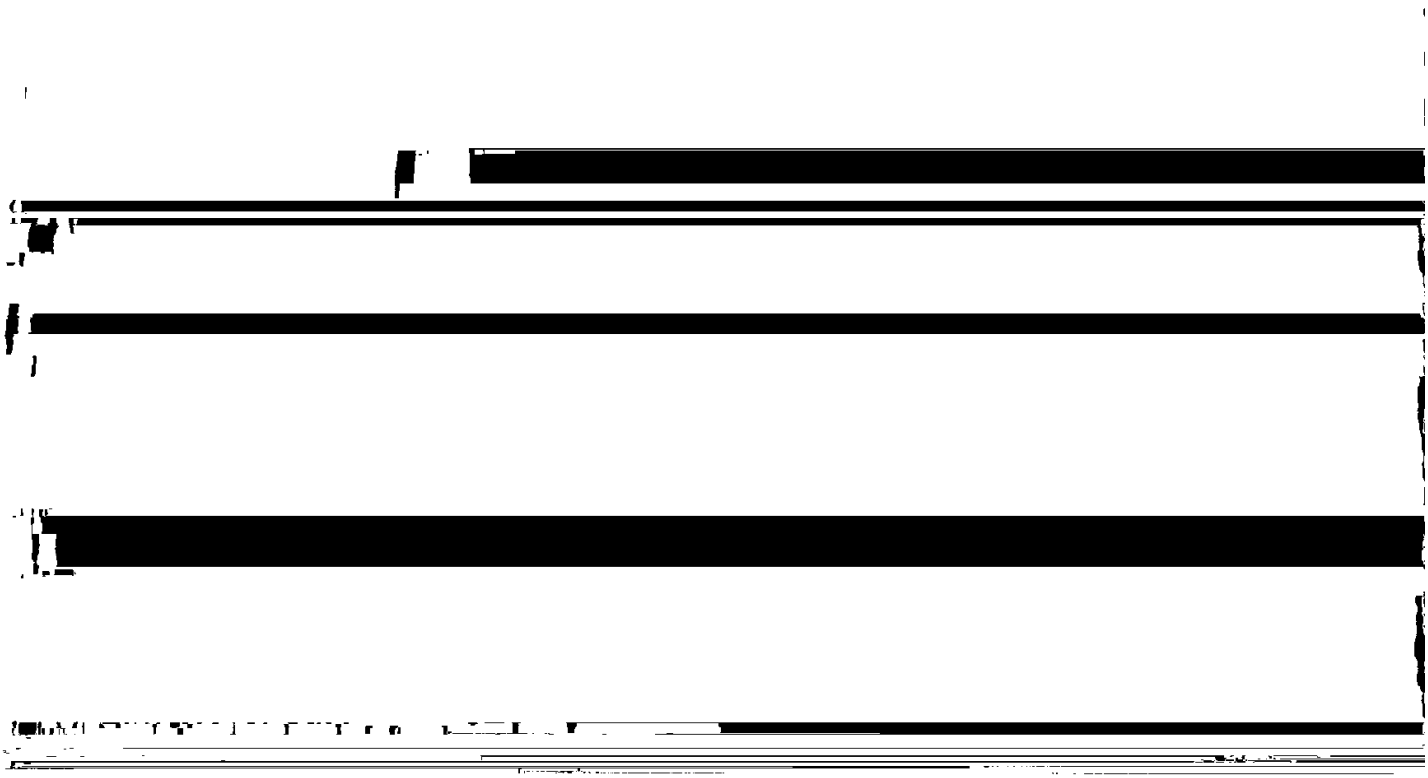
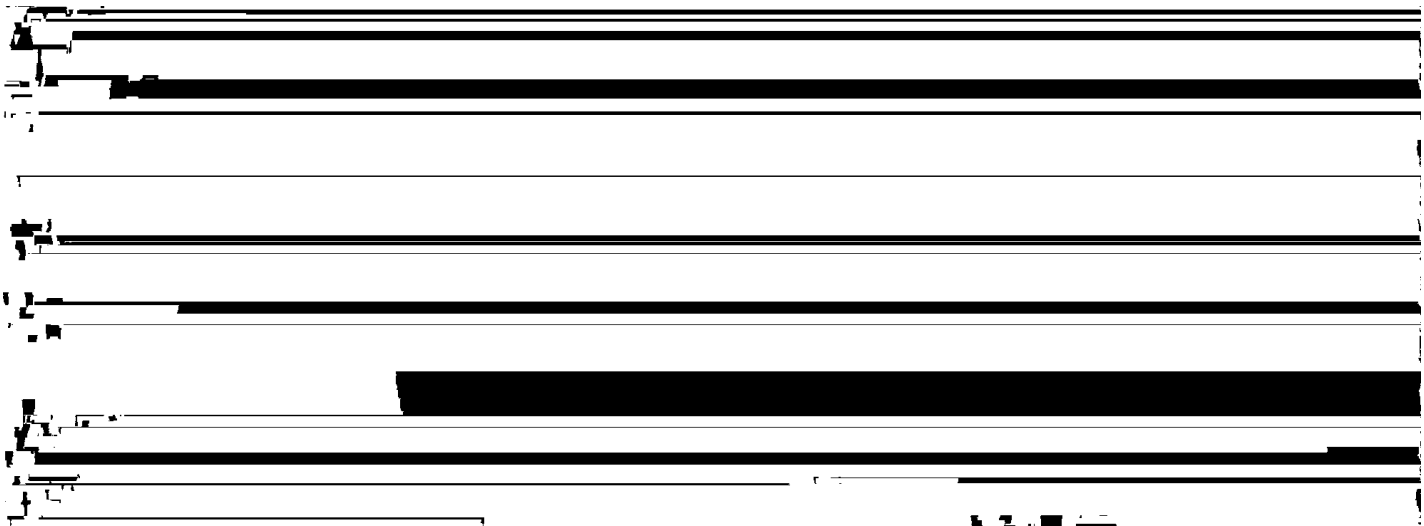


Table 3: Assessment tools for Computer Science program.



	Ap	Ma	Ma	Ho	Co	Un	Ap	Pai	Ver	Ide	Tie	Dif	Cla	Co	Co	Ro	Wo	Eth	Co	Fin	Pre
Gateway courses	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Comprehensive exams							X						X	X	X						X
Exit survey																				X	X
Alumni survey																				X	X
Employer survey																	X		X	X	X

Table 4: Assessment tools for Mathematics program.